

**Sanmati Government College of
Science Education and Research,
Jagraon Distt. Ludhiana (Punjab)**

Pin- 142026



**SELF STUDY REPORT (SSR)
For
Re- Accreditation- Cycle-II**

SUBMITTED TO

**National Assessment and Accreditation
Council**

**P.O. Box Number 1075, Nagarbhavi
Bangalore-560072**

(2014-2015)



**Sanmati Government College of Science Education
& Research, Jagraon Distt. Ludhiana (Punjab)**

Email: gcsiencejagraon@gmail.com

Ph.No.01624-223242

Website: www.govtsciencecollegejagraon.com

Fax.No. 01624-220082

Memo No. NAAC/2015/1072
Dated: 18/4/2015

Declaration by the Head of the Institution

I certify that the data included in this Self Study Report (SSR) is true to the best of my knowledge.

This SSR is prepared by the institution after internal discussions and no part thereof has been outsourced.

I am aware that the peer team will validate the information provided in this SSR during its visit.

Place: Jagraon

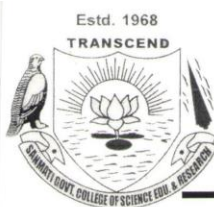
Date: 18/4/15


Signature

Director,
S. Govt. College of Science
Education & Research
JAGRAON (Ludhiana)







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Certificate of Compliance

(Affiliated/constituent/Autonomous Colleges and recognized Institutions)

This is to certify that Sanmati Government College of Science Education & Research, Jagraon, Distt. Ludhiana (Punjab) fulfils all norms.

1. Stipulated by the affiliating University and /or
2. Regulatory Council/Body [Such as UGC, NCTE, AICTE, MCI, DCI, BCI etc.] and
3. The affiliation and recognition [if applicable] is valid as on date.
4. In case the affiliation / recognition is withdrawn by the authority concerned the same will be informed to NAAC immediately.

In case the affiliation /recognition is conditional, then a detailed enclosure with regard to compliance of conditions by the institution will be sent.

It is noted that NAAC's accreditation, if granted, shall stand cancelled automatically, once the institution loses its University affiliation or recognition by the regulatory council, as the case may be.

In case the undertaking submitted by the institution is found to be false then the accreditation given by NAAC is liable to be withdrawn. It is also agreeable that the undertaking given to NAAC will be displayed on the college Website.

Place: Jagraon

Date: 18/4/15


Signature 18-4-15

Director,
S. Govt. College of Science
Education & Research
JAGRAON (Ludhiana)

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PREFACE



It is a matter of proud privilege for me as head of the institution to submit the Self Study Report of our college to NAAC for reaccreditation (Cycle II).

It was a valuable exercise in self-evaluation of the last five years. Our college has always strived to achieve excellence in teaching and learning process. Internal Quality Assurance Cell of the college has played a commendable role in quality enhancement Programme.

This report is the result of relentless and strenuous efforts of NAAC steering committee of the college who worked tirelessly to accomplish this task. It was an uphill task of writing, collecting data, editing and re-editing to give final shape to the SSR which required efforts at all levels.

We look forward to esteemed NAAC peer team visit.

Prof. (Dr.) Mohinder Kaur Grewal
Director

ACKNOWLEDGEMENT

This self-study report is the outcome of sincere and tireless efforts of the college faculty and administrative staff that cooperated whole heartedly in the preparation.

I offer my special gratitude to our worthy Director, Prof (Dr.) Mohinder Kaur Grewal for her able guidance and sincere suggestions from time to time. The moral support provided by her throughout the process further encouraged us.

I owe my sincere thanks to the members of the NAAC committee who worked day and night to compile the data for the accomplishment of this task.

I thank all the members of teaching and non-teaching staff for their full cooperation.

Dr. Surjit Singh
Coordinator
NAAC committee

EXECUTIVE SUMMARY

Sanmati Government College of Science Education and Research, Jagraon (Ludhiana) established in July, 1968, has been accredited with 'B⁺⁺' grade by NAAC in cycle I of accreditation

The college has been selected, under Star College Scheme in life Sciences by DBT, Ministry of Science and Technology, Government of India in 2009. Ours is the only government institute in northern India, imparting education to the students, exclusively in science subjects hailing mainly from rural areas. The college successfully runs B.Sc. - Medical, B.Sc. -Non-Medical, M.Sc. - Botany and M.Sc. -Chemistry with total strength 691, male-113 and females 578.

Affiliated to Panjab University, Chandigarh, the college has 36 sanctioned posts of teaching faculty, two librarians, one hostel Superintendent, 5 posts of administrative staff and 43 technical and supportive staff. Ours is the most favored institute in the area for providing quality education in science subjects.

- The sprawling lush green eco-friendly campus spread over 42 acres provides highly conducive environment for the holistic development of the students.
- The infra-structure includes 8 class rooms of which 7 have been converted into smart class rooms, 12 well equipped laboratories, language lab, computer lab, 2 museums, 1 herbarium, girls' hostel, canteen, main library and 5 departmental libraries possessing more than 15565 books. Work on construction of 2 classrooms, 2 labs and 1 common room for girls is in progress.
- Admission to UG courses is made exclusively on Merit and to M.Sc. Botany and M.Sc. Chemistry on the basis of combination of National level Entrance Test, conducted by Panjab University, Chandigarh and marks obtained in B.Sc.
- Demand ratio and cut off percentage has progressively increased in all the courses during the last four years where as dropout rate has considerably decreased.

- Innovative techniques such as MIPS, PPTs, OHP, Models, Audio-visuals in addition to Chalk and talk are employed in teaching-learning.
- Students are evaluated on the basis of monthly tests, house examination, assignments, project work and attendance.
- Results of the college are always above the university results. Most of the merit positions in PG courses are captured by the students of the college.
- To widen the horizon of knowledge of the faculty and students, dignitaries from renowned institutes are invited to deliver lectures.
- Educational tours are arranged to research labs to orient them towards research work.
- Different societies and clubs have been established to enhance creativity and critical thinking and to nurture and channelize the energies of young students.
- Teachers are encouraged to pursue research and attend refresher courses, seminars, conferences and symposia to harvest the ideas of research.
- Books, Journals and Magazines are made available for updating the knowledge of teachers and students.
- Career Counselling and guidance cell has been established in the college to guide the students in making right career choices and to redress their different problems.
- Mentoring of the students is our top priority. The mentoring of boarders is specially taken care of by the hostel committee.
- With the help of star college scheme, RUSA and UGC, ICT facility has been updated.
- The Public awareness programmes are organized by different societies on relevant days.
- The college has two NSS units one each for boys and girls.
- Well maintained play grounds with 8 lane 400 M track.
- The botanical garden of the college is considered to be one of the best gardens among the colleges of Punjab. More than 300 plants are arranged according to Bentham and Hooker's system of classification.

Strengths:

Strengths of the College are

- Highly dedicated and hardworking teaching faculty.
- Obedient, disciplined, outstanding students capable of bringing laurels to the institute.
- Well-equipped Labs.
- Highly supportive PTA.

Weaknesses:

- Scarcity of qualified and regular staff.
- Shortage of laboratories.
- Need for new job oriented courses.
- Research oriented facilities.

Opportunities:

- For new PG and Job Orientated Courses.
- Collaborations with universities and industries to start research
- Possibilities of incorporating honours schools

Challenges:

- Upcoming of private institutes where easy admission in latest courses poses a real challenge for traditional courses.
- To attract outstanding scholars to the institution

PREPARATION OF SELF-STUDY REPORT

1. Profile of the Affiliated / Constituent College

1. Name and Address of the College:

Name :	Sanmati Government College of Science Education & research, Jagraon		
Address :	Raikot Road		
City :	Jagraon	Pin :142026	State :Punjab
Website :	http://www.govtsciencecollegejagraon.com		

2. For Communication:

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Principal	Prof.(Dr.) Mohinder Kaur Grewal	01624-223242	98559-11175	01624 220082	Mkgrewalz527@yahoo.com
Vice Principal	Ms. Savita Sharma	01624-223242	94175-38326	01624 220082	savita.suneel@gmail.com
Steering Committee Coordinator	Dr. Surjit Singh	01624-223242	98551-05995	01624 220082	Surjitgk@gmail.com

Status of the Institution: Affiliated College

Constituent ☒ College
Any other (specify)

4. Type of Institution:

a. By Gender

i	For Men	
ii	For Women	
iii	Co-Education	✓

b. By Shift

i.	Regular	<input type="checkbox"/>
ii.	Day	<input checked="" type="checkbox"/>
iii.	Evening	<input type="checkbox"/>

5. It is a recognized minority institution?

Yes

No

☒

If yes specify the minority status (Religious/linguistic/ any other) and provide documentary evidence

6. Sources of funding:

Government

☒

Grant-in-aid

Self-financing

Any other

7. a. Date of establishment of the college:

12/7/1968

b. University to which the college is affiliated /or which governs the college (If it is a constituent college)

Panjab University Chandigarh

c. Details of UGC recognition:

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks(If any)
i. 2 (f)	29-10-1969	Copy attached
ii. 12 (B)	29-10-1969	Original certificate not available but inclusion of college under section 2(f) and 12(B) of UGC act 1956 confirmed by UGC letter No. F.No.8-326/2013 (CPP-1/C) dated 17 Jun, 2014.

(Enclose the Certificate of recognition u/s 2 (f) and 12 (B) of the UGC Act)

d. Details of recognition/approval by statutory/regulatory bodies other than UGC (AICTE, NCTE, MCI, DCI, PCI, RCI etc.)

Under Section/clause	Recognition/Approval details Institution/Department Programme	Day, Month and Year (dd-mm-yyyy)	Validity	Remarks
i.	-	-	-	-
ii.	-	-	-	-
iii.	-	-	-	-
iv.	-	-	-	-

Enclose the recognition/approval letter)

8. Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?

Yes ☒ No ☐

If yes, has the College applied for availing the autonomous status?

Yes ☐ No ☒

9. Is the college recognized?

a. by UGC as a College with Potential for Excellence (CPE)?

Yes ☐ No ☒

If yes, date of recognition: (dd/mm/yyyy)

b. for its performance by any other governmental agency?

Yes ☒ No ☐

If yes, Name of the agency ...Selected under Star College Scheme by DBT..... and Date of recognition: ...2009..... (dd/mm/yyyy)

10. Location of the campus and area in sq.mts:

Location *	Semi urban
Campus area in sq. mts.	42 Acres /169968 Sq. Mt.
Built up area in sq. mts.	8165.52 sq. mt. 9512(893.69sm) sq. ft. under construction

(* Urban, Semi-urban, Rural, Tribal, Hilly Area, Any others specify)

- 11. Facilities available on the campus (Tick the available facility and provide numbers or other details at appropriate places) or in case the institute has an agreement with other agencies in using any of the listed facilities provide information on the facilities covered under the agreement.**

- Auditorium/seminar complex with infrastructural facilities
- Sports facilities
 - * Play ground ☒
 - * Swimming pool
 - * Gymnasium

Hostel *

Boys' hostel

- i. Number of hostels
- ii. Number of inmates
- iii. Facilities (mention available facilities)

*Girls' hostel

- i. Number of hostels 1
- ii. Number of inmates 259
- iii. Facilities (mention available facilities)
 - Mess ✓
 - Water coolers` ✓
 - Washing Machines ✓
 - R O system ✓
 - Geysers ✓
 - Recreation room fitted with LCD ✓
 - Indoor games ✓
 - Table Tennis
 - Chess and Chinese Checker
 - Carom Board
 - Badminton and Volley- Ball courts ✓
 - Sound system ✓
 - Book shop ✓
 - Internet facility ✓
 - Generator 32 KV ✓
 - Medical facility ✓
 - Sanitary napkin Incinerator ✓
 - Guest Room ✓
 - Reading Room ✓

* Working women's hostel N A

- i. Number of inmates
- ii. Facilities (mention available facilities)

- Residential facilities for teaching and non-teaching staff
(give numbers available — cadre wise)

Director House ✓

Warden House

Non-Teaching Quarters

- Cafeteria / Canteen—✓
- Health centre — ✓

First aid,	✓
Inpatient,	✓
Outpatient,	✓
Emergency care facility,	✓

In emergency students are taken to hospital by college staff or ambulance facility is availed from civil hospital or Kalyani hospital with whom the college has tied up.

Health centre staff –

Qualified doctor	Full time	-	Part time	✓
Qualified Nurse	Full time	-	Part time	✓

- Facilities like banking; Available within 2 km from the college
- Campus post office : Post man visits college daily or in emergency duty is assigned to an employee of the college

Book shops : Available

- Transport facilities to cater to the needs of students and staff: Our College is situated on Jagraon-Raikot road, widely used by both public and private transport. Most of the students use these transport facilities/systems to reach the college. A large number of students and majority of teachers use their personal vehicles. Auto rickshaws are readily available for transport at the college gate.

- Animal house: Not available as the dissections have been banned by UGC since 13-06-2011.

- Biological waste disposal: managed through vermicomposting unit for production of organic fertilizers.

- Generator or other facility for management/regulation of electricity and voltage two generators, one each for Hostel and College Campus of 32KV capacity each ever available.

- Solid waste management facility. College has its own sewerage system for the disposal of waste of Hostel and the College.

- Waste water management
- Water harvesting--- the flow of Rain water is directed toward the lawns of the College which becomes gravitational water and recharges the water table naturally. The campus is so large that no run away water is recorded.

12. Details of programmes offered by the college (Give data for current academic year)

S. No.	Programme Level	Name of the Programme/ Course	Duration	Entry Qualification	Medium of instruction	Sanctioned/ approved Student strength	No. of students admitted
1	Under Graduate	B Sc. I Med	One Year	10+2 Med	English	80	84
		B.Sc. II Med	do	B.Sc. I Med	Do	80	71
		B.Sc. III Med	do	B.Sc. II Med	do	80	52
		B.Sc. I Non Med	do	10+2Non Med	do	164	164
		B.Sc. II Non Med	do	B.Sc. I Non Med	do	120	99
		B.Sc. III Non Med	do	B.Sc. II Non Med	do	120	97
2	Post-Graduate	M.Sc. I Botany	One year	B.Sc. III with Botany	do	40	35
		M.Sc. II Botany	One year	M.Sc. I Botany	do	40	22
		M.Sc. I Chemistry	One year	B.Sc. III Med / Non Med	do	40	39
		M.Sc. II Chemistry	One year	M.Sc. I Chemistry	do	40	28
3	Integrated Programmes PG						
4	Ph.D.						
5	M.Phil.						
6	Ph.D.						
6	Certificate						
7	UG Diploma						

8	PG Diploma						
9	Any Other (specify and provide details)						

13. Does the college offer self-financed Programmes?

Yes		No	✓
-----	--	----	---

If yes, how many ?

14. New programmes introduced in the college during the last five years if any?

Yes		No	✓	Number	
-----	--	----	---	--------	--

15. List the departments: (respond if applicable only and do not list facilities like Library, Physical Education as departments, unless they are also offering academic degree awarding programmes. Similarly, do not list the departments offering common compulsory subjects for all the programmes like English, regional languages etc.)

Faculty	Departments (E.g. Physics, Botany, History etc.)	UG	PG	research
Science	Botany	✓	✓	
	Chemistry	✓	✓	
	Zoology	✓		
	Physics	✓		
	Biochemistry	✓		
	Mathematics	✓		
Arts				
Commerce				
Any Other (Specify)				

16. Number of Programmes offered under (Programme means a degree course like BA, BSc, MA and M.Com.)

A	Annual system	2. B.Sc. II and B.Sc. III
B	Semester system	3. B.Sc. I , M.Sc. Botany and M.Sc. Chemistry
C	Trimester system	-----

17. Number of Programmes with

A	Choice Based Credit System	--
B	Inter/Multidisciplinary Approach	---
C	Any other (specify and provide details)	---

18. Does the college offer UG and/or PG programmes in Teacher Education?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

If yes

a. Year of Introduction of the Programme (s).....
(dd/mm/yyyy) and number of batches that completed the Programme

b. NCTE recognition details (if applicable)

Notification No.:

.....

Date:

(dd/mm/yyyy)

Validity:

c. Is the institution opting for assessment and accreditation of Teacher Education Programme separately?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

19. Does the college offer UG or PG Programme in Physical Education?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

a. Year of Introduction of the Programme(s).....
(dd/mm/yyyy) and number of batches that completed the programme

b. NCTE recognition details (if applicable)

Notification No.:

.....

Date:

(dd/mm/yyyy)

Validity:.....

c. Is the institution opting for assessment and accreditation of Physical Education Programme?

Yes ☐ No ☒

20. Number of teaching and non-teaching positions in the Institution

Positions	Teaching faculty							Non-teaching staff		Technical staff	
	Total	Professor		Associate Professor		Assistant Professor					
		M	F	M	F	M	F	M	F	M	F
Sanctioned by the UGC / University / State Government	36							1 clerk 4 LA/ Sr. L.A 1 Lib A 7 Class IV	2 LA	1 JLA 6SLA	-
Recruited	-	-	-	6	2	-	1	13	2	7	-
Yet to recruit											
Sanctioned by the Management/ society or other authorized bodies Recruited											
Yet to recruit											

*M-Male *F-Female

21. Qualifications of the teaching staff:

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent Teachers							
D.Sc./D.Litt.							
Ph.D.		-	1				1
M.Phil.			4	2		1	7
PG			1				1
Temporary Teachers							
Ph.D.							
M.Phil.							
PG							
Part-Time Teachers							
Ph.D.						1	1
M.Phil.						3	3
PG					1		1

22. Number of Visiting Faculty /Guest Faculty engaged with the College.

22

23. Furnish the number of the students admitted to the college during the last four academic years.

Categories	Year 1 2010-11		Year 2 2011-12		Year 3 2012-13		Year 4 2013-14	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	21	26	20	37	23	45	30	68
ST	-	01	-	-	-	-	-	-
OBC	22	44	17	48	13	73	12	93
General	58	219	51	276	59	311	60	334
Others	-	-	-	-	-	-	-	-
Total	101	290	88	361	95	429	102	495
Grand Total	391		449		524		597	

24. Details on students enrollment in the college during the current academic year:

Type of students	UG	PG	M. Phil.	Ph.D.	Total
Students from the same state where the college is	567	117	-	-	684
Students from other states of	--	7	-	-	7
NRI students	-	-	-	-	-
Foreign students	-	-	-	-	-
Total	567	124			691

25. Dropout rate in UG and PG (average of the last two batches).

UG	8.19	PG	6.99
----	------	----	------

26. Unit Cost of Education for the session 2013-14

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

(a) Including the salary component

Rs. 45437.18/-

(b) Excluding the salary component

Rs. 4075.94/-

27. Does the college offer any Programme/s in distance education mode (DEP)?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

a) Is it a registered centre for offering distance education programmes of another University?

b) Name of the University which has granted such registration.

c) Number of programmes offered

d) Programmes carry the recognition of the Distance Education Council.

Yes

☐

No

☐

28. Provide Teacher-student ratio for each of the Programme/course offered

S. No.	Name of the course	Student- teacher Ratio
1	B.Sc. Medical	17:1
2	B.Sc. Non- Medical	28:1
3	M.Sc. Botany	14:1
4	M.Sc. Chemistry	17:1

29. Is the college applying for

Accreditation:	Cycle1		Cycle2	✓	Cycle3		Cycle4	
----------------	--------	--	--------	---	--------	--	--------	--

Re-Assessment:

(Cycle 1 refers to first accreditation and Cycle 2, Cycle 3 and Cycle 4 refers to re- accreditation)

30. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)

Cycle 1: 08/01/2004 Accreditation Outcome/Result....B⁺⁺

Cycle 2: Accreditation Outcome/Result.....

Cycle 3: Accreditation Outcome/Result.....

** Kindly enclose copy of accreditation certificate(s) and peer team report(s) as an annexure.*

31. Number of working days during the last academic year.

Annual=183	Semester= 218
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32. Number of teaching days during the last academic year

(Teaching days means days on which lectures were engaged excluding the examination days)

Annual=161	Semester= 183
------------	---------------

33. Date of establishment of Internal Quality Assurance Cell (IQAC)

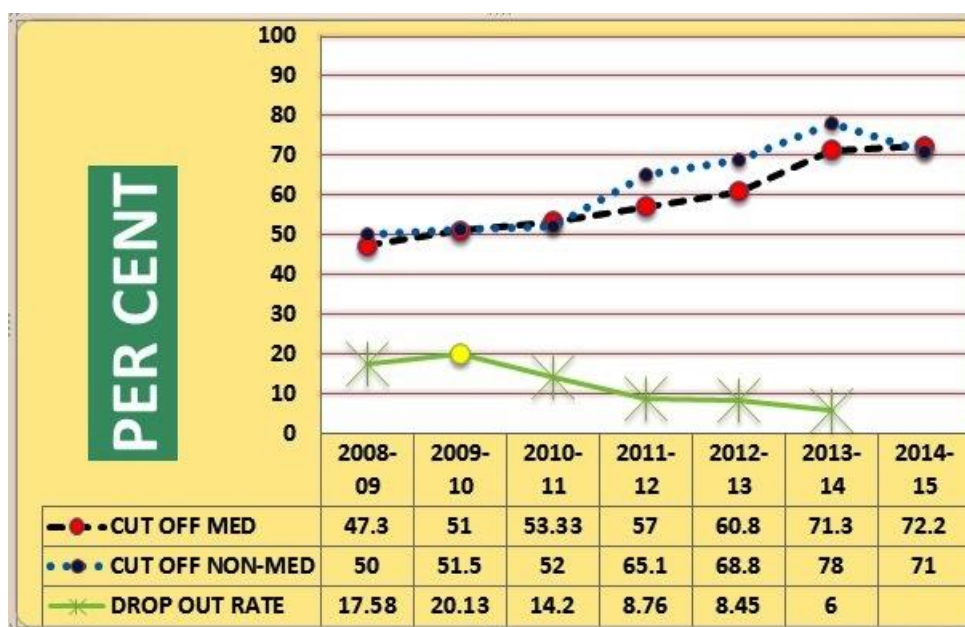
IQAC 2004...(dd/mm/yyyy)

34. Details regarding submission of Annual Quality Assurance Reports (AQAR) to NAAC. AQAR

- i. 16/04/2015 (dd/mm/yyyy) AQAR
- ii. 16/04/2015 (dd/mm/yyyy) AQAR
- iii. 16/04/2015 (dd/mm/yyyy) AQAR
- iv. 16/04/2015 (dd/mm/yyyy) AQAR

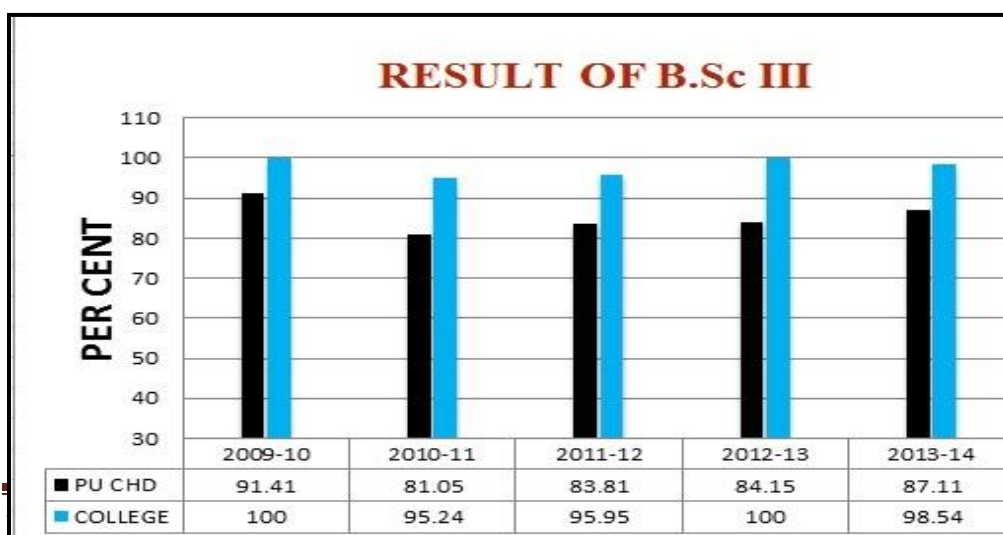
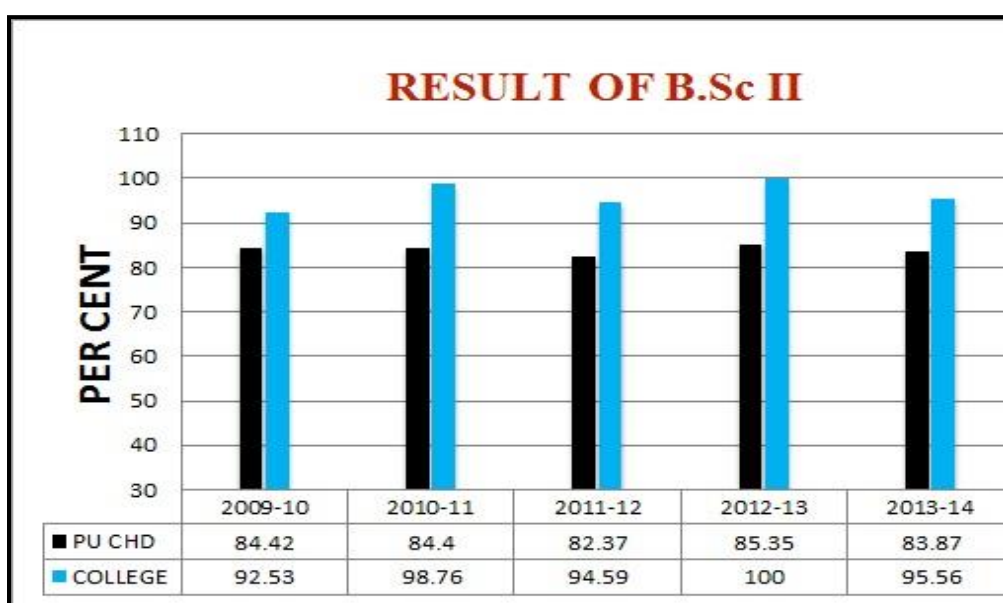
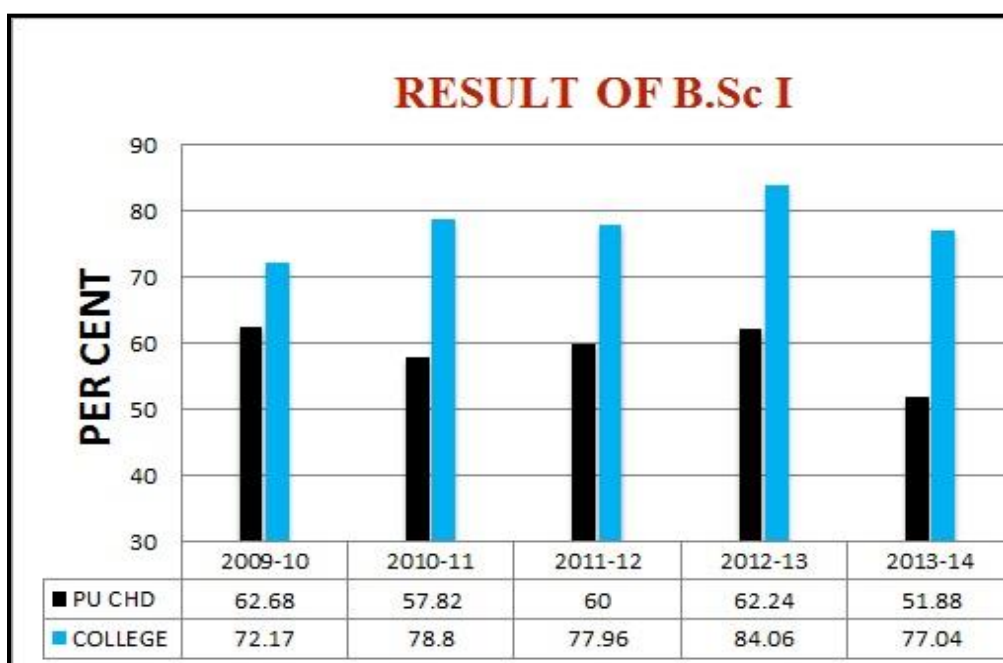
35. Any other relevant data (not covered above) the college would like to include. (Do not include explanatory/ descriptive information)

Cut off Percent and Dropout Rate

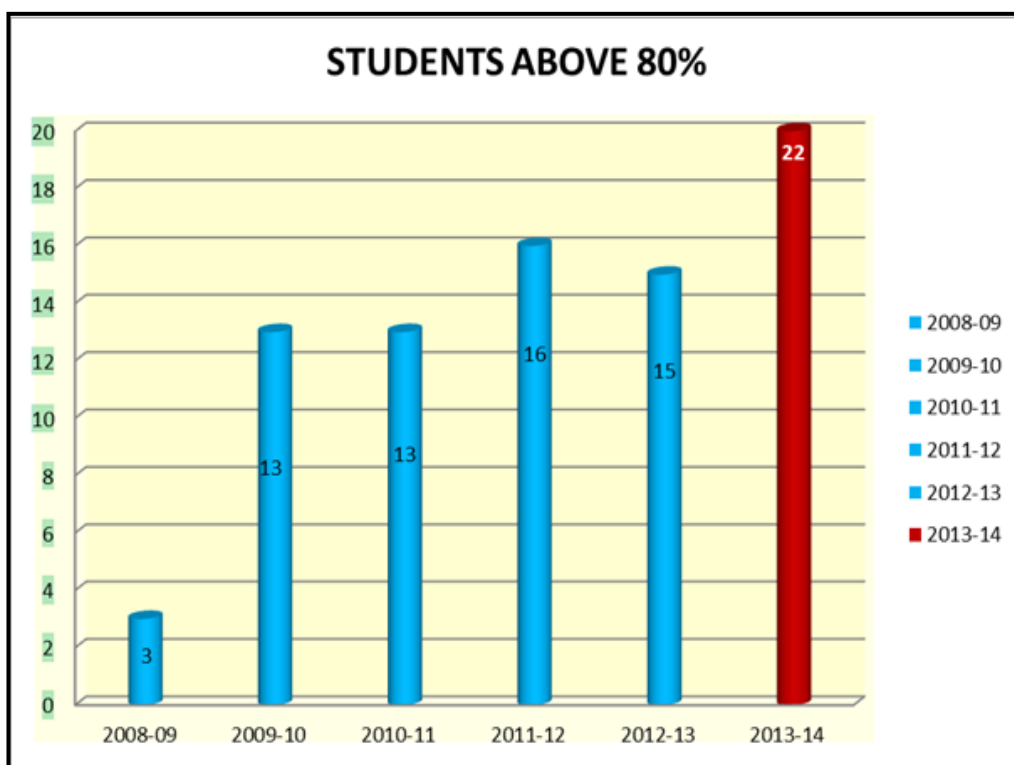


The cut off percentage has increased while dropout rate decreased in last four years as is evident from the above graph.

Comparison of results with university results



Students securing above 80 per cent marks



The uniqueness about the college is that our results in all the courses are above the university results and number of students securing marks above 80% have progressively increase from 3 in 2008-09 to 22 in 2013-014.

CRITERIA - WISE INPUTS

CRITERION I: CURRICULAR ASPECTS

1.1 Curriculum Planning and Implementation

1.1.1 State the vision, mission and objectives of the institution, and describe how these are communicated to the students, teachers, staff and other stakeholders.

VISION

- To impart high quality education in science to produce professionals of national and international repute, development of overall personality and inculcate the element of humanity so as to make them outstanding global citizens.
- Preservation of culture and heritage of India by organising cultural /extra-curricular activities.
- To ensure equity in higher education by providing adequate opportunities to under- privileged sections of society.

MISSION

The adages do not limit your goals up to your abilities rather raise your abilities up to your goals clearly illustrates our mission “**TRANSCEND**” as carved on the logo. We are fully committed to train our students to achieve their goals by

- Providing high quality education and to make them sincere, honest, responsible and progressive citizens.
- Developing a feeling of social responsibility among the students by conducting various awareness programmes.
- Serving society by producing talented teachers, research scholars and good human beings through development of mind and knowledge.

OBJECTIVE

- To develop the institution as a model institute of Science in the state.
- To produce students of international repute by imparting high quality education in science.

1.1.2 How does the institution develop and deploy action plans for effective implementation of the curriculum? Give details of the process and substantiate through specific example(s).

In order to implement the curriculum, a number of methods are used:

- In the beginning of the session, schedule of work is prepared by teachers under the guidance of their respective heads according to the academic calendar of Panjab University, Chandigarh. The schedule of work is distributed among the students and also displayed on the notice board of the respective departments.
- Time table is prepared and displayed on the notice board for the information of the students and circulated among the teachers to note.
- In their first lecture, every teacher makes the student aware of action plan during academic session, acquaint with the syllabus, pattern of the paper and recommend the relevant books for the course work.
- Academic calendar is also included in the Prospectus for the information of the students.
- In the semester System, the syllabi are spread over two terms according to the University Examination. Whereas in the annual system same is divided into three terms proportionately, that is, July to September, October to December and January to March.
- Teachers are suggested to conduct class tests after completion of a particular unit and listen to problems of students humbly.
- Carefully developed plans are applied by the teachers through innovative teaching techniques like MIPS (Botany and Zoology), PPT and OHPS, Seminars, assignments and class discussions.
- Wherever necessary, excursion tours/trips for field study are undertaken to make the students aware of Flora and Fauna of that region.
- IQAC of the College takes the feedback from students, parents and other stakeholders (Orally/ on phone) and pays due attentions to the suggestions put forward by them.
- All the teachers are assigned proctorial duties to keep a check upon students.
- To encourage the students to attend classes regularly, prizes are given to students attending maximum classes.

1.1.3 What type of support (procedural and practical) do the teachers receive from the University and/or institution) for effectively translating the curriculum and improving teaching practices?

Some of our teachers are members of undergraduate and post graduate Boards of studies of the university. They keep their colleagues updated with the developments related to change in curriculum and forward the suggestions for adopting alternative techniques to improve the teaching.

- Teachers are encouraged to participate in refresher courses/workshops/seminars/conferences to improve the skills of teaching, share these among their colleagues and incorporate at class level.
- **For effectively translating the curriculum**
 - Seminars are allocated to improve their communication skills and in depth knowledge of the subject.
 - Assignments are given to improve their problem solving, reasoning and writing skill.
 - Projects are allocated to inculcate research aptitude.
 - Encouraged to get their problems solved preferably within the class or during free period.

1.1.4 Specify the initiatives taken up or contribution made by the institution for effective curriculum delivery and transaction on the Curriculum provided by the affiliating University or other statutory agency.

To make the delivery of lectures more effective, other than the chalk and talk teaching, following methods are being often used

- Visual Charts
- OHP
- PPTs
- MIPS (by the departments of Botany and Zoology)
- Models
- CDs for communication skills

Since our college imparts education exclusively in science subjects, therefore, college makes arrangements for:

- Educational tours for field study of flora and fauna in nature.
- Research labs/ universities to provide the students with ample opportunities to interact with scientists to widen the horizon of their knowledge.
- They are always advised to visit library to update their knowledge by Consulting recently published books/journals.

1.1.5 How does the institution network and interact with beneficiaries such as industry, research bodies and the university in effective operationalization of the curriculum?

Government of Punjab has launched different programmes for preparing students to get employment in industries. First such Programme was Genesis – Train the Trainer” to train the teachers to prepare the students for employment in corporate sector followed by P- steps.

All the departments arrange for extension lectures by dignitaries from universities or research labs for delivering lectures on course contents or in recent fields of science to enrich their knowledge.

1.1.6 What are the contributions of the institution and/or its staff members to the development of the curriculum by the University? (Number of staff members/ departments represented on the Board of Studies, student feedback, teacher feedback, stakeholder feedback provided specific suggestions etc.

Our college is affiliated to Panjab University Chandigarh. Two of our faculty members are members of the board of studies of the University. Suggestions regarding the modification in curriculum are taken from the staff members and then put forward to University through members of board of studies of the College. Feedback regarding the curriculum is also taken from the students and forwarded to the members of BOS of the college for further action.

1.1.7 Does the institution develop curriculum for any of the courses offered (other than those under the purview of the affiliating university)by it? If ‘yes’, give details on the process (‘Needs Assessment’, design, development and planning) and the courses for which the curriculum has been developed.

In fact syllabus is designed and developed by University and alterations in syllabi are made usually after three years or whenever required. During the session 2013-2014 change in syllabus of M.Sc. Botany was brought under the coordination of Dr. Surjit Singh, Head department of Botany of this college.

1.1.8 How does institution analyze/ensure that the stated objectives of curriculum are achieved in the course of implementation?

The institution analyses/ensures that the stated objectives of curriculum are achieved in the following manner

- Class tests and House examination
- Assignments
- Classroom seminars and discussions

These parameters are often applied to check whether the stated objectives have been achieved or not. The institute instructs the teachers in the beginning of the session to work diligently and sincerely to achieve the stated objectives.

1.2 Academic Flexibility

1.2.1 Specifying the goals and objectives give details of the certificate/diploma/ skill development courses etc., offered by the institution.

The major goals of the institute are to enrich the student with scientific knowledge so that they become self-dependent at the earliest possible. We have applied for career Oriented courses for an early employability viz.

- Information and computer Science
- Agriculture: Mushroom cultivation/ Floriculture/ Landscape/ Apiculture/ Organic farming
- Biotechnology
- Electronic Hardware Maintenance and
- Food Technology

1.2.2 Does the institution offer programmes that facilitate twinning/dual degree? If 'yes', give details.

In fact dual degree is not provided by the institute. However under RUSA scheme, we have proposed to offer honours in the subjects of Botany, Zoology, Chemistry and Physics at the undergraduate level.

1.2.3 Give details on the various institutional provisions with reference to academic flexibility and how it has been helpful to students in terms of skills development, academic mobility, progression to higher studies and improved potential for employability. Issues may cover the following and beyond:

- Range of Core / Elective options offered by the University and those opted by the college
- Choice Based Credit System and range of subject options
- Courses offered in modular form
- Credit transfer and accumulation facility
- Lateral and vertical mobility within and across programmes and courses
- Enrichment courses

Ours is a mono faculty institute. We strictly follow the curriculum laid down by the university. There are two core subjects, that is, general English and General Punjabi at undergraduate level and elective subjects strictly according to the instructions of the university. These courses are enriched by our experienced faculty members and additional supplements are provided through eminent speakers arranged from time to time by all the departments. The Courses are offered as per university instructions and no provision exists for credit transfer and accumulation facility. There is provision for opting any two subjects in B.Sc. Medical out of biochemistry, Botany and Zoology. Students may change the subjects within stipulated period; except this no other lateral mobility exists. Students qualifying B.Sc. Medical and Non-Medical have wide range of options for selection of PG subjects.

B.Sc. 1 First Semester

Compulsory Subjects:

1. Punjabi

Elective subjects

A. Medical Stream

- Botany/ Biochemistry
- Zoology
- Chemistry

B. Non-Medical Stream

- Physics
- Chemistry
- Mathematics

B.Sc. 1 Second Semester

Compulsory Subjects:

1. Punjabi
2. Environmental Education and Road Safety

Elective subjects

A. Medical Stream

- Botany/ Biochemistry
- Zoology
- Chemistry

B. Non-Medical Stream

- Physics
- Chemistry
- Mathematics

B.Sc. II Annual System

Compulsory Subjects:

1. English

A. Medical Stream

Elective subjects

- Botany/ Biochemistry
- Zoology
- Chemistry

B. Non-Medical Stream

Elective subjects

- Physics
- Chemistry
- Mathematics

B.Sc. III Annual System

A. Medical Stream

Elective subjects

- Botany/ Biochemistry
- Zoology
- Chemistry

B. Non-Medical Stream

Elective subjects

- Physics
- Chemistry
- Mathematics

M.Sc. Botany two year courses

First Semester (Theory & Practical)

- I. Phycology
- II. Bryology
- III. Mycology and Microbiology
- IV. A) Computer Applications and Biostatistics
B) Lab techniques
- V. Anatomy of Angiosperms

Second Semester (Theory & Practical)

- VI. Pteridophytes
- VII. Gymnosperms
- VIII. Angiosperm Morphology, Taxonomy And Phylogeny
- IX. Reproductive Biology Of Angiosperms
- X. Plant Pathology

Third Semester (Theory & Practical)

- XI. Molecular Biology
- XII. Plant Physiology
- XIII. Biotechnology
- XIV. Genetics and Plant breeding
- XV. Ecology and Environment

Fourth Semester (Theory & Practical)

- XVI. Plant Biochemistry
- XVII. Forestry
- XVIII. Cytogenetic
- XIX. Plant resource, utilization and conservation
- XX. A) research projects/ Field study reports
B) Seminar

M.Sc. Chemistry Two Year Course**First Semester**

Paper	Course No.	Course
I	CH-411	Inorganic Chemistry-I
II	CH-412	Organic Chemistry-I
III	CH-413	Physical Chemistry-I
IVa	CH-414	Mathematics for Chemists/ Biology for chemists
IVb	CH-414	Computer for chemists
V	CHP-415	Inorganic Chemistry (Laboratory Course)
VI	CHP-416	Organic Chemistry (Laboratory Course)
VII	CHP-417	Physical Chemistry (Laboratory Course)

Second Semester

Paper	Title of paper
I. CH-421	Inorganic Chemistry-II
II. CH-422	Organic Chemistry-II
III. CH-423	Physical Chemistry-II
IV. CH-424	Group Theory, Spectroscopy & Diffraction Methods
V. CH-425	Inorganic Chemistry (Laboratory Course)

VI. CH-426	Organic Chemistry (Laboratory Course)
VII. CH-427	Physical Chemistry (Laboratory Course)

Third Semester

Paper	Course No	Course
I	CH-511	Applications of Spectroscopy
II	CH-512	Organic transition Metal Chemistry
III	CH-513	Heterocyclic Chemistry
IV	CH-514	Environmental Chemistry
V	CHP-515	Inorganic Chemistry (Laboratory Course)
VI	CHP-516	Organic Chemistry (Laboratory Course)
VII	CHP-517	Physical Chemistry (Laboratory Course)

Fourth Semester

Paper	Course No.	Course
I	CH-521	Biophysical chemistry
II	CH-522	Organic Synthesis – I
III	CH-523	Chemistry of Natural Products
IV	CH-524	Photo Chemistry and Solid State Chemistry
V	CHP-525	Inorganic Chemistry (Laboratory Course)
VI	CHP-526	Organic Chemistry (Laboratory Course)
VII	CHP-527	Physical Chemistry (Laboratory Course)

1.2.4 Does the institution offer self-financed programmes? If ‘yes’, list them and indicate how they differ from other programmes, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

Yes College offers 10+1 and 10+2 Medical and Non-Medical courses, affiliated to Punjab School Education Board.

Admission: According to merit,

Curriculum: Designed by Punjab School Education Board, Mohali
and is followed by the college in totality.

Fee Structure: Rs. 4430/- per student annually as per directions of the Board (copy of letter attached).

Qualification: The minimum qualification of teacher is M.A/M.Sc.

Salary: Rs.4980/- per month as directed by Board.

1.2.5 Does the college provide additional skill oriented programmes, relevant to regional and global employment markets? If ‘yes’ provide details of such Programme and the beneficiaries.

At present the college does not provide any skill oriented Programme. However, we have applied for add on courses to UGC, which are likely to be implemented w.e.f. next session. The courses include:

- Information and computer Science
- Agriculture: Mushroom cultivation/ Floriculture/ Landscape/ Apiculture/ Organic farming
- Biotechnology
- Electronic Hardware Maintenance and
- Food Technology

Since the Malwa Belt of Punjab is agriculture dominated so keeping in mind the need of the public of the area these job oriented courses are planned.

1.2.6 Does the University provide for the flexibility of combining the conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice” If ‘yes’, how does the institution take advantage of such provision for the benefit of students?

No provision exists to combine conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice. We strictly adhere to the University Rules.

1.3 Curriculum Enrichment

1.3.1 Describe the efforts made by the institution to supplement the University’s Curriculum to ensure that the academic programmes and Institution’s goals and objectives are integrated?

The minimum qualification for jobs ranges from Under Graduate to Post Graduate degree. The mission of the College is to provide the students with best education so that they may excel in examination and achieve extra ordinary higher percentage to transcend higher in comparison to their counter parts elsewhere. Quoting an example, 11 students of MSc I Botany out of

total 35 and 17 students out of 39 of M.Sc. I chemistry are graduates of our own college. Our results speak the same which are much above the University results. For this purpose additional enrichment of the curriculum is carried out with the help of extension lectures by dignitaries by all the departments.

- Intra college quiz competition are held to create competitive aptitude
- Important days like Earth Day, Environment Day, Handicap Day, Science Day and Ozone Day etc. are celebrated to make the students aware of the importance of these days.

Students excelling in University Examinations, House Examinations, Co-curricular and extra-curricular activities are adequately awarded at the time of annual prize distribution function. The students securing merit positions in the University are also honored at tehsil level on Republic Day/Independence Day.

1.3.2 What are the efforts made by the institution to enrich and organize the curriculum to enhance the experiences of the students so as to cope with the needs of the dynamic employment market?

As far as the development of curriculum is concerned responsibility lies with the University however w.r.t. alteration of any part of the curriculum, i.e. , inclusion of comparatively more important topic depending upon the need of the time suggestions are forward to the University through members of BOS of our College.

Two of our faculty members are members of board of UG or PG studies of Panjab University Chandigarh in different subjects. Suggestions to incorporate important topics are decided at the departmental level and then forwarded to the university through the members of BOS. Addition of paper on laboratory techniques in first semester of M.Sc. Botany was done only on the recommendation of members of this college. Minor interchange in Paper Number IV of M.Sc. Botany Semester first with Paper Number X of M.Sc. Botany Semester Second was also done due to the efforts of the members of this college.

Further keeping in view demand and potentiality of absorption of students in different sectors, permission to start new courses has been put forward to UGC as given in 1.2.5

1.3.3 Enumerate the efforts made by the institution to integrate the cross cutting issues such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum?

The various efforts are made by the institute to integrate the cross cutting issues into the curriculum include

i. Gender: Women forum of the college works for the welfare of the female members of the college in general and society in particular. It is actively involved in making the women aware of their rights and responsibilities in the society by holding lectures, quiz competition and observing various days. Poster making competition on problems related to women like female foeticide, dowry and violence against women were organized in the College. The students are provided a free access to counseling under Mrs. Sarbdeep Kaur Sidhu.

ii. Environment Education forms an integral part of the curriculum. All the teachers of the college are involved in delivering lectures on diverse topics related to curriculum. Additionally invited lectures on different issues by the eminent scholars of Universities/Colleges also help in further enriching the curriculum. Rallies are organized to make the general public aware of degrading environment through placard, banners, and charts showing slogans related to the issues. Poster making quiz competitions are organized. Every year hundreds of plants are planted to observed different days to prevent degradation of the environment and to keep the college green and healthy. Vermicomposting unit helps in managing the bio waste of the college.

iii. Human rights: The Students of the college are provided a congenial atmosphere to fully develop their personalities. Anti-ragging and Discipline committees of the college remain always active to help the students and making them aware of the impact of evils like ragging. Our Grievance Redressal cell encourages the students to be vocal in discussing their problems in tutorial groups or individually

iv. ICT: To keep pace with the changing global scenario, the college remains active in updating its ICT facility. Seven of our class rooms have been converted into smart Classrooms in addition to five laboratories. Recently twenty new computers have been purchased under RUSA scheme to upgrade this facility.

1.3.4 What are the various value-added courses/enrichment programmes offered to ensure holistic development of students?

§	Moral and ethical values
§	Employable and life skills
§	Better career options
§	Community orientation

Being a mono faculty institution, the option for opting wide variety of courses is almost negligible; however, for the holistic development of the students, efforts are made by the institution in the following ways

- Moral and ethical values are inculcated by the teachers regularly. Head of institution Dr. M.K. Grewal is highly dynamic personality and often visits the class room to interact with the student.
- Tutorial groups are held in which respected tutors emphasize to pay respect to the seniors, help the elderly person and behave in responsible manners at work and social places.

For better career option:

Career and guidance cell of the college keep in touch with the recent development and opportunities available for the employment both through regional and national newspapers and by surfing on internet. Same information regarding the nature of employments are displayed on the notice board and announced in the classes.

Community Orientation

Through NSS programmes awareness drives related to social issues like blood donation, women empowerment, environment awareness campaign and female foeticide etc. are carried over. Red Cross society holds blood donation camp which empowers the student with feeling of closeness among different stake holders of society.

1.3.5 Citing a few examples enumerate on the extent of use of the feedback from stakeholders in enriching the curriculum?

As far as the role of different stakeholder in enriching the curriculum is concerned, we often discuss with the students in the class regarding the changes of curriculum to keep pace with the changing trends globally. The feedback on curriculum is taken from the students on a Performa prepared on the guidelines of NAAC. The suggestions are also taken from members of alumni and parents orally during alumni and parents meets respectively. Based upon the suggestions given by them and discussions in the IQAC meet, proposals regarding initiation of add on courses were prepared and sent to UGC for financial support.

1.3.6 How does the institution monitor and evaluate the quality of its enrichment programmes?

The most important parameter for evaluating the impact of enrichment is reflected through the results of different classes along with feedback from the students. To achieve higher marks and to remain in line with our mission to

“TRANSCEND” monthly tests in UG and Class tests after completion of particular unit both at UG and PG level are conducted. The performance in these tests becomes instrumental to monitor their progress in their respective courses of study.

The weak students become centers of attraction for improvement. They are encouraged to overcome their drawbacks by consulting their teachers.

1.4 Feedback System

1.4.1 What are the contributions of the institution in the design and development of the curriculum prepared by the University?

The final authority in developing & designing the curriculum lies with the University. However suggestions regarding any type of change in curriculum is discussed among the teachers in the department and suggestion are forwarded through member of BOS of the college to university or whenever suggestions are demanded by the university regarding bringing about any change in curriculum. In both these cases significant role is played by our teachers.

1.4.2 Is there a formal mechanism to obtain feedback from students and stakeholders on Curriculum? If ‘yes’, how is it communicated to the University and made use internally for curriculum enrichment and introducing changes/new programmes?

Of course there is formal but transparent mechanism to obtain feedback from students and stakeholders on curriculum. Teachers are suggested to visit the classes and give briefing on the subject. Students are there after guided to fill up the Performa on feedback which are analyzed by committee of teachers. The constructive suggestions are put forward through Heads of the departments and the college Director to the University.

1.4.3 How many new programmes/courses were introduced by the institution during the last four years? What was the rationale for introducing new courses/programmes?

None of the new Programme was started in last four years. We have now put forward our proposal to start B.Voc Courses and Ad-on Courses to as and when the approval for the same is received by the college.

CRITERION II: TEACHING – LEARNING AND EVALUATION

2.1 STUDENT ENROLMENT AND PROFILE

2.1.1 How does the college ensure publicity and transparency in the admission process?

Admission Process:

The college makes it sure that admission process gets full publicity and people of the area are aware of ongoing admission process in the college. To achieve this aim, admission process is notified through the local newspapers. Announcements are made in the local Gurudwaras. Banners are put up at the main locations. The prospectus and application form is uploaded on the college website. Application forms can be downloaded or bought from the college. The teachers and stakeholders also inform the public and make every effort to shoulder this responsibility.

The college ensures wide publicity to the admission by printing prospectus containing the campus profile, details of Academic Programmes of the institution, the facilities / scholarships offered under different categories. Complete details are placed on the college website to facilitate online access to the requisite information about the college. The admission process is kept fully transparent. After receiving the applications, they are screened by the committee and finally the computerized merit list is prepared and displayed on the notice board. The admission committee deals with the enquiries on the spot if any.

2.1.2 Explain in detail the criteria adopted and process of admission ex.

(i) Merit

(ii) Common admission test conducted by state agencies and national agencies

(iii) Combination of merit and entrance test or merit, entrance test and interview

(iv) Any other to various programmes of the Institution

Our college is one of the most preferred colleges in the area providing high quality education in science subjects. Students from distant places also seek admission to this prestigious college for B.Sc. Medical, B.Sc. Non-Medical and M.Sc. courses in Botany and Chemistry. Student enrolment procedures are strictly in accordance with the norms and guidelines issued by the P.U. Chandigarh and Government of Panjab.

Admission to UG classes is made exclusively on Merit .For admission to B.Sc.-1 course; the college constitutes two admission committees, one for Medical stream and other for Non- Medical stream. The committee scrutinizes the applications for admission with respect to fulfillment of the eligibility criteria as prescribed for admission by the Panjab University, Chandigarh. Admission is made purely on the basis of the marks obtained in senior- Secondary Examination.

Admission to PG classes M.Sc.-1 Botany and M.Sc. -1Chemistry are made on the basis of combination of National level Entrance Test, CET(PG)conducted by Panjab University Chandigarh and marks obtained in B.Sc. course as given below.

Entrance Test			Qualifying Examination		Other weightage C			Total A + B +C
Roll No.	Marks obtained out of 75	Normalized Marks obtained out of 50 A	Marks obtained in B.Sc.	Normalized Marks obtained in B.Sc. out of 50 B	Hons 15 % of B	P.U. weightage 5 % of B	Other activities Max up-to 3 % of B	Z

The final merit is determined on the basis of value of Z

2.1.3 Give the minimum and maximum percentage of marks for admission at entry level for each of the programmes offered by the college and provide a comparison with other colleges of the affiliating university within the city/district.

General:

For admission to B.Sc.1 course, the minimum percentage required is 40% in 12th standard as per Panjab university rules. For admission to M.Sc. Botany and M.Sc. Chemistry, the minimum percentage required is 45% in B.Sc. and CET (PG) Test.

As far as our college is concerned, the record of cut off per cent age of the admission is given below for the session 2014-15.

Classes	Minimum % age of admitted student	Maximum % age of admitted student
B.Sc.-1Med	72.2%	91.1%
BSc-1-N Med.	71.0%	95.5%
B.Sc. I DAV Jagraon	51.33	80.22
M.Sc. -1 (Chemistry)	Admission is made as described in 2.1.2	
M.Sc. -1 (Botany)		

Since our college is mono faculty and there is only one other college in the town (D.A.V. College) which is multi faculty and is running only B.Sc. Non-Medical stream .Therefore comparison cannot be done w.r.t. admission in

different classes except B.Sc. I Non-Med. The data available shows that the cut off per cent of DAV (51.33%) is much below than the cut off per cent of our college confirming the fact that our college is the most preferred over any other college in the area.

2.1.4 Is there a mechanism in the institution to review the admission process and student profiles annually? If ‘yes, ‘what is the outcome of such an effort and how has it contributed to the improvement of the process?

Yes, institution reviews the process of admission annually. The required changes are incorporated in the admission system and notified in the Prospectus. Computerization of the whole process has made the admission more reliable and transparent. Fail students are not allowed to get admission in the same class and students having more than one year gap is also not admitted to the college. Our admission committee studies the academic background and economic status etc. from the statistical data available from the admission forms. A record of students’ behavior is maintained and those who create indiscipline in the college are not readmitted which has never happened in our college till date fortunately. The students, who bring laurels to the institutions in academics, sports, extra-curricular are given special attention at the time of admission the following year to BSc -II and III and M.Sc. II. With the computerization of the admission process, it has become more reliable and easier to handle the whole affair.

2.1.5 Reflecting on the strategies adopted to increase / improve access for following categories of students, enumerate on how the admission policy of the institution and its student profiles demonstrate/reflect the National commitment to diversity and inclusion

- * SC/ST
- * OBC
- * Women
- * Differently abled
- * Economically weaker sections
- * Minority community
- * Any other

SC/ST and OBC

Reservation policies of the government in creation of equity and provision of access to the disadvantaged sections are rigidly followed in the admission process.

SC/ST Candidates of the state are given 25% reservation in admission whereas B.C candidates get 5% reservation in admission.

Women

We are proud of the fact that our college provides a congenial and safe environment for studies of the girl students. As a result, we have more girl students than boys in our college. Single girl child is given one additional seat

for each course in admission as per Panjab university rules. The girl's hostel in the college attracts the girls to seek admission to this college.

Differently abled.

Physically challenged students are admitted adhering to Government norms on merit basis. In admission the persons with disabilities are given 2 % reservation.

Economically Weaker Sections :

There is no provision for reservation for economically weaker sections in admission. They are admitted on merit. But

- Students belonging to this category are given financial benefits out of SAF or any other relevant fund.
- Books are provided from the Book Bank or the departmental library for full session.

Minority community: The students belonging to these categories are eligible for various facilities as per rules but do not avail reservation quota as such.

Outstanding Achievers in Sports and Extracurricular Activities :

- Sport students are given 3% reservation in the college admission as per rules. Sports kits and transport facility is provided by the college whenever needed.

Any other:	Rural area	=	7%
	Border area	=	3%
	Defence Personal	=	2%
	Terrorist affected etc.	=	2%

The college provides the following scholarships/Stipends :

- Scholarships to the needy and deserving students from Student Aid Fund at institute level
- Government / University, Stipends/Scholarships, as per Govt. rules
- Scheduled caste/Tribe Scholarship/ Backward Class Scholarship.
- Inspire scholarships to students securing higher percentage as per national policy.

2.1.6 Provide the following details for various programmes offered by the institution during the last four years and comment on the trends. i.e. reasons for increase /decrease and actions initiated for improvement.

Programmes	No. of Applications	Admitted	Demand ratio
(2010-11)			
B.Sc-I Med.	35	35	1:1
B.Sc.-I Non Med.	320	143	2.2:1
M.Sc. Chem.	72	20	3.6:1
M.Sc. Bot.	45	16	2.8:1

Programmes	No. of Applications	Admitted	Demand ratio
(2011-2012)			
B.Sc-I Med.	54	54	1:1
B.Sc.-I Non Med.	375	138	2.7:1
M.Sc. Chem.	26	14	1.9:1
M.Sc. Bot.	25	17	1.6:1

Programmes	No. of Applications	Admitted	Demand ratio
(2012-2013)			
B.Sc-I Med.	79	79	1:1
B.Sc.-I Non Med.	400	127	3.1:1
M.Sc. Chem.	29	21	1.4:1
M.Sc. Bot.	32	15	2.1:1

Programmes	No. of Applications	Admitted	Demand ratio
(2013-2014)			
B.Sc-I Med.	143	82	1.7:1
B.Sc.-I Non Med.	450	130	3.5:1

M.Sc. Chem.	35	33	1:1
M.Sc. Bot.	45	25	1.8:1

Programmes	No. of Applications	Admitted	Demand ratio
(2014-2015)			
B.Sc-I Med.	177	84	2.1:1
B.Sc-I N.Med.	433	164	2.6:1
M.Sc. Chem.	91	39	2.3:1
M.Sc. Bot.	52	35	1.5:1

It is evident from the data given above that demand ratio in all the programmes has progressively increased. It may be attributed to

1. Changing trends from professional courses like engineering to pure sciences
2. Attraction of students due to our outstanding results
3. Very cordial relationships between teachers and students.
4. Congenial environment for studies.

Catering to Student diversity:

2.2.1 How does the institution cater to the needs of differently - abled students and ensure adherence to government policies in this regard?

Special attention is given to differently abled students. Regular teachers offer their services to guide such students in every way. Ramps have been constructed to make easy access to the classrooms for physically challenged students. A provision is made in the time table to keep classes of such students at the ground floor only. The class mates are also advised to help such students in the college campus as well as in the hostel. They are allowed to use their vehicle up to the interior of the college. They are eligible for availing facilities during annual examinations according to university rules.

2.2.2 Does the institution assess the students' needs in terms of knowledge and Skills before the commencement of programme? If yes, give details on the process.

Yes, the institution assesses the students' needs in terms of knowledge and Skills before the commencement of programme .Our students belong to different parts of the state. Such kind of diverse students are assessed at the commencement of the programme through interactive sessions and group discussions in the class room. Especially in case of B.Sc.1, where students need orientation towards the course. The initial assessment of the needs of the

students is made through introductory tests after admission process. To further assess the knowledge base and skill needs of the students pertaining to the specific subject, introductory lectures based on the basics/fundamentals of the subject concerned are delivered. Faculty members give extra time to the students to understand and fulfill their needs in the different subjects. Along with theoretical knowledge of the topic, Practicals are also conducted to give them practical knowledge of the subject as well.

2.2.3 What are the strategies adopted by the institution to bridge the Knowledge gap of the enrolled students (Bridge / Remedial / Add- on / Enrichment Courses, etc.)to enable them to cope with the programme of their choice ?

Teachers make every effort to bridge the knowledge gap of the incoming students from different backgrounds. They give extra time to the students to help them cope with the programme to which they are enrolled .Faculty members try their best to bridge the gap between high school and higher education. Introductory lectures are organized to give them basic knowledge of the subject along with practical training in the labs. Enrichment programmes like extension lectures, extra reading material are also provided to bring them to the desired level. Remedial classes are also conducted for their benefit with UGC grants. Students are free to discuss any problem with the teachers.

2.2.4 How does the college sensitize its staff and students on issues such as gender, inclusion, environment etc.?

Gender Related Issues:

Women Forum has been established in the college to sensitize women about their identity and role under the able guidance of the Director of the college. This Forum has done a commendable job to achieve its purpose. The students are free to approach for counseling to all the teachers, specially the women teachers involved in the forum. To sensitize women about their identity and role, following programmes were conducted

- Dr. Mohinder Kaur Grewal, Head of institution enlightened the students about the role of women in the present society during the programmes of Women Forum.
- Poster making competition was organized on 20th October, 2014 on problems related to women like female foeticide and violence against women to prepare them to face these challenges.
- Seminar on Equity Initiatives under RUSA was organized on January24, 2015 on women rights in which Dr. Gurmukh Singh of Department of Punjabi, Punjabi University, Patiala delivered a lecture.
- Sexual Harassment Committee also works for the welfare of women and solves their general problems on the spot.
- World AIDS day is celebrated to make the students aware of the serious problem.

Environment Related Issues

- Activities like tree plantation on Van Mahoutsav, maintenance of green belts.
- The subject of Environmental Studies and Road Safety Rules is taught in B.Sc. I.
- Drive against the use of polythene bags is undertaken regularly.
- Sanitary incinerator has been installed in the Girls' hostel.
- Vermicomposting unit has been established in the college to provide knowledge to the graduating students about biodegradation of waste biomass and organic farming.

Inclusion:

The students are encouraged to participate in all those activities which are related to awareness of public. They become integral part of those societies/cells that leave direct impact on sensitive issues. They are members of **Youth Red Cross Society, Society of Botanical Sciences, Society of Chemical Sciences, Women Forum, Environment Club. They actively participate in arranging programmes related to these societies/ clubs.**

Rallies are organized to spread the message across all sections of the society through NSS camps. Many activities have been organized in these noble endeavors to make this world a better place for future generations.

2.2.5 How does the institution identify and respond to special educational/learning needs of advanced learners?

Advanced learners are identified by making classroom teaching interactive, encouraging and classroom discussions. Faculty members also conduct class tests and organize quiz competitions through which teachers can identify advanced learners. Various extension lectures are organized to fulfill learning needs of advanced learners. The students also get opportunity to participate in several activities. They are constantly encouraged and guided for preparation of various competitions at different levels. Extra support is given to them for participating in high level programmes. Such Students are free to communicate with their faculty at any time and discuss their problems. Advanced learners are allocated additional project work and provided necessary guidance by their teachers in addition to extra reading material. The UG students are motivated to prepare for CET –PG, and other competitive tests to get admission to PG courses at renowned institutions. The PG students are motivated to prepare for UGC-NET test and other professional competitive tests .They are also encouraged to participate in seminar presentations, poster presentation and quiz contests and other activities.

2.2.6 How does the institute collect, analyses and use the data and information on the academic performance (through the Programme duration) of the students at risk of drop out (students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections etc.) who may discontinue their studies if some sort of support is not provided?

The institution collects the data on the academic performance of the students by conducting monthly test, house examination giving assignments, seminars,

project works. The data on the academic record is analyzed and need based help is provided to the student of disadvantaged section of the society.

- Remedial classes are also organised for such students.
- Financial assistance is provided by the teachers to the students at the risk of drop out.
- Moral support is given to such needy students.

2.3 Teaching-Learning Process

2.3.1 How does the college plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan, evaluation, Blue print etc.)

The planning and organization of the teaching, learning and evaluation schedules for all courses in each discipline is done as per the academic calendar of the university. This calendar is also printed in the prospectus for the information of students. The college prepares its own academic calendar to organize teaching, learning and evaluation schedules for the session. The time table committee comprising of Heads of the department plan the time table according to the work load, distribute the periods for the smooth functioning of the college. The Registrar of House Examinations plans the examination schedule for the house examinations keeping in view the schedule of extracurricular activities to be done during that period. The lists of subjects for the coming semester/ session are planned by every department in advance. Faculty of the concerned dept. is given the choice to select the various subjects based on their area of interest.

The Head of the department finalizes the teaching subjects for the faculty members based on the preference list as decided by them. Faculty members prepare the schedule of work, assignments, minor projects and seminars to be allocated to the students for their respective course.

Teaching Plan:

The schedule of work is prepared by all the teachers and compiled in the form of booklet. This is provided to the student's right in the Beginning of the session and strictly adhered to.

Time Table:

As described above the timetable committee sets the general time table of the college. The departmental time table is prepared by the respective heads of department and incorporated in the general time table.

Evaluation - Blue Print:

The evaluation procedures for each course is fixed well in advance and communicated to the students in the beginning of the year.

- For B.Sc.-1[semester system] students are evaluated through monthly tests taken after each unit according to the course plan. They are also evaluated on the basis of assignments/ project work and attendance in internal assessment.

- For B.Sc. II and BSc III [presently under the annual system], house tests are conducted in October and December whereas annual examination are held in April. Students are also evaluated through monthly tests as well as internal assessment.
- P.G. students are evaluated through class tests, snap tests, group discussion, seminar presentation, assignments and attendance.
- Final evaluation of students is made by the University examinations.

2.3.2. How does IQAC contribute to improve the teaching-learning Process?

IQAC improves the teaching-learning process by regularly discussing various quality enhancement programmes with the faculty members. The teachers are advised to use various audio-visual aids to achieve desired learning outcomes. The following initiatives are the result of the efforts of IQAC.

- Using of MIPS system in Department of Botany and Zoology
- Motivating faculty members to attend conferences, National seminars etc.
- Ensuring access to computers, internet which are available in the department as well as in the U.G.C. resource centre
- By ensuring strict adherence to class timings as mentioned in the Time table.
- Feedback on Teachers is also obtained to assure the quality of teaching-learning.
- Audio and Visual aids are used to enhance teaching-learning Process.
- Educational tours are organized to give exposure to students.
- Organising lectures by dignitaries to make teaching learning to further enrich their knowledge.

2.3.3 How is learning made more student-centric? Give details on the support structures and Systems available for teachers to develop skills like inter active learning, collaborative learning and independent learning among the students?

Students are our prime stakeholders and every care is taken for their all-round development. Learning is made more student-centric by defining learning outcomes to the faculty for all courses right in the beginning of the session. Teaching learning process has been made more interactive to achieve this aim. Teachers conduct various types of Activities like Group discussions, Field survey/Field work, and assigning projects and seminars which while strengthening the knowledge base also contribute in skill formation. Various departmental societies' \ clubs have also been established to nurture and channelize the energies of young students. Almost all the departments organize various types of activities like quiz, poster-making, paper-reading

and extension lectures etc., that help students to develop various skills. To develop interactive skills of the students we have facilities like Computer lab with internet facility, OHPs, Language Lab and seminar hall are available in the college

Students are made to perform practicals in groups to enrich their experience of collaborative learning. They are also allocated projects in groups to orient them towards research. Seminars and assignments are given to inculcate the habit of independent learning.

2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators?

The scientific temperament and creativity exists in all human beings, the need is to explore and provide a platform to recognize it. The college promotes creativity and critical thinking amongst students by

- Encouraging them to participate in events like Essay writing, stories, poems and other items at college, inter college and youth festivals .It is worth mentioning here that our students excel in these creative endeavours in the youth festival. Jasmine Kaur won the first prize in the story writing category, Mr Lucky stood second in essay writing and Jasmeen got second prize in poem writing. This bears a clear testimony to the fact that we constantly encourage creativity in our students.
- Departmental societies also conduct a variety of Student-centric activities which play a vital role to develop scientific temperament like quiz, , poster-making, , seminars and project works etc. that help the students in developing logic along with analytical thinking.
- The students are taken to different Phyto-geographical areas for field study of flora and fauna.

2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching ? E.g.: Virtual laboratories, e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and National Mission on Education through Information and Communication Technology (NME-ICT), open educational resources, mobile education, etc.

The students are provided congenial environment for studies in the college so that they can explore the subject without indulging in blind and rote teaching. We have, therefore, introduced innovative practices in teaching and learning to make it more effective and interesting. Under the guidance of DPI colleges Punjab, students are also exposed to teaching through EDUSAT. In addition to the lecture – method, the teachers are encouraged to use teaching aids to assure and enhance the teaching quality. Following facilities are made available for effective teaching-learning.

- Smart class Rooms
- Audio-visual aids for better understanding of the concept.
- Computer Aided Learning (Internet, Power Point Presentations) is provided for further learning.
- Language Lab.
- Participation in seminars (conducted by the college & other Institutions)
- Group Discussions and Seminars for P.G. Students.
- Educational trips are organized to update their knowledge.
- Organizing workshops/Seminars /extension lecture by experts in their respective fields to provide opportunities for interaction.

2.3.6 How are the students and faculty exposed to advanced level of knowledge and skills (blended learning, expert lectures, seminars, workshops etc.)?

The students and faculty are exposed to advanced level of knowledge by the following methods.

- Organizing Extension lectures by experts in their respective fields to share their knowledge with the students.
- Group discussions and Seminars for P.G. Students.
- Educational trips are organized to give first-hand knowledge to students.
- Visits to Research labs, Punjab University Chandigarh, Punjabi University Patiala, Guru Nanak Dev University Amritsar, National Institute of Pharmaceutical Education and Research, Mohali are a regular feature.
- Teachers are encouraged to attend refresher courses etc.
- Books, Journals and Magazines are made available for updating the knowledge of teachers and students.

2.3.7 Detail (process and the number of students \benefitted) on the academic, personal and psycho-social support and guidance services (professional counseling/mentoring/academic advice) provided to students?

Career Guidance and Counseling Cell:

Career Counseling and guidance cell has been established in the college for accomplishing the following purposes

- To guide them in making right career choices for themselves.
- To enable students to adjust with the changed new environment.
- To acquaint them with various career options by conducting seminars.
- To address problems related to stress, examination phobia etc.

Mentoring:

- Mentoring of the students is our top priority. Each teacher tutor takes keen interest to mentor students under his /her charge. The mentoring of boarders is specially taken care of by the hostel committee.
- Teacher-student mentoring is a regular feature but we also promote student-student mentoring also to promote healthy environment.
- Students are always free to approach the teachers for any kind of guidance. Students who come with a burden and special efforts are made to relieve them.
- The teachers counsel the students on various issues ranging from personal to academic.

Placement Cell:

The Placement Cell of the college helps the students in selection of career from exploring various options to securing an ideal job. The Cell not only provides career counseling but also helps in acquiring the required skills. To achieve this purpose, a lecture was organized on Resume Writing and Interview skills on 28th feb, 2015 for the various classes Infosys visited our college to conduct placement drives in the session 2012-13.

Number of students have benefitted from Grievance Redressal Cell:

There is a well-established and fair procedure for redressing grievances regarding academic matters, hostel accommodation, library, transportation etc. The grievance redressal committee works in collaboration with other committees to redress the issues at the earliest. A cell is functioning under the guidance of the director and in consultation with members of committee. The purposes of cell are listed below;

- To encourage the students to express their grievances freely and frankly to the teachers.
- To address the basic problems of residents regarding mess and other amenities.
- To promote healthy student-student and student-teacher relationship.

- To uphold the glory of the college by ensuring strife-free atmosphere in the college.

The grievances of the students are redressed in the following manner. Complaint Box has been installed in the campus and in the hostel. The grievance is taken up by the members of the committee, the case is studied and discussed by them and finally the grievance is redressed to the satisfaction. Some of the grievances redressed during the last two years are enumerated below:

- Grievances of the students staying in the hostel regarding the mess.
- Grievances of the students regarding buses to the adjoining areas.
- Grievances of the students regarding canteen.
- Grievances of the students regarding library.
- Grievances of the students regarding Geysers
- Grievances of the students regarding Electricity.

2.3.8. Provide details of innovative teaching approaches/methods adopted by the faculty during the last four years? What are the efforts made by the institution to encourage the faculty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

Numbers of innovative methods of teaching have been introduced since last five years. Previously we used to teach through conventional methods of teaching like Blackboard teaching, Visual Chart and Models. With the help of star college scheme and UGC, number of computers and other ICT related instruments have been purchased that have changed the teaching techniques entirely. Mrs .Nidhi from the Deptt. of English attended seven days training under the project Genesis at Infosys, Chandigarh on communication skills. She is applying these techniques at the class level.

The following innovative methods have been incorporated by the different departments to enrich the teaching learning:

- MIPS
- Power Point Presentations and use of internet to make teaching-learning more interactive and interesting.
- Field trips and Educational trips.
- Workshops and extension lectures by scientists.
- Students are allotted topics to prepare power point presentations and class seminars are held.

2.3.9 How are library resources used to augment the Teaching-Learning process?

The library caters to the needs of teachers and students by providing access to books and journals. The college has a main library and 5 departmental libraries that cater to the needs of the teachers and students. Book Bank facility is also available in the department of chemistry and Botany to issue for

full semester /year as the case may be. Books for **Competitive Examinations** are also issued to the students. The students are encouraged to use library resources by giving them assignments and seminars. Journals have also been prescribed by PG departments and students are free to consult them according to their requirement.

2.3.10 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? if 'yes' elaborate on the challenges encountered and the institutional approaches to overcome these.

The Institution has built-in mechanisms to ensure curriculum completion within the stipulated time. Some of these measures include:

- Schedule of work and college calendar are prepared in the beginning of the session
- Constant monitoring by the head of concerned dept. ensures effective implementation of the work plans.
- Curriculum may not be completed in time in case a teacher proceeds on long leave due to medical or any other reason, in such a case, heads of department make every possible alternative arrangement for completion of syllabus in time.
- In case of shortage of teachers, Guest faculty teachers are arranged right in the beginning of the session. The College ensures proper arrangement for the completion of the curriculum through Guest Faculty appointments. Faculty members take extra classes for the completion of courses if need be.

2.3.11 How does the institute monitor and evaluate the quality of teaching learning?

Academic growth Committee has been established to monitor and evaluate the quality of teaching-learning. Feedback on teachers is obtained from the students and the recommendations /suggestions received are discussed in the meeting of Heads of the Department and Academic growth Committee under the leadership of the Head of the Institute. Suggestions are forwarded to the concerned teacher for making the teaching more effective. House tests and monthly tests are conducted to assess the performance of the students which forms the basis for awarding of internal assessment to the students. Slow learners are recognized by teacher during class interaction and necessary steps are taken to improve their performance.

2.4 Teacher Quality

2.4.1 Provide the following details and elaborate on the strategies adopted by the college in planning and management (recruitment and retention) of its human resource (qualified and competent teachers) to meet the changing requirements of the curriculum.

Ours being a govt. Institute, All faculty positions are filled as per the norms laid down by the Punjab Govt. There are two modes of getting faculty recruited. Regular teachers are selected by PPSC and appointed by Government of Punjab.

For Guest faculty, advertisement is given in the leading regional newspaper. Eligible candidates are invited for personal interview. Teachers are selected on the basis of their merit and their performance in interview by an interview panel comprising of The director and the Heads of departments. Highly qualified and meritorious candidates with a good academic record are appointed to give a boost to academic atmosphere of the college. The college has the required number of qualified and competent faculty to handle all the courses.

The college has permanent faculty strength of 9 against the 36 sanctioned posts and 6 part time (protected by supreme court). Guest faculty teachers are appointed to fill the vacancies for smooth functioning of the college .

Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent Teachers							
D.Sc./D.Litt.							
Ph.D.			1				1
M.Phil.			4	2		1	7
PG					1		1
Part Time Teachers							
Ph.D.						1	1
M.Phil.						3	3
PG					1		1
Guest Faculty							
Ph.D.							
M.Phil.					1	1	2
PG					2	18	20

2.4.2 How does the institution cope with the growing demand scarcity of qualified senior faculty to teach new programmes/ modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)? Provide details on the efforts made by the institution in this direction and the outcome during the last three years.

The college appoints additional guest faculty to teach such emerging programme like Biochemistry out of PTA fund. The requisite number of posts

as per conditions laid down by the university are advertised in leading newspapers and also made available on the college website. The eligible candidates are interviewed by a panel consisting of the Director and HOD's and highly qualified and meritorious candidates are selected to teach the modern areas of study. The college has the required number of qualified and competent teachers to handle all the courses of all departments. Efforts are made to supplement the deficiency by invited lectures from universities or faculty members are encouraged to acquire the required training from the universities.

Teachers recruited in the last three years:

Department	Permanent faculty Recruited		
	(2012-2013)	(2013-2014)	(2014-2015)
	Nil	Nil	Nil
Department	Faculty Recruited as Guest Faculty		
Chemistry	08	08	08
Physics	02	02	02
Botany	04	05	05
Mathematics	01	01	01
Zoology	02	02	03
Biochemistry	01	01	01
Computer Science	02	02	02

2.4.3. Providing details on staff development programmes during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher quality.

- a) Nomination to staff development programmes;

Academic Staff Development Programmes	Number of faculty Nominated
Refresher courses	2
HRD programmes	-
Orientation programmes	-
Staff training conducted by the university	1
Staff training conducted by other institutions	1
Summer/winter schools, workshops, etc.	1

- b) Faculty Training Programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching – learning.
- i. Teaching learning methods/ approaches:
 - ii. Handling new curriculum
 - iii. Content/knowledge management
 - iv. Selection, development and use of enrichment materials :
 - v. Assessment :
 - vi. Cross cutting issues:
 - vii. Audio-visual Aids/ multimedia:
 - viii. OER's teaching learning material development, selection and use.

- A One week training programme on “Basics of computer” was organised in the college from 21-05-2012 to 26-05-2012 for teachers.
- Magnus Image Projection system has been introduced in the college particularly in the department of Botany and Zoology with a view to impart education to students by modern means of teaching.
- The college keeps on adding the new editions of books in the departmental libraries to cope up with the change if occur in the curriculum. In fact we do not face any problem in respect of covering the syllabus. The books we prescribe to the students cover whole of the syllabus or our teachers dictate notes in the class. In case of difficulty, inviting the dignitaries is a regular feature of the college or students are taken to universities for practical demonstrations also. It is worth mentioning here that we have created our own SOPs and Lab Manuals which are used by our students. Recently on 01-04-2015, 53 students of the college visited Animal Tissue Culture Lab of Molecular Biology and Biochemistry Department and Plant Tissue culture lab of Department of Biotechnology, G.N.D. University Amritsar.
- The teacher searches for new topics on the internet, prepare notes, distribute among the students or deliver the same using PPTs.
- Students are made conversant with the various criterion of assessment in the beginning of the session like attendance, house examinations and class behaviour.
- Assessment of the students is done through class test and feedback on teachers.
- Teachers use various audio visual aids to supplement lecture material. Students are free to use the internet resources.
- The other educational resources like the notes of teacher and internet are also made available to the students.
- Teaching learning material as prescribed by the university is consulted. In case any topic is not available, internet sources are consulted. Teachers make use of audio visual aids for better understanding of the concepts

c) Percentage of faculty

*invited as resource persons in Workshops/Seminars/ Conferences organized by external professional agencies.

*participated in external Workshops / Seminars / Conferences recognized by national/ international professional bodies

*presented papers in Workshops/Seminars/Conferences conducted or Recognized by professional agencies

Percentage of faculty	2011-12	2012-13	2013-14	2014-15
Invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies		2.77		

Participated in external Workshops / Seminars / Conferences recognized by national/international professional bodies	16.66	13.88	5.55	11.11
Presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies	-	2.77	5.55	-

2.4.4 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programmes industrial engagement etc.)

Financial assistance to start a research project by a teacher does not exist at college level but we are bound to follow the policies of the government to assist the Scholar. They are entitled to claim TA/DA to attend training at other institutes and presentation of Research papers etc. as per Govt. rules. Duty leave is given for that particular period. They are also encouraged to submit the major/ minor research proposal to funding agencies. The expenses incurred on preparation of proposals are borne by the Institute.

Provision to pursue higher studies like Ph.D. while in Service exists as per UGC rules. Guest lectures are organized in various upcoming areas in different disciplines for recharging the teachers.

2.4.5 Give the number of faculty who received awards / recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

The College has the distinction of having on its roll outstanding scholars who have excelled in their field and added to the reputation of the college. Formal Awards have been given to our faculty members in recognition of their meritorious excellence in their respective field as given below.

The Director of the College, Dr. Mohinder Kaur Grewal has been honoured as/by

- **Pride of Jagraon Award by All India Human Rights Association Jagraon for contribution in field of Science Education, Culture and Administration** on 09th December, 2014.
- **Lala Lajpat Rai Award** given by Lala Lajpat Rai Memorial Society, Gram Panchayat and different NGO's and Clubs at Dhudike (Moga) on 02nd September, 2014.
- Awarded by **Deputy Commissioner Ludhiana** under the aegis of Lodhi Club on Lohri Night, 2014 for being Efficient Female Officer.

- **Pride Award** by **All India Association of Biology Teachers** in 2012 for topping the list of PPSC selected Principals in Punjab.
- Honoured by **ECO SIKH ORGANISATION** on World Sikh Environment Day i.e. 14th March 2011.
- Honoured by **SATNAM SARB KALYAN TRUST** (regd.) on 17th April, 2011 at Patiala.
- **BEST TEACHER AWARD** by Lion's Club, Jagraon on 11th September 2010.
- **AWARD OF HONOR** on Teacher's Day by GEM (India) Women Welfare Council (regd.) in a function held at G.C.W. Ludhiana on 3rd September 2010.
- Honoured by **Punjab Arts Council** on 1st December 2010 for organizing competitions at state level function 'MELA DHIAN DA'.
- **Mrs. SNEH PRABHA SHUKLA MEMORIAL AWARD** by Panjab Sahitya Kala Manch on 19th November 2009 for services in the field of science education and social service.
- Honoured by **LOK CHETNA KALA MANCH** Burj Hakiman Distt. Ludhiana on 20th January 2010.
- Honoured by **MAHARAJA RANJIT SINGH POLICE ACADEMY** Phillaur on 17th February 2010 for acting as judge in the competition for Police Officers on the topic "**Human Rights and Police**".
- **BHARAT JAN GYAN VIGYAN JATHA** on 21st November 2009 in a Science Fair regarding celebrations of 2nd Birth Centenary celebration of Charles Darwin.
- Honoured by **GURU GOBIND SINGH STUDY CIRCLE** and **AKAL ACADEMY SANGRUR** on INTERNATIONAL WOMEN DAY on 8th March 2009.
- Declared **BEST TEACHER IN STUDENT'S LIFE** by Panjab College of Technical Education, Ludhiana in 2008 in a survey conducted on 1000 students by the college.
- **DESH SEWA RATAN AWARD** by International Shaheed Memorial Sewa Society Ludhiana on 18th January 2007.

- Honoured by **Canadian Bi-Weekly DESH VIDESH TIMES** in December 2006 for working against female foeticide and Drug addiction.
- **Best Teacher's Award** by Lions Club Jagraon in 2001.
- Honoured by **INTERNATIONAL COUNCIL OF AYURVEDA**, Punjab for organizing Medical Plants Exhibition and slide show for public awareness on 15th August 2003.
- Honoured by Honourable Sh. P Ram IAS, Financial Commissioner on behalf of **INTERNATIONAL COUNCIL OF AYURVEDA** for organizing seminar and workshop on Ayurveda and therapeutic use of medicinal plants on 11-10-2003.
- **Occasionally invited by DOORDARSHAN** to participate in live talk show "**AJJ DA VIVAAD**" on issues like education, female foeticide, drugs and youth, environment protection, Senior citizen and child welfare etc.
- Mrs Nidhi Mahajan was honoured on the Teachers' Day by the Lions Club in 2012
- Prof. Jagdev Singh Gill was honoured by All India Human rights Associations in Dec 2013.
- Prof. Jatinder Singh was honoured by Lions club on the Teachers' Day in 2014 for excellence in teaching.

2.4.6 Has the institution introduced evaluation of teachers by the students and external Peers? If yes, how is the evaluation used for improving the quality of the teaching-learning process?

Yes, the college has introduced evaluation of teachers by students. A Performa based on NAAC recommendations has been designed to seek suggestions of students, our prime stakeholders. This Performa is filled up by our students who evaluate their respective teachers on the basis of the knowledge and the interaction level in the class without disclosing their identity. The feedback is analyzed by the Head of the Institution and corrective measures are taken to enhance teaching-learning quality of the institution.

We have been evaluated independently by Dr. Surupa. Shikhamany Vice Chancellor of Horticulture University, Hyderabad and Dr. P.K. Pati Associate Professor, department of Biotechnology, G.N.D. University, Amritsar, Independent evaluators of DBT under star college scheme and report submitted to DBT.

2.5. Evaluation Process and Reforms

2.5.1 How does the institution ensure that the stakeholders of the institution especially Students and faculty are aware of the evaluation processes?

At the beginning of the academic year the calendar containing details of all the college activities and schedule of evaluation which is embodied in the prospectus is also announced by the Director on inaugural day and displayed on the Notice Board. Syllabus is divided into three terms i.e. July-Sept., Oct.-Dec. and Jan-Feb. for annual system classes. The house examination is held in the months of October and December. The details of the evaluation system are explained to the students by the concerned teachers as well. Weightage of each component of assessment i.e (i) attendance and (ii) aggregate marks is further classified by faculty. The students of Semester system are also apprised of the monthly tests and other parameters of evaluation

2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

- According to University Rules, a student becomes eligible to appear in the annual examination if She/he Scores at least 25% marks in aggregate in house examinations
- Fulfills the condition of 75% attendance. Announcements regarding the status of lecture record are made regularly in the classrooms and through notices. Those who are unable to secure 25% marks are given special chance to fulfill their eligibility. Director of the institute has the right to supplement the lecture shortage by 10 % particularly of Sports person and of those involved in co-curricular activities.
- B.Sc. I is under semester system. These students are evaluated through monthly tests /unit wise tests/ assignments and attendance for award of internal assessment. The final assessment is made by the university.

2.5.3. How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

Since our college is affiliated to P.U. Chandigarh, the examination system of the affiliating university is strictly followed.

Under the able guidance of the head of the institution, examination committee and the administrative staff of college ensure the effective implementation of the evaluation reforms. Registrar House examination checks the smooth conduct of the exams in all respects ,such as Seating plans, strength of supervisory staff, non -teaching staff, availability of question papers etc. The Superintendent of Examination hands over the answer sheets to the subject teachers who

are directed to submit the award list to the Registrar within the stipulated period.

The college has initiated the following major reforms:

- Internal Assessment on the basis of marks obtained in two house examinations.
- Two House Examinations conducted for the students-in September and December for annual system.
- Special attention to Advanced Learners.
- Prizes for student's securing First and Second positions in the House Test, individual subjects and maximum attendance. Merit Holders of University are felicitated at Tehsil level on the Republic day and Independence Day functions by the administration and also at College level.

2.5.4 Provide details on the formative and summative assessment approaches adapted to measure student achievement. Cite a few examples which have positively impacted the system.

The college adopts Formative and Summative evaluation approaches to measure student achievement in a programme. Formative evaluation is designed to test the students learning through verbal skills, group discussions, seminars and weekly tests. The evaluation done through these activities gives the teacher an idea about the progress of the students. It further helps the teacher in devising plans for the class.

The summative evaluation is done through the house examination and internal assessment on the university pattern. The students who do well in the exams are felicitated at the annual prize distribution function.

Impact on the System

Motivated by this system, the students of Science have undertaken innovative research projects and showed keen interest in research. So this system orients the students towards research and is a proof of the efficacy of the teaching methodology employed by the faculty.

2.5.5 Detail on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weightages assigned for the overall development of students (weightage for behavioral aspects, independent learning, communication skills etc.

Internal Assessment (IA):

The university has already introduced the concept of internal assessment for all the courses. The Students are informed about the division and weightage of each parameters of I.A. so that they can take care of each of them.

Class test 5%,
Academic activities 3%,
Attendance 2%

The lists of I.A. thus prepared are displayed on the notice board for the information of the students. In this way the process of assessment is kept fully transparent.

2.5.6 What are the graduates attributes specified by the college/affiliating university? How does the college ensure the attainment of these by the students.

Following attributes are specified by the college

- World class citizens with knowledge and understanding, possessing skills to match at the global level.
- Holistic development of the students.
- To produce students with scientific bent of mind having reasoning ability.
- To focus on the Intellectual, Physical as well as Moral growth.
- Complete education by providing moral education to them also. NSS camps are organised to inculcate the ideas of social responsibility and community service in them. The college has provided congenial atmosphere to develop such values in them. The college is fully committed to assure attainment of these virtues by the students.

2.5.7 What are the mechanisms for redressal of grievances with reference to evaluation both at the college and University level?

The college ensures full transparency in the process of evaluation. At the college level answer sheets are shown to the students so that they can check and get their doubts clarified from their teachers. They also learn from the mistakes and improve upon their performance in the future examinations. The internal assessment is calculated on the basis of parameters given in 2.5.5.is displayed on the notice board for the information of students. In case of any grievance, it is redressed by the concerned teacher to his\her satisfaction. At the university level, there is a provision of Re-evaluation of the final results.

2.6 Student performance and Learning Outcomes

**2.6.1 Does the college have clearly stated learning outcomes? If yes'
Give details on how the students and staff are made aware of these?**

The college encourages students to become skillful along with acquiring subject knowledge. Each program is designed to ensure that students develop their knowledge and understanding as well as a range of skills. These are listed below.

Academic Excellence:

- In-depth knowledge of subject and good communication Skills.
- Logical thinking with an ability to examine, evaluate knowledge.

- Be adept at working in an e-developed atmosphere.
- Ability to formulate relevant research questions by undertaking projects.
- Have the capacity to participate fully in collaborative learning to achieve desired goal.

Socially responsible citizens with leadership qualities:

- Be well-informed and sensitive citizens with a full awareness of community needs.
- Accept social and civic responsibilities and ready to fulfill them.
- Initiate and implement constructive changes in the communities for their improvement.
- Value different cultures and religions.
- Have a broad global understanding, with a high regard for human rights, equity and ethics.
- Be advocates for improving the sustainability of the environment.

2.6.2. Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/programme? Provide an analysis of the students results/achievements (Programme/course wise for last four years) and explain the differences if any and patterns of achievement across the programmes/courses offered.

The college closely monitors the performance of the students through continuous evaluation methods. The evaluation system comprises of two house tests, assignments and class tests in annual system; monthly tests, assignments and project work in case of semester system forms the basis of evaluation. Through these tests, learning difficulties are recognized and necessary remedial actions are taken to improve the performance of weak students prior to university examination. .

S. No	Class	2010-2011		2011-2012		2012-2013		2013-2014	
		Uni.	College	Uni.	College	Uni.	College	Uni.	College
1.	B.Sc. Med. – I	57.82	86.67	60	80.85	62.24	92.19	51.88	85.72
2.	B.Sc. Med. – II	84.40	100	82.37	88.0	85.35	100	83.87	100
3.	B.Sc. Med. – III	81.05	100	83.81	100	84.15	100	87.11	100
4.	B.Sc. Non-Med.-I	57.82	76.86	60	80.0	62.24	79.49	51.88	76.58
5.	B.Sc. Non-Med.-II	84.40	98.41	82.37	96.55	85.35	97.17	83.87	97
6.	B.Sc. Non-Med -III	81.05	93.02	83.81	94.74	84.15	100	87.11	100
7.	M.Sc. Bot.-I	100	100	100	100	100	100	100	100
8.	M.Sc. Bot.-II	100	100	100	100	100	100	97.87	100
9.	M.Sc. Chem.-I	71.19	100	NA	100	NA	100	96.06	100
10.	M.Sc. Chem.-II	97.56	100	95.32	100	NA	100	86.83	100

NA: not available

An analysis of the results of the UG and PG programmes reveals that the results of the institution are much above the university results. The brilliant results of the college clearly show that the learning level of our students has been consistently high. It is a clear indicator of our effective teaching learning process and dedication of teachers.

2.6.3 How are the teaching, learning and assessment strategies of the institution structured to facilitate the achievement of the intended learning outcomes?

Along with the two house examinations one in the last week of September and the other in the first week of December, the teachers also focus on unit wise tests/ monthly tests, assignments, and seminars. They evaluate the students on the basis of their performance in these tests. The support needed to the student is provided to improve their caliber in the respective subject. It enhances the confidence of students and prepares them to face the final examinations without getting nervous.

Teachers are encouraged to use modern techniques and use aids to make teaching–learning more interesting and effective. The weak students are recognized through various parameters and efforts are made to bring them to desired level. The teachers teach them in the free periods without any extra remuneration. Our results which are above University results mostly speak volumes about our achievement of intended learning outcomes.

2.6.4 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (quality Jobs, entrepreneurship, innovation and research aptitude) of the courses offered?

Recognizing the need for higher level of skills and competencies required to support national development, especially in the era of globalization, the college provides facilities for holistic development of its students. Students are encouraged to participate in both kinds of activities, curricular and extra-curricular. As science students, they are given projects to develop research aptitude in them. Practical knowledge is also imparted along with theoretical knowledge. The students are taken to leading research centres, laboratories and industries to expose them to quality learning and create better prospects for career options. Recognizing the importance of communication skills in today's world, effort is also made to improve their communication skills in English. As a result of all these efforts our students are well placed in India as well as abroad. We are proud of the fact that present SDM of Jagraon sh. Rakesh Kumar Popli is alumnus of our college.

2.6.5 How does the institution collect and analyse data on student performance and learning outcomes and use it for planning and overcoming barriers of learning?

The examination committee of the college conducts two house examinations to evaluate the performance of students. The results are recorded in the register to serve as an indicator of their achievements. This data is used to find out weak students and measures are taken to improve their performance. Remedial classes are also conducted for their benefit out of the grants of UGC. Teachers also give extra time to such students in the free periods. The books required for the purpose are given from the book bank or by the teachers to help them in every possible way. This data helps in making policies for the future. All the teachers are instructed to explain the subject in such a way that students are able to understand it fully. The concept is also explained in mother tongue to further clarify it. As a result of all the efforts, our students have excelled in University exam and bagged top merit positions in UG as well as in PG courses.

2.6.6 How does the institution monitor and ensure the achievement of learning outcomes ?

After each term, the respective teacher has a complete record of all the activities of students, i.e. marks in house examination\ monthly tests , class tests, absentees, lecture shortage etc. The teacher accordingly prepares the plan further to ensure desired achievement of learning outcomes.

The students are provided assignments, seminars and project work keeping in view their present level of learning. The teacher monitors the academic growth of the students closely. The irregular students are also informed about their lecture shortage and motivated to attend classes. Monitoring is done by IQAC through student feedback which includes a component on the achievements of learning outcomes. This is obtained for each course annually. Student centric teaching -learning methods are adopted to ensure the achievements of these learning outcomes. The teachers try their level best to support and guide them in their chosen field. Extra period is arranged if the need is felt to get desired result.

2.6.7. Does the institution and individual teachers use assessment / evaluation outcomes as an indicator for evaluating student performance, achievement of learning objectives and planning? If ‘yes’ provide details on the process and cite a few examples.

Yes, our institution and individual teachers use assessment and evaluation as an indicator of student's performance.

1. The marks obtained in the house examination are the indicator of the performance of students.
2. Seminars on the various important topics of the subject are conducted and evaluated .
3. Assignments are given to the students to induce a self-learning habit in students and are checked by the teacher .
4. Class tests are conducted unit wise or monthly to check if the student has been grasping the subject well or needs extra attention. Teacher

- checks the tests and keep the record of the marks obtained by the student in register.
5. Projects and charts are also allotted to evaluate students. Thus all these indicators are used to evaluate student's performance.

CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of research

3.1.1 Does the institution have recognized research center/s of the affiliating University or any other agency/organization?

The College always encourages the members of faculty to promote research. Though all of them are involved in teaching to UG and PG students, a few of them are also pursuing research for their academic growth. One of our teachers has completed Ph.D. and 5 their M.Phil. degrees while in service. Another teacher from the Department of Physics has submitted her Ph.D. thesis. The students at UG and PG level are encouraged to take up research projects. The Institute does not have recognized research centre of Panjab University, Chandigarh or any other University, but teachers do take interest in publishing their work in reputed journals or present in national/international conferences.

3.1.2 Does the Institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

The institute motivates all the PG students to take up research projects as it forms a part of their curriculum (M.Sc. Botany) in place of field report. Students have started showing interest in research which is evident from the fact that out of 22 students of M.Sc. Botany, 10 have opted for research projects this year. However, we do not have formal research committee to monitor and address the issues of research.

3.1.3 What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes/ projects?

- § **Autonomy to the principal investigator**
- § **Timely availability or release of resources**
- § **Adequate infrastructure and human resources**
- § **Time-off, reduced teaching load, special leave etc. to teachers**
- § **Support in terms of technology and information needs**

§ **facilitate timely auditing and submission of utilization certificate to the funding authorities**

§ **Any other**

The teachers are encouraged to attend seminars/workshops to harvest the ideas of field of research of their interest. They are provided T.A. /D.A. and duty leave according to the rules and regulations to attend these conferences. No major or minor research projects is being executed by any faculty member at present but the institute is committed towards extending all sorts of possible help to the Principal investigator within the framework and guidelines laid down by Government of Punjab, DPI Colleges, Punjab and Panjab University, Chandigarh for any research project undertaken by the faculty. They will be provided with all possible support related to submission of UC/SE etc. in time.

3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

In order to develop scientific temper and research culture and aptitude among students, institute organizes

- Workshops at college level where students get opportunities to interact with eminent research scholars of the subject.
- Students are taken to research Labs/Universities to interact with research scholars and to expose them to the nature of research being carried in these labs.
- Eminent scientists are invited to the institute to deliver lectures based upon their field of research in addition to advanced general topics.
- Research activities like survey of college campus for occurrence of different species of plants are undertaken by the Botany department.
- Laboratories are well equipped with sophisticated and latest instruments.
- Students are encouraged to conduct departmental level seminars for enhancing their analytical skills.
- Students at PG level are advised to qualify UGC-NET.
- Ten students of departments of Chemistry received one week training on HIGH PERFORMANCE LIQUID CHROMATOGRAPHY from 13-10-2014 to 17-10-2014 at NIPER Mohali.

Minor research projects are allotted to students by all the departments to inculcate research aptitude in them

3.1.5 Give details of the faculty involvement in active research (Guiding student research, leading research Projects, engaged in individual/collaborative research activity, etc.

Some of our faculty members are involved in research as given below:

- Dr. Surjit Singh, Department of Botany has presented his research papers in three national level conferences (see Departmental evaluation report of Botany) and communicated three research papers.
- Ms. Nidhi Mahajan guided two students of M.Phil. in the Year 2008 - 09 and 2009-10 of H.P. University and Chaudhari Devi Dyal University.
- Mr. Rakesh Kumar of Panjabi Department is critical writer and often writes in regional papers. He has written four books.
- Ms. Monica Arora, Department of Chemistry has completed her Ph.D. while in service and published five research papers.(see departmental evaluation report of Chemistry).
- Mrs. Sarabdeep Kaur Sidhu, Department of Physics has submitted her Ph. D. Thesis entitled “**Study of For bush decrease of cosmic ray intensity and their relationship with Geomagnetic and interplanetary disturbances**” at Dravidian University, Kuppam (A.P.).and published two papers (Pl see Departmental Evaluation Report)
- Ms. Ramandeep Kaur of Department of Chemistry is actively involved in individual research She has published five research papers in reputed journals.(departmental evaluation report of chemistry).
- Two papers of Ms. Kamalpreet Kaur of department of Zoology have been accepted for publication.
- Investigatory research projects have been allotted to M.Sc. Botany students under the supervision of Dr. Surjit Singh.

3.1.6 Give details of workshops/ training programmes/ sensitization programmes conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

Keeping in view the academic growth of teachers and career advancement of students, guest lectures, workshops are organized by various departments of

the college. A series of lectures by eminent dignitaries were organized to sensitize the students and faculty towards research.

WORKSHOPS

S. No	Title	Name of the Supervisor/Guest	Duration of Workshop	No of Participants		
				Teachers	Students	Total
1	Summer Training School	College Teachers	04-05-2009 To 11-05-2009	-	23	23
2	Vermicomposting	Dr. Alkesh, Deptt. of Biotechnology, Punjab State Council of Science and Technology	One day 18-11-2010	10	48	58
3	Advanced Techniques in Chromatography	Dr. K.K. Chahal Associate Professor &, Head Deptt. of Chemistry PAU, Ludhiana	One day 24-02-2011	10	34	44
4	Current Environmental Issues	Padam Shri Surjit Patar & Sh. Jaswant Singh Jaffar	24-01-2012	-	110	110
5	<i>Allium</i> Assay	Dr. Arneet Kaur Deptt. of Botany Punjabi University Patiala	One day 03-03-2012	7	25	32
6	Computer Training	Mr. Gurjeet Singh S. Government College of Science Education and research-Jagraon,	21-05-2012 to 26-05-2012 6 Days	20	0	20
7	Advanced Analytical Techniques (Inter-Departmental)	Dr. K.K. Chahal Associate Professor, Head Deptt. Of Chemistry PAU, Ludhiana	One day 08-03-2013	8	25	33
8	Algal Diversity	Dr. D.P. Singh Associate Professor, Deptt. Of Botany Punjabi University, PTA	One day 06-03-2014	7	35	42

INVITED LECTURES

Department of Botany

Sr. No	Name Of Speaker	Institute of the Speaker	Title of the lecturer	Date
1	Dr. M.I.S. Saggo Professor	Department of Botany, Punjabi University, Patiala	Green Cleaning	25-11-2009
2	Dr. J.I.S. Khattar Professor	Department of Botany, Punjabi University, Patiala	Algae for bio-fuels	25-11-2009
3	Dr. Deepak Lal	Kalyani Hospital, Jagraon	AIDS: its causes and controls	21-12-2009
4	Dr. Y.K. Rawal Asst Professor	Department of Botany, Panjab University, Chandigarh	Electron Microscopy for Biologists	12-11-2010
5	Dr. A.S. Ahluwalia Professor	Department of Botany, Panjab University, Chandigarh	Algal Biotechnology	30-11-2010
6	Dr. R.K. Kohli Professor	Department of Botany, Panjab University, Chandigarh	Allelopathy and weed management	02-12-2010
7	Dr. Y.K. Rawal Asst Professor	Department of Botany, Panjab University, Chandigarh	Fish Migration	01-11-2011
8	Dr. R.K. Kohli Professor	Department of Botany, Panjab University, Chandigarh	Conservation and Management of Forests	27-02-2012
9	Dr. M.I.S. Saggo Professor	Department of Botany, Punjabi University, Patiala	Environmental Mutagens” and “Plant based Genotoxicity	03-03-2012
10	Dr. Sajid Husain	Department of Microbiology G.N.D. University, Amritsar	Emerging viruses and Hepatitis -C	04-02-2013
11	Dr. A.S. Ahluwalia Professor	Department of Botany, Panjab University, Chandigarh	Algal Diversity	09-02-2013
12	Dr. N S Atri, Prof & Head	Department of Botany, Punjabi University, Patiala	Global Climate Changes and Green Business	20-02-2013
13	Dr. J.I.S. Khattar Professor	Department of Botany, Punjabi University, Patiala	Thallus Diversity In Algae	06-03-2014

14	Dr. P.K. Pati	Department of Biotechnology, G.N.D.University Amritsar	RNA interference Technology : A New Tool for Crop Improvement	18-10-2014
15	Dr. R.C.Gupta Professor	Department of Botany, Punjabi University, Patiala	Transgenic Organisms	12-02-2015
16	Dr. R.C.Gupta Professor	Department of Botany, Punjabi University, Patiala	Medicinal Plants	12-02-2015
17	Dr. U.C. Banerjee Prof. and Head	Department of Pharmaceutical Technology, NIPER, Mohali	ROLE OF MICROORGANISMS IN THE PRESERVATION OF NATURE AND SURVIVAL OF MANKIND	14-02-2015
18	Dr. U. C. Banerjee Prof. and Head	Department of Pharmaceutical Technology NIPER Mohali	Waste water Treatment	14-02-2015
19	Dr. Felix Bast Asst.Professor	Central University Of Punjab,Bathinda	Aquatic Plants	16-02-2015
20	Dr. A.K.Ganguli Director Dr Sidharth S Mukhopadhyay Dr. Alkesh Kandoria	Institute of Nano Science & Technology, Mohali P.A. U., Ludhiana Punjab State Council for Science & Technology	Nanotechnology and its applications in life science - an overview Nanotechnology applications: Prepare yourself for career leap Recent advances of Nano-biotechnology in Food Industry	23-02-2015
21	Mr. Amritpal Singh Assistant Professor	Government College for Girls, Ludhiana	Noise pollution	10-03-2015

Department of Zoology

Sr. No	Name Of Speaker	Institute of the Speaker	Title of the lecturer	Date
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1	Dr. C.K. Dhanju Professor	Department of Zoology PAU Ludhiana	Effects of Environmental Pollution on the reproductive biology of animals and man	21-12- 2009
2	Dr. Deepak Lal	Kalyani Hospital, Jagraon	AIDS: its causes and controls	21-12- 2009
3	Dr. O.S. Baraich Asst Professor	Department of Zoology, Punjabi University, Patiala	Status on Wet land Conservation and management in Punjab	12-11- 2010
4	Dr. O.S. Baraich Asst Professor	Department of Zoology, Punjabi University, Patiala	Biodiversity of Punjab	01-11- 2011
5	Dr. Sajid Husain Professor	Department of Microbiology G.N.D. University, Amritsar	Emerging viruses and Hepatitis -C	04-02- 2013
6	Dr. N.R. Kumar, Professor	Department of Zoology, Panjab University, Chandigarh	A Bee C of a Busy Bee	09-02- 2013
7	Dr. Jagbir Singh, Prof & Head	Department of Zoology, Punjabi University, Patiala	Environmental degradation, Climate Change and Human Health	23-02- 2013

Department Of Chemistry

S. No	Name Of Speaker	Institute of the Speaker	Title of the lecturer	Date
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1	Dr. K.K. Chahal Professor	Department of Chemistry PAU Ludhiana	Status of Pesticide residues in India and their Management	18-12- 2009
2	Dr. K.K. Chahal Professor	Department of Chemistry PAU Ludhiana	Infrared spectroscopy and its applications	25-02- 2010
3	Dr. Jaspreet Singh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Significance of Energy terms in the interpretation of electrons spectra	03-02- 2011
4	Dr. J.S. Aulakh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Advanced Separation techniques	03-02- 2011
5	Dr. Jaspreet Singh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Group Theory” and “Applications of Group Theory to Spectroscopy	01-02- 2012
6	Dr. J. S. Brar D.P.I. Panjab	DPI Colleges of Panjab, Chandigarh	IR and NMR Spectroscopy	04-02- 2012
7	Dr. Ashok K Malik Associ Professor	Department of Chemistry, Punjabi University, Patiala	Gas Chromatography- Mass Spectrometry	02-03- 2013
8	Dr. J.S. Aulakh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Group theory and spectroscopy for Chemist	02-03- 2013
9	Dr. K.K. Chahal Professor	Department of Chemistry PAU Ludhiana	Different techniques Applied in Analytical Chemistry	08-03- 2013
10	Dr. J.S. Aulakh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Chemical Applications of Group Theory	06-03- 2014

Department Of Physics

Sr. No	Name Of Speaker	Institute of the Speaker	Title of the lecturer	Date
1	Dr. Bhajan Singh Professor	Department of Physics, Punjabi University, Patiala	Nuclear Radiations and their applications	23-02-2011
2	Dr. Darshan Singh	Department of Physics, Punjabi University, Patiala	Space, Weather and Sun Earth relationship	23-02-2011
3	Dr. Bhajan Singh Professor	Department of Physics, Punjabi University, Patiala	Nuclear radiation and their applications	22-02-2012
4	Dr. Bhajan Singh Professor	Department of Physics, Punjabi University, Patiala	Radiations, its origin and applications	23-02-2013
5	Dr. P.S.S. Sandhu Professor	Department of Physics, Punjabi University, Patiala	Modern learning techniques of electronics	23-02-2013

3.1.7 Provide details of prioritized research areas and the expertise available with the institution.

- The prioritized areas of research of Dr. Surjit Singh, Department of Botany is Molecular Biology and Bio-Chemistry, Cytogenetics
- Dr. Monica Arora of Department of Chemistry's prioritized area of research is –Organic and Physical Chemistry.
- Ms. Sarabdeep Kaur Sidhu of Department of Physics's area of research is “interplanetary disturbances”
- Ms. Kamalpreet Kaur, Department of Zoology's prioritized area of research is Parasitology and Entomology.
- Mr. Rakesh Kumar of Department of Punjabi preferably writes “Essay”.
- The prioritized areas of research of Ms. Ramandeep Kaur of Department of Chemistry is Organic and Physical Chemistry.

3.1.8 Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

The institution is of firm opinion that researchers of high repute play important role to channelize the young students when they come in contact with one another. For this purpose, eminent scientists are invited to deliver the lectures and to hold workshop for the students. During their visit, both the teachers as well as students are benefitted. Due attention is given towards the hospitality of the scientists .Honorarium and TA/DA are paid as per norms of Panjab University, Chandigarh or UGC.

Since our institute has been shortlisted under star college scheme, Mentors of the College, Dr. U.C. Banerjee of NIPER and Dr. P.K. Patti of G.N.D.U. University often visit the college to guide us for further improvement.

Forty seven Scholars visited the institute during last five years.

3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

Zero per cent, as no one has availed sabbatical leave during last four years.

3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community (lab to land)

The Director of the College encourages the faculty members to organize national/international level conferences in the institute and invite the eminent personalities to the college to give opportunities to the students to get fully involved in the management and attending different sessions. In this they might come to know about the nature of work being carried both in their present institute and elsewhere. A national level conference is proposed to be held in October/November 2015.

3.2 Resource Mobilization for research

3.2.1 What percentage of the total budget is earmarked for research?

Give details of major heads of expenditure, financial allocation and actual utilization.

Sanmati Government College of Science Education and research, Jagraon being a Govt. institute does not have any provision under the funds to earmark specially for research nor does separate budget exist for research in the annual budget of the college allocated by Government of Punjab. However, chemicals, glassware and instruments purchased out of UGC grants and DBT

Star College Scheme in Life Sciences are being used by the teachers and students for research purpose. The detail of support received under star college scheme is given below.

Department	2009-10 (in Lakhs)		2010-11 (in Lakhs)		2011-12 (in Lakhs)		2012-13 (in Lakhs)		2013-14 (in Lakhs)		2014-15
Botany	7.0	used	2.0	used	2.0	used	2.0	used	2.5	used	In wait
Chemistry	7.0	used	2.0	used	2.0	used	2.0	used	2.5	used	In wait
Physics	7.0	used	2.0	used	2.0	used	2.0	used	2.5	used	In wait
Zoology	7.0	used	2.0	used	2.0	used	2.0	used	2.5	used	In wait

3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

Such provision does not exist in the college budget but teachers are paid T.A./D.A. and registration fee for participation and presentation of papers in national/ international conferences out of relevant funds.

3.2.3 What are the financial provisions made available to support student research project by students?

Students are provided with chemicals and other materials required for research. They are also encouraged to attend seminars or conferences. The registration fee for attending such conferences along with T.A./D.A. is paid by the institute out of “Star College Scheme” or out of funds generated by societies of respective departments. **Recently eleven students of the college attended two days seminar at GHG Khalsa College Sadhar on 25-03-2015 and 26-03-2015.**

3.2.4 How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite

examples of successful endeavors and challenges faced in organizing interdisciplinary research.

Unlike the conventional research, the modern research involves almost all disciplines of science to reach at a reasonable conclusion. Hence either the scholar should possess sufficient knowledge of all the disciplines or involvement of scientists from different branches is of paramount importance in pursuing collaborative research. With this approach, all the departments of the college work under one umbrella. Keeping in view the interdisciplinary approach, we organize workshops wherein students of all the departments participate and are benefitted. To cite an example, two workshops were organized by the department of Chemistry on “Advance Techniques” which were attended by the students of Botany as well as Zoology. Educational tours are organized to such research Institutes where the students and teachers get opportunity to interact with scientists from all the disciplines. Central research lab, Kasauli, National institute of Pharmaceutical education and research, Mohali and the universities of Punjab are often visited by us.

3.2.5 How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

The instruments purchased out of various grants are issued to JLA's of concerned labs. The teachers are directed to provide their full expertise to train the students. Instruments of one department of the College are often used by the other departments, whenever required. The OHP of the department of Botany was made available to the Elementary Teacher Training School, Jagraon, for organizing a lecture. The office of the SDM availed the facility of projector of the college during Assembly elections of Punjab in 2013. The optimum use of the all the instruments is done. We are in the process of creating a central instrumentation lab in the college for providing facilities to students and teachers under one roof.

3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If 'yes' give details.

The departments of Botany, Zoology, Chemistry and Physics have been selected under the "Star College Scheme in Life Sciences" by DBT to strengthen the infrastructure of the laboratories. The amount of grants received has been mentioned in 3.2.1. The grants have been used for purchase of equipments, chemicals, glassware, books and journals etc. The institute has not received any special grant from industry for creating research facilities.

3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details of ongoing and completed projects and grants received during the last four years.

Please refer to 3.2.1

3.3 Research Facilities

3.3.1 What are the research facilities available to the students and research scholars within the campus?

Following research facilities are available to the students and teachers within the campus

- Lush green sprawling campus for study of different aspects of plants and animals in the nature.
- Internet facility to researchers within their respective departments in addition to the computer centre.
- Books and Journals in departmental libraries and internet facilities to access the literature online.
- Extension lectures and workshops are organized to interact with scientists in addition to visits to research labs.
- Well-equipped laboratories of each department.
- Provision to visit research institutes for furthering the knowledge.

Important Instruments available in the College

DEPARTMENT OF BOTANY

S. No.	Name of the Instrument
1	Precision Rotary Microtome Lipshaw
2	Laminar air flow, Auto clave and Distillation Set, UV Tube
3	Tissue Culture Rack With photoperiodic timer,
4	Precision Weighing Balance
5	Turbidity meter(Digital Nephelometer)
6	Digital Spectrophotometer and colorimeters
7	Dissolved Oxygen Analyzer
8	Periodic Chainomatic Balance
9	Hot Air Oven (digital)
10	Hot Plate 8” Thermostatic control
11	Vertical Plate gel and Tube Gel Electrophoretic Apparatus.
12	Chromatographic Apparatus, TLC Apparatus, Glass sprayer with rubber bellow
13	Stage Micrometers and Ocular Micrometers
14	Bacteriological Incubator
15	Horizontal Shaker
16	Olympus Trinocular Biological Res. Microscope CH20i TR

17	Magnus Image Projecting System
18	Phase Contrast Attachments Magnus PC 2
19	Olympus Laboratory Monocular Microscope Model HB
20	Centrifuge Machines, PT-658/05 Remi R8c
21	Digital pH meter “Elico “-LI 120 with electrode CL-51B
22	Water Bath Thermostatic Six Holes PT-250A/05
23	Tissue Homogeniser

DEPARTMENT OF ZOOLOGY

S. No.	Name of the Instrument
1	Egg Incubator
2	Precision Weighing Balance
3	Digital Spectrophotometer Elico SL-207
4	Periodic Chainomatic Balance PT-4105
5	Dessicator Borosil, size:240mm
6	Hot Air Oven with digital temp. control PT-400A/15
7	Hot Plate 8” Thermostatically controlled PT-322
8	Thin Layer Chromatographic App. PT-11
9	Chromatographic Tank PT 11/30
10	Glass Sprayer with rubber bellow PT11/35
11	Laser Pointer Rescholar RO-201-06
12	Students Physiological Kit: electrical recording Drum and Speed
13	Laboratory Mixer with two jars PT 677
14	Tissue Homogeniser PT 194
15	Water Bath Thermostatic 6 Holes PT 250/05
16	Plankton Net Rescholar RI 701

17	Blood Pressure App. ISI Mark Diamond Make
18	Stethoscope ISI Mark Microtone
19	Dissection Boxes
20	Olympus Trinocular Biological Res. Microscope CH20i TR
21	Magnus Image Projecting System
22	Stage Micrometers
23	Ocular Micrometers
24	Phase Contrast Attachments
25	Olympus Laboratory Monocular Microscope Model GB
26	Dissection Microscopes Model PT-1510 (Entomological)
27	Dissecting Microscopes Model PT-1500
28	Centrifuge Machine PT-658/05
29	Colorimeter Balance Cell“ EI “ Model 511
30	Digital pH meter “Elico “-LI 120 with electrode CL-51B
31	Over Head Projector PT 2000
32	Screen Folding type with tripod stand PT 2000/25
33	Blood Pressure App. ISI Mark Diamond Make
34	Stethoscope ISI Mark Microtone

DEPARTMENT OF CHEMISTRY

S. No.	Name of the Instrument
1	Spectro photometer , UV –visible Spectro photometer
2	Polarograph
3	LCGC Precision Weighing Balance
4	Clinical Centrifuge
5	Rotary Shaker

6	Dessicator plain
7	Dessicator Vacuum
8	Glass Double Distillation Apparatus
9	Manometrs with glass tubes
10	Beckman Freezing point Apparatus
11	Beckman Thermometer
12	TLC Apparatus
13	Digital pH meters
14	EC TDC Analyser and Conductivity meters
15	Conductivity Cells,
16	Colorimeters,
17	Soxhalt Extraction Unit
18	Low Vacuum Pump
19	Rectangular Hot Plates
20	Round Hot Plates
21	Heating Mantles 500 ml, 1000 ml
22	Water Bath,
23	Oven
24	Potentiometer
25	Refractrometer
26	Flame Photometer
27	Vortex Shaker
28	Haemoglobino meter
29	Tissue Homo geniser

DEPARTMENT OF PHYSICS

S. No.	Name of the Instrument
1	B-H Curve for different materials (without CRO)
2	Reverse Saturation current and band energy gap of diode
3	Characteristics of Thermistor and its parameters
4	Anderson's Bridge
5	De-sauty Bridge
6	Capacitance by flashing and quenching of a neon lamp Apparatus
7	Ionization potential of mercury apparatus
8	Planck's constant
9	PN diode Characteristics Apparatus
10	Transistor Characteristics Apparatus
11	Rectifier and Ripple Factor Apparatus
12	Zenor Diode Characteristics Apparatus
13	Zenor Diode as Voltage Regulator Apparatus
14	FET characteristic Apparatus
15	Newton's ring Apparatus-Complete
16	Spectrometer
17	Sextant
18	Wave Meter
19	Common Emitter Amplifier
20	V.T.V.M.
21	Operational Amplifier

22	Leas Method
23	C.R.O.
24	GM Counters

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

The institute continuously keeps on upgrading the infrastructure and the departmental libraries of the College according to the needs of teachers from time to time by adding more books and journal. Only constrains of the institute is the lack of qualified regular staff otherwise space and ideas are in tons.

3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities?? If ‘yes’, what are the instruments / facilities created during the last four years.

Please refer 3.2.6

3.3.4 What are the research facilities made available to the students and research scholars outside the campus / other research laboratories?

Post-graduate students are encouraged to visit leading research labs and learn advanced techniques under the supervision of renowned scientists. They are also allowed to attend national level conferences/seminars in other institutes. Their expenses are borne by the Institute. Ten of our students of department of chemistry underwent one week Practical Training at NIPER on High performance Liquid Chromatography from 13th – 17th October, 2014. They were paid registration fee, TA/DA and other charges out of Chemical Society. Eight Students of department of Botany and Three of department of Chemistry attended UGC sponsored National Seminar on “**Conservation of Natural Resources**” on march 27-28th 2015 at G.H.G. Khalsa College Gurusar Sadhar. All the expenses incurred were paid by the institute.

Table: Showing Detail of Students who attended Training at NIPER, Mohali

S. No.	Name	Roll. No	Class
1	Pawan Kumar	851	M.Sc. II Chemistry
2	Jagdeep Singh Chopra	852	M.Sc. II Chemistry
3	Amit Kumar	853	M.Sc. II Chemistry
4	Lakhwinder Singh	854	M.Sc. II Chemistry
5	Rajinder Singh	855	M.Sc. II Chemistry
6	Inderjeet Singh	856	M.Sc. II Chemistry
7	Rishabh Rai	857	M.Sc. II Chemistry
8	Karan Dhawan	858	M.Sc. II Chemistry
9	Arshdeep Singh	859	M.Sc. II Chemistry
10	Bahadar Singh	860	M.Sc. II Chemistry

Table: Showing Detail of Students who attended Seminar at Sadhar

S. No.	Name	Roll No	Class
1	Rajwant Kaur	702	M.Sc. I Botany
2	Mandeep Kaur	707	M.Sc. I Botany
3	Manpreet Kaur	725	M.Sc. I Botany
4	Vishavdeep Kaur	731	M.Sc. I Botany
5	Bhupinderpal Singh	754	M.Sc. I Botany
6	Reena	902	M.Sc. II Botany
7	Ravninder Kaur	913	M.Sc. II Botany
8	Ratandeep Kaur	914	M.Sc. II Botany
9	Rupali	801	M.Sc. II Chemistry
10	Luckwinder Kumari	802	M.Sc. II Chemistry
11	Shilpa	803	M.Sc. II Chemistry

3.3.5 Provide details on the library/ information resource center or any other facilities available specifically for the researchers?

- National/International Journals.
- Internet facility in all the departments.
- Provision for organizing workshops /seminars out of Star College Grant or UGC.
- Photostat Facility
- INFLIBNET facility has been proposed.
- Libraries has 15565 books for the students

3.3.6 What are the collaborative researches facilities developed/ created by the research institutes in the college? For ex. Laboratories, library, instruments, computers, new technology etc.

At present we do not have collaboration with any University formally. But, need based help from different departments of Universities can be availed with prior permission.

3.4 research Publications and Awards

3.4.1 Highlight the major research achievements of the staff and students in terms of

- * **Patents obtained and filed (process and product)**
- * **Original research contributing to product improvement**
- * **Research studies or surveys benefiting the community or improving the services**
- * **Research inputs contributing to new initiatives and social development**

NA

3.4.2 Does the Institute publish or partner in publication of research journal(s)? If 'yes', indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

No. Institute neither publishes nor is in partnership in publication of research journal.

3.4.3 Give details of publications by the faculty and students:

* Publication per faculty

Dr. Mohinder Kaur Grewal, Director

1. Singh, P, **Grewal, M.K.** & Malik, C.P. 1980 Phenolics effects on reproductive development of moong (*Vigna radiata* (L) Wilczek). Jour. Pl. Sci. Res 2: 15-19.
2. Singh, P, **Grewal, M.K.** 1986. Effect of ethereal on flowering and some yield contributing parameters of moong bean (*Vigna radiate* L Wilczek).
Annals of Biology, 2.(2): 185-188.
3. Sharma, R., **Grewal, M.K.**, & Singh, G. 1986. Effect of ethereal on lipid metabolism in soybean germinating under moisture stress.
Indian J.Pl. Phys. 29(3): 207-210.
4. Singh, P, **Grewal, M.K.** & Malik, C.P. 1987. Ethereal Effects on carbohydrate metabolism in the developing pods seed yield of moong bean (*Vigna radiate* L. Wilczek)
Pl. Physiol & Biochem. 14(2): 183-188.
5. Singh, P., **Grewal, M.K.** & Malik, C.P. 1988. Phenolics as regulators of polyphenol oxidase in the developing pods of mung bean (*Vigna radiate* L. Wilczek).
Ann. Agric. Res. 9(1): 72-75.
6. Singh, P.& **Grewal, M.K.** 1989. Starch synthetase activity of developing mungbean pod as affected by some PGR(s).
Jour. Pl. Sci. Res. 5:113-115.
7. Sharma, R. & **Grewal, M.K.** 1990. Effect of seed priming with cycocel on germination and early seed ling growth of soybean under polyethylene glycol induced water stress.
Environment & Ecology 8(2): 737-740.
8. Sharma, R, & **Grewal, M.K.** 1984. Effect of ethereal on seed germination of soybean under water stress conditions.
National Seminar in Pl. Physio (Abstract): 101.
9. **Grewal, M.K.** & Brar, N.S., Allelopathic relationships of plants in Ganganagar District Jour. Of Plant Ecology.

10. **Grewal, M.K.** 2002 Women Empowerment Paper presented at National Seminar sponsored by UGC held at GHGH College of Education for women, Sidhwan Khurd Ludhiana. Later on published in the proceedings.
11. **Grewal Mohinder Kaur** (2011). Vision and Planning. Proceedings of UGC sponsored National Seminar On Institutional Planning and Qualitative Development in Higher Education. March 28, 2011 pp
12. **Grewal Mohinder Kaur (2010).** General Aspects of Biofuels and their implications in Rural India. Proc. UGC sponsored seminar on Biofuel: Scope and Future prospective in rural regions of India held on Sept. 25, 2010. Pp. 107-109.
13. **Grewal Mohinder Kaur** (2010) Study of Noise Pollution in Ludhiana City. Abst pp 23. National Conference on Environment Degradation and its Impacts on mankind held at Pbi. University Patiala on Nov. 19 – 20 2010.
14. **Grewal M.K.** (2011) The Concept of Power Woman presented at UGC sponsored National Conference on Indian Women: Position and Perspectives by GSSDGS Khalsa College Patiala on Jan 22, 2011.
15. **Grewal M.K., Singh Amritpal,** (2010) “A study of Effluent Sewage waste water treatment and disposal” at Bhattian Distt. Ludhiana abst pp. 129. International Conference on Environmental Challenges: A Global Concern held on 15-16, 2010 at Kanya Mahavidyalaya, Jalandhar.
16. **Grewal Mohinder Kaur, Singh Amandeep, Sarabjit**(2010) Water quality Assessment in Ludhiana abst pp 115 Chascon 4th Chandigarh Science Congress March 19 – 20, 2010 at Energy Security and Environmental Challenges at Punjab University Chandigarh.
17. **Grewal M.K.** (2009) Ethical and Moral Dimensions of Higher Education proc. NAAC sponsored National Conference on Quality in Higher Education in India: Concerns and Strategies held on 3 – 4 Dec, 2009 at Khalsa College for Women, Sidhwan Khurd Distt. Ludhiana pp 100-101.
18. **Grewal M.K.** (2011) An extensive study of Noise Pollution in Ludhiana City. Proc of UGC sponsored National Seminar on

Environmental Pollution on 3 – 4 March, 2011 at GHG Khalsa College
Gurusar Sadhar, Distt. Ludhiana.

19. **Grewal, Mohinder Kaur (2008)** A Tribute to Baba Amte. The Deepika (ED.2007-08) pp 93-94
20. **Grewal M.K.** (2010) Biodiversity of India. The Deepika (2009-10 session) EVS section pp 5–6.
21. **Grewal M.K.** (2009) the Great Environmentalist Sant Baba Balbir Singh Seechewal. The Deepika (2008-09) EVS section.
22. **Grewal Mohinder Kaur, Singh Amritpal** (2011) The status of noise pollution in Ludhiana city. Innovate – Lead – Succeed Percepts and Practise, an anthology of selected papers presented at the International seminar held from September 30-October 1 2011. pp 133 - 139

Dr. Surjit Singh

1. Pelia, S.S. & Sandhu, R.s. 1990 Further studies on the occurrence of lectins in Indian Plants. Lectins,Biology Biochem. Clin Biochem 7 : 27-33.
2. Sandhu, R.S.,Arora,J.S.,Chopra,S.K., Pelia , S.S., Kamboj ,S. S., Naidu,Y.C. & Nath,I 1990 New Sources of Lectins from Araceous indian Plants. Lectins,Biology Biochem. Clin Biochem 7 : 19-26.
3. Sidhu, M. & Pelia,S.S.1987 Karyomorphology of some of weeds : Compositae .J. Cytol. Genet. 22: 143-150
4. Pelia,S.S. & M.K. Sidhu.2001 Chromosomal analysis of *Vicia* Linn.species. Indian J, Mendel 18 (3) : 81-82
5. Sandhu, R.S.,Arora,J.S., Pelia , S.S., Chopra,S.K., and Kamboj ,S. S., 1987 Studies on lecins from Indian plants: Genus *Crotalaria* Linn. 9th International Lectin Meeting , Cambridge, july27-31,1987.
6. Khanna, A., Sandhu, R.S. and Pelia, S.S. 1988. Purification and Characterization of the *Amaranthus* lectins. Interles-11 Meeting, Tartu Estonia.
7. Sandhu, R.S., Pelia , S.S.,Khanna,A. and Chawla ,D.1990 . Purification and Characterization of Lectins from six *Crotalaria species* InterLec-12 Meeting, University of California, Davis, USA, Sept. 9-14,1990.
8. Pelia, S. S. (2013)Affinity Purification and Characterization of *Vicia* Lectins.” 7th Chandigarh Science Congress CHASCON, 1st – 3rd march 2013
9. Pelia, S. S. (2014)”OCCURRENCE AND CHARACTERISATION OF LECTINS FROM NON-LEGUMINOUS INDIAN PLANTS” National Symposium on “Emerging trends in botanical sciences” February 17-18,2014. Punjabi University, Patiala
10. Pelia, S. S. (2014)”OCCURRENCE AND

CHARACTERISATION OF HAEMAGGLUTININS FROM LEGUMINOUS INDIAN PLANTS” National Conference on “Perspective & Trends in plant sciences and biotechnology” February 21-23, 2014, Panjab University, Chandigarh.

11. Pelia, S. S. (2015) Purification and Characterisation of Lectin from *Crotalaria*. Communicated.
12. Pelia, S. S. (2013) “Occurrence And Characterisation Of Lymph Agglutinins From Leguminous Indian Plants” Communicated.
13. Pelia, S. S. (2013) “Occurrence And Characterisation Of Lymph Agglutinins From Non Leguminous Indian Plants”. Communicated.

Dr. Monica Arora

- Sanjay K. Singh; Ramandeep Kaur; **Monica Arora**; Harjeet Gujral and Gurpreet Kaur ”Kinetics of Phosphotungstic Acid Catalyzed oxidation of Propan-1,3-diol and butan-1,4-diol by N-Chlorosachharine” published in Journal “Orbital” Vol 3 No. 2; April-June 2011, ISSN 1984-6428.
- Sanjay K. Singh; Harjeet Gujral ,Ramandeep Kaur; **Monica Arora**; and Gurpreet Kaur “Kinetics and Mechanism of Phosphotungstic Acid Catalyzed oxidation of Citric acid by N-Chlorosachharine” published in Journal of Chemical Biological and Physical Sciences (An Inter-National peer Review E-3 Journal of Sciences) Vol-2 No. 2; pp 590-596 Feb-April 2012, ISSN 2249-1929.
- Sanjay K. Singh; **Monica Arora**; Gurpreet Kaur; Ramandeep Kaur and Harjeet Gujral ” N-Chlorosachharine oxidation of Kinetics of Propan-2-ol : Kinetic Study” published in Scholar research Library (Archives of Applied Science research) 2010, 2(4) : 271-277; ISSN 0975-508 X.
- Ramandeep Kaur; **Monica Arora**; Harjeet Gujral, Gurpreet Kaur; S.N. Nayak and Sanjay Singh ”Kinetics and Mechanistic Approach of N- Chlorosachharine Oxidation of some non-vicinal poly hydroxyl alcohols” Published in International Journal of Chem Tech research CODON (USA): IJCRGG :Vol 2 No 3, pp 1480-1485, July-Sept 2010 ISSN 0974-4290
- Sanjay K. Singh; Harjeet Gujral ,Ramandeep Kaur; **Monica Arora**; Gurpreet Kaur and Parampreet Kaur “Kinetics of oxidation of Malic acid by N-Chlorosachharine in the presence of Hetero poly acids” published in International Journal of

Mrs. Sarabdeep kaur Sidhu

- B.K.Mishra,R.K.Tiwari,**Sarabdeep Kaur** and P.KShrivastava. A study of relation between coronal mass ejection and cosmic ray intensity variation.Ultra Science vol. 22(1),91.2010.
- Vastava, Prashanti , B. S. Satyal , Inderjit Singh , Sarabdeep Kaur. Long-term association of coronal mass ejections with cosmic rays and geomagnetic field variation . “ Fusion” March 2011, Vol.I. ; ISSN 2231-2005

Ms. Ramandeep Kaur

- Sanjay K. Singh; **Ramandeep Kaur**; Monica Arora; Harjeet Gujral and Gurpreet Kaur ”Kinetics of Phosphotungstic Acid Catalyzed oxidation of Propan-1,3-diol and butan-1,4-diol by N-Chlorosachharine” published in Journal “Orbital” Vol 3 No. 2; April-June 2011, ISSN 1984-6428.
- Sanjay K. Singh; Harjeet Gujral ,**Ramandeep Kaur**; Monica Arora; and Gurpreet Kaur “Kinetics and Mechanism of Phosphotungstic Acid Catalyzed oxidation of Citric acid by N-Chlorosachharine” published in Journal of Chemical Biological and Physical Sciences (An Inter-National peer Review E-3 Journal of Sciences) Vol-2 No. 2; pp 590-596 Feb-April 2012, ISSN 2249-1929.
- Sanjay K. Singh; Monica Arora; Gurpreet Kaur; **Ramandeep Kaur** and Harjeet Gujral ” N-Chlorosachharine oxidation of Kinetics of Propan-2-ol : Kinetic Study” published in Scholar research Library (Archives of Applied Science research) 2010, 2(4) : 271-277; ISSN 0975-508 X.
- **Ramandeep Kaur**; Monica Arora; Harjeet Gujral, Gurpreet Kaur; S.N. Nayak and Sanjay Singh ”Kinetics and Mechanistic Approach of N- Chlorosachharine Oxidation of some non-vicinal poly hydroxyl alcohols” Published in International Journal of Chem Tech research CODON (USA): IJCRGG :Vol 2 No 3, pp 1480-1485, July-Sept 2010 ISSN 0974-4290
- Sanjay K. Singh; Harjeet Gujral, **Ramandeep Kaur**; Monica Arora; Gurpreet Kaur and Parampreet Kaur “Kinetics of oxidation of Malic acid by N-Chlorosachharine in the presence of Hetero poly acids” published in International Journal of interdisciplinary

*** Number of papers published by faculty and students in peer reviewed journals (national / international) 24**

*** Number of publications listed in International Database (for Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**

- * Monographs Nil**
- * Chapter in Books. Nil**
- * Books Edited Nil**
- * Books with ISBN/ISSN numbers with details of publishers**
- * Citation Index**
- * SNIP**
- * SJR**
- * Impact factor**
- * h-index**

3.4.4 Provide details (if any) of

- * Research awards received by the faculty. Nil**
- * Recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally. Refer 2.4.5**
- * Incentives given to faculty for receiving state, national and international recognitions for research contributions. Nil**

3.5 Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

The placement cell and guidance bureau of the College provides consultancy service to the students whenever they approach related to their career. In addition service is also available to the general public. The teachers are considered as ambassadors of knowledge; their potential must be exploited in streamlined manner in paving the path to achieve the goal. To avail the same, consultancy services is provided for the development of the individuals and society as a whole as a goodwill gesture and not commercial since we are bound to serve within the framework of government of Punjab.

3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

Of course consultancy services is provided by the teachers as stated in 3.5.1, we remain confined to the rules and regulations of the Government and do not provide such services for commercial purpose.

3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

The veteran faculty members possessing many years of teaching experience are encouraged to avail the opportunity of acting as resource persons, judges of various events, Paper setters; examiners etc. Their names are proposed by the member of BOS of different subjects:

- Panjab University, Chandigarh appoints our teacher as paper setters for theory and practical.
- Members of PG department of Botany and Chemistry play pivotal role in designing the syllabi.
- Teachers from department of botany, physics, English and chemistry acted as judges at science fairs in schools and competitive events hold by different organizations.
- Dr. Surjit Singh, department of Botany worked as judge in poster presentation session of national level conference held at Chandigarh “Chascon-7” in 2013.
- Those faculty members are members of “Lion Club of Jagraon”, serve as resource person in Public awareness programmes.

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

Refer 3.5.2.

3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development?

Since we are being governed by the government of Punjab, hence the policies regarding generation of income through consultancy and its use are to be formulated by government only. We neither generate nor use the same for development of institute.

3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 How does the institution promote institution-neighborhood-community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?

The institution is committed to provide wide spectral opportunities for holistic development of the students and inculcating moral values along with scientific approach by employing a battery of social services programmes. Extension activities play an important role in developing community service attitude and students are encouraged to participate in activities of NSS, Red Ribbon Club, Legal literacy Club and Red Cross Society, etc.

- Camps are organised by NSS unit of the College during which lectures are arranged on different aspects of public awareness such as dowry system, female foeticide, AIDS, Cleanliness. It helps in inculcating sense of responsibility among students and public. The college has adopted a nearby village Roomi.
- To support further, the Jago is arranged by the student and the message concerning social evils is conveyed to the villagers through recitation of songs and skits also.
- Blood donation camp is organised in which students, teachers and villagers are involved. In emergency volunteers donate blood to the needy.
- College building is allowed to be used for election of local, assembly or parliamentary election.
- Students take part in awareness programmes such as AIDS, Anti Dowry, Health and hygiene, environmental protection etc.
- Tree plantation drive is carried out the help of villagers.
- Days like Ozone Day, Environmental Day, and Earth day are celebrated by organizing rallies in the surrounding area by holding placard bearing slogans related to event to draw the attention of people on these issues.
- Educational tours are organised to Universities
- Tours are also organised to religious places like Golden Temple, Durgiana Temple to instil the element of secularism.
- The college plans visits to central orphanage, Pingalwara, Kushat ashram etc. to give opportunity to students to spend time with disabled people of the society and comfort them.

3.6.2 What is the Institutional mechanism to track students' involvement in various social movements / activities which promote citizenship roles?

The most important role that the institutes play is to inculcate the element of humanity among students to transform them into good citizens. This is achieved by consistently encouraging the students to participate voluntarily in social uplifting programmes. To make the process organized and successful, duties are allocated to all the teachers to involve and motivate the students.

- The NSS unit keeps a track of the participation of volunteers in one day and one week camps which are organised by the college within the campus or out of campus?

- Van Mahoutsav is celebrated in the College, concerned committee organises activities like poster presentation competition, declamation contest whose record is maintained and winners are awarded at annual prize distribution function.
- Red Cross Unit of the college organises blood donation camps, record is maintained and the certificate are given to such volunteers.

The quintessence of these activities is uploaded on the college website.

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The cumulative efforts of teachers, students, parents and other stakeholders play great role in achieving the aims and objectives of the institute. The stakeholders' perception on the overall performance and quality of the institution involves feedback from students, parents and opinions of fellow teachers.

IQAC of the college plays a pivotal role in collecting suggestions. The college has formed a student council. One elected class representative and other topper of the class from each class of the college are the members of the council. These representatives listen to the problems of their classmates and put forward to the director of the college directly or through IQAC. Periodic staff meetings are held to discuss the suggestions brought forward by stakeholder to enhance the quality to improve the college.

3.6.4 How does the institution plan and organize its extension and outreach programmes? Providing the budgetary details for last four years, list the major extension and outreach programmes and their impact on the overall development of students.

The College organizes its extension activities related to academic and community services aiming at building a healthy society involving maximum number of teachers also and sensitizing the students toward their social responsibilities.

- Students of the college are taken to religious places where they participate in KAR SEWA. Recently on 01-04-2015, more than 50 students of the college visited G.N.D. University, Amritsar and Golden Temple to pay obeisance and to participate in KAR SEWA.
- Flag Day/Army Day- students and teachers of the College buy the flags to raise the funds for the needy ones.
- NSS unit of the College organises a week long camps at Village Roomi, involve the villagers and carry the cleanliness drive in the Village.
- Volunteers undertake cleanliness drives during their one day camp at college campus.
- The students are informed about the ill effects of gender discrimination during lectures and suggested to forward the same in the society.
- Blood donation camps organised by volunteers of NSS in collaboration of Red Cross Society of the College

- Poster presentation/ Poster making competition on serious diseases were organised by the department of Botany and Zoology together to aware the students and the society through their messages.
- Red Ribbon Club of the College organize rallies on AIDS day.

The NSS unit of the College receives the budget from the University as per rules.

3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

- We do not have NCC unit
- The students are motivated to join NSS and YRC
- They are told about the weightage/ concessions of NSS certificate at various entry levels of higher education and joining service.
- They are provided with all types of information related to these activities.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from under-privileged and vulnerable sections of society?

During their NSS camp at Roomi, Lectures on social evil like drug addiction was organized which was presided by Mrs. Ipneet Ryat, I.A.S. as chief guest. Dr. M.K. Grewal, Director of the college delivered a highly informative talk on drug de-addiction. Mrs. Ipneet Kaur, SDM also cautioned the people to refrain from such evils and help in developing healthy society.

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

The holistic development of the students is in fact summing total of the academic and extension activities. Our students are our strength and we together as a unit believe in simple living and high thinking. This effect has certainly played a land mark role in building our students as highly responsible citizens. The participation of our students in socially relevant activities like

- i. Regulation of traffic of Jagraon in conjunction with department of traffic police
- ii. Visit of students to different religious places irrespective of creed and to inculcate the idea of KAR SEWA.

- iii. The practice of approaching the orphanages, Pingalwara or old age homes and sharing thoughts with them, are in conformity to the fact that our students have imbibed the moral values and spend quality time with these dejected people of the society to come face to face with the hard realities of the world.

These activities add to the personality development, confidence and responsibility towards society.

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

The institution involves the community in its number of extension activities and even members from the nearby villages often visit the college to extend their services.

- During NSS Camps, people of the village take part in cleanliness drives along with students. They also help in arranging meals or cooking meals for the volunteers.
- Services of villagers are availed during de-weeding of the college, levelling of the college grounds, with the help of tractors-trolleys, etc. whenever needed.
- Donate blood during blood donation camps along with students.
- These activities ensure the involvement of community in all our reach out activities to contribute towards community development.

3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

The institution has constructive relationship with local institutes like DAV College Jagraon, Khalsa College for women Sidhwan Khurd and Schools of Jagraon. Teachers of these institutes act not only as resource person to deliver talk on important social issues but also join hands with us to eradicate evils from the society like dowry, drug addiction etc.

- Teachers of our college visit at other institutes to act as resource persons/ judges of events organised by them and suggest different modes and means for furthering their activities.
- Blood donation camps are organised in collaboration with DMC College & Hospital Ludhiana or Red Cross Society, Ludhiana.
- Public is advised to follow road safety rules by involving with traffic police department of Jagraon.

3.6.10 Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

PI Refer to 2.4.5

3.7 Collaboration

3.7.1 How does the institution collaborate and interact with research laboratories, institutes and industry for research activities. Cite examples and benefits accrued of the initiatives - collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

We do not have formal collaboration with any university at present. However, department of chemistry is in progress to collaborate with NIPER, Mohali. Ten Students of M.Sc. II Chemistry received one week training on HPLC in October 2014.

Teachers of the institute participate in seminar/conferences and avail guidance of researchers at university level as and when required. The students of the college visit the research labs during their educational tours to universities or research labs/institutions of the area and interact with them. Currently the institute does not have formal collaboration with centres of higher learning but need based guidance is availed from universities with prior permission.

3.7.2 Provide details on the MoUs/collaborative arrangements (if any) with institutions of national importance/other universities/ industries/Corporate (Corporate entities) etc. and how they have contributed to the development of the institution.

Under DBT Star College Scheme, Dr. A.S. Ahluwalia, Department of Botany, Panjab University Chandigarh and Dr. K.K. Chahal, Department of Chemistry, Panjab Agriculture University, Ludhiana are our regional mentors. While Dr. U.C. Banerjee, Prof. Head, Department of Pharmaceutical Technology, NIPER Mohali, Dr. P.K. Patti, Associate Prof of Biotechnology, GND University, Amritsar are our mentors appointed by DBT, Govt. of India, New Delhi. Under the supervision of local guides workshops are arranged in the college to impart training to our students. Mentors appointed by DBT visit the College to deliver the lectures, guide on different aspects and evaluate our work from time to time. The students of the college are free to visit the labs of

our mentors for demonstrations. All these activities provide them opportunities to pave a way for their future.

We have verbal understanding with Panjab State Council for science and technology, Chandigarh. Every year, under the aegis of PSCST, environment awareness campaigns, lectures and public awareness rallies are arranged.

Popular lecture series on Biotechnology was arranged under the aegis of PSCST on 23-02-2015. Dr. A.K. Ganguli, Director, Institute of Nano Science and technology, Mohali, Dr. S.S. Mukhopadhyaya, Professor, Department of soil sciences, PAU, Ludhiana and Dr. Alkesh, Senior Scientific officer, PSCST, Chandigarh were key speakers.

3.7.3 Give details (if any) on the industry-institution-community interactions that have contributed to the establishment / creation/up-gradation of academic facilities, student and staff support, infrastructure facilities of the institution viz. laboratories / library/ new technology /placement services etc.

Interaction with eminent academic personalities and research scholars has helped in up gradation of academic facilities and infrastructure facilities of the college. The grant released by DBT under star college scheme is being used to upgrade laboratories, libraries and knowledge of teachers only under the guidance of eminent scholars. In addition to above.

- i. Dr. M. Sharma, former Prof. and Head, Department of Botany, Punjabi University, and Patiala donated more than 100 issues of journals to enrich departmental library of botany for the use of students.
- ii. Dr. Pawanjeet, retired lecturer encourages the sports persons on annual athletic meet or prize distribution function by giving cash to promising athletes.

3.7.4 High lighting the names of eminent scientists/participants who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

The college has proposed national level conferences to be held by the department of Botany and Chemistry in October /November 2015. A popular lecture series in Biotechnology was organized by department of Botany on 23-02-2015. Dr. A.K.Ganguli, Director, Institute of Nano science and Technology, Mohali; Dr. S.S. Mukhopadhyaya of PAU Ludhiana and Dr. Alkesh of PSCST ,Chandigarh delivered highly informative lectures.

3.7.5 How many of the linkages/collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of the established linkages that enhanced and/or facilitated -

- a) Curriculum development/enrichment**
- b) Internship/ On-the-job training**
- c) Summer placement**
- d) Faculty exchange and professional development**
- e) Research**
- f) Consultancy**
- g) Extension**
- h) Publication**
- i) Student Placement**
- j) Twinning programmes**
- k) Introduction of new courses**
- l) Student exchange**
- m) Any other**

The students of the college get demonstration in the university during their visit to different departments. Efforts are made to impart training to student in leading labs as recently 10 students of department of chemistry get training HPLC at NIPER.

Dr. M.K. Grewal and Mr. Rakesh Kumar often appear on Doordarshan in interactive Programmes. NSS volunteers and other cells had been successful in spreading the messages of unity, patriotism, service, environment protection, blood donation to the public in their extension activities.

Dr. Monica Arora and Ms. Ramandeep Kaur are closely associated with department of chemistry, Panjab university Chandigarh in carrying on research based activities and get their work published in reputed journals as co-researchers.

3.7.6 Detail on the systemic efforts of the institution in planning, establishing and implementing the initiatives of the linkages/collaborations.

Any other relevant information regarding research, Consultancy and Extension which the college would like to include.

Our institution lays more emphasis on academic achievements and holistic development of the students. Keeping in view goals for excelling in academics, programmes are planned in the beginning of the session. Renowned academicians are invited to deliver the talk and students are given opportunities to visit their labs. This practice has generated a lot of interest among the students to achieve high goals in life.

Criterion 4

INFRASTRUCTURE AND LEARNING RESOURCES

4.1. Physical Facilities

4.1.1 What is the policy of the Institution for creation and enhancement of Infrastructure that facilitate effective teaching and learning?

Policy for Creation and Enhancement of Infrastructure

The creation and enhancement of the infrastructure is affected by procuring grants through UGC, RUSA, PTA and various schemes of State Government. Presently infrastructural enhancement is under progress through “improvement of infrastructure” grants to colleges by the Government of Punjab. Two class rooms, 2 labs and Girls’ common room are under construction a proposal regarding further enhancement of infra-structure has been sent to UGC while sanction pertaining to construction of seminar hall under RUSA scheme has been approved.

4.1.2 Detail of the facilities available for

a) Curricular and Co-curricular Activities

Detail of item	Total no
Classrooms	8+ 2 (under construction)
Technology enabled learning spaces	7 Class rooms converted into smart class rooms 5 laboratories equipped with projectors
Multipurpose Hall/ Auditorium	Available with seating capacity of 200
Seminar Hall	Grant sanctioned under RUSA
Common Room for girls	Under construction
Tutorial Spaces	All class rooms, labs, UGC network resource centre and library
Laboratories	Total =12 +2 labs (under construction) <ul style="list-style-type: none"> • Chemistry =4 • Physics =2 • Botany =3 • Zoology =1

	<ul style="list-style-type: none"> • Biochemistry =1 • Computer lab =1
Botanical garden	Well maintained hoisting more than 300 species belonging to different groups of plants are growing in a systematic manner.
Animal House	Animal house is no more functional. It has been closed as per Govt. orders.
Specialized facilities and equipments for teaching , learning and research	12 Projectors, 54Computers, internet facility in each department, UGC network resource centre are available besides well-equipped Laboratories.
Directors' office	Well maintained with attached modern facilities
Administrative office	One
Bursar room	One
Library	Main library with about 15565 books Five departmental libraries fully functional
Museum	Two
Herbarium	One
Hostel for Girls	One
NSS room	One
Sports facility centre/ Conditioning room	One
Red cross room/ Dispensary	One
Language lab	One

b) Extra-curricular Activities

Sports, outdoor and indoor games, gymnasium, auditorium, NSS, cultural activities, public speaking, communication skills development, yoga, health, hygiene etc.

- **Sports:**

The college has a large play grounds for sports activities, 400 meter running track.

- **Outdoor games:**

Cricket, Football, Hockey, Volleyball

- **Indoor Games :**

Facilities like Badminton, Table Tennis, Chess and Carom Board etc. in the college hostel.

- **Gymnasium :** future plan

- **Auditorium / Multipurpose hall :** with capacity of 200 seats

- **NSS:**

One NSS room, two NSS units, one unit each for boys and girls.

NCC :-

- **Cultural Activities:**

The grounds of the college are also used for performing different cultural activities. A stage of standard size is available for organizing various functions. Auditorium is used for conducting different cultural and academic activities. The students of the college represent the college at zonal and inter-zonal Youth and Heritage festivals and bring laurels to the college.

- **Public Speaking & Communication skill development:**

Communication skills is a part of curriculum of English in B.Sc. II in which various aspects of communication skill development like reading, writing, speaking and listening are taught to students. The College has well established language lab to practice such skills. Need based extension lectures are also organized.

- **Personality development:**

Various interactive and cultural programmes are regularly held in the college to impregnate such qualities among the students. These involve activities like public speaking, debate, and communication development etc. In addition to this, lectures on personality development are organized.

- **Yoga, Health, Hygiene etc.:**

‘Healthy mind resides in healthy body’, following this saying, yoga camps are arranged with the help of social workers of the town and learned academicians.

The college takes care of the health and hygiene of the students. Regular health check camps are organized. R.O systems are installed at four places for student in the college campus. Cleanliness of washrooms is ensured by the members of the sanitation committee for both boys and girls. Electric incinerator has recently been installed in the girls’ hostel.

4.1.3 How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (Enclose the Master Plan of the Institution/campus and indicate the existing physical infrastructure and the future planned expansions if any).

The strength of the college has increased **from 381 in session 2009-10 to 691 in the session 2014-15**. The college plans to meet the needs for augmenting its infrastructure to keep pace with the growing strength of students by planning to get financial assistance from various funding agencies

S. no	Session	New Infrastructure	Amount spent
1	2008-09	Multipurpose Hall/ Auditorium with seating capacity of 200	Rs.5,67,618/- (Rs.5,00,000/- through M.PLAD grant received in 2007-08 and Rs.67,612/- out of PTA fund in 2008-09)
2	2009-10	Bio-Chemistry Laboratory	6 Lacs , Punjab Government through P.W.D
3	2014-15	Class rooms -2	Rs.109,86,000 /-By Punjab Government through P.W.D Work under progress
4	2014-15	Laboratories-2	
5	2014-15	Girls’ Common room -1	

6	2014-15	Repair and renovation: Civil repair and Electricity repair(new electric wiring in college and hostel building)	
7	2015-16	Seminar Hall (Future plan)	Estimated cost Rs. 70,00,000/- sanctioned Under RUSA Scheme

4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

The differently-abled students are accommodated at the ground floor only. They are provided ramp facility for the class room, multipurpose hall and hostel for their convenience. They are provided all possible assistance by staff and students whenever and where ever needed.

4.1.5 Give details on the residential facility and various provisions available within them:

- **Hostel Facility –**
- **Recreational facilities, gymnasium, yoga center, etc.**
- **Computer facility including access to internet in hostel**
- **Facilities for medical emergencies**
- **Library facility in the hostels**
- **Internet and Wi-Fi facility**
- **Recreational facility-common room with audio-visual equipments**
- **Available residential facility for the staff and occupancy**
- **Constant supply of safe drinking water**
- **Security**

Residential Facility:

Girls' hostel - one

Capacity -140 (Present capacity 259)

Facilities Available

- **Recreational facilities-** A Common room with Indoor games, LCD-TV, DVD player and table tennis.
Badminton court and volleyball court in the hostel premises.
- **Computer facility including access to internet in hostel:** Available from 5 pm to 8 pm.
- **Facilities for medical emergencies:**
Sick room available
The college has a part time medical officer. The first aid committee provides medicines and first aid kit to students procured on the

suggestion of Medical Officer. In case of emergency, ambulance service is availed from civil hospital /Kalyani Hospital

- **Library facility in the hostel:**

The hostel has a reading room.

- **Internet and Wi-Fi facility:** Inter-net facility available for a limited time period, that is, from 5.0 pm to 8.0 pm
- **Available residential facility for the staff and occupancy.** One guest faculty teacher serving as hostel superintendent is residing in the hostel and free accommodation is provided to her.
- **Constant supply of safe drinking water:** Four water coolers with RO filters are installed for safe supply of drinking water. The hostel has a separate submersible water pump for constant supply of water.
- **Geysers:** 7 electric geysers available for hot water in winter
- **Bathrooms**
- **Sanitary Napkin Incinerator: installed**
- **Generator:** Separate 32 KW generator for hostel
- **Security:** The security of the girls' hotel is of prime importance and every care is taken to provide the free and fearless atmosphere to live. Separate security men perform the duty during day and night in the hostel and two female attendants are also available to guard the students during day time. In addition, watchman of the college is instructed to be extra vigilant during night. Flood lights are installed on all sides of the hostel.

4.1.6. What are the provisions made available to students and staff in terms of health care on the campus and off the campus?

The facilities available to students and staff on the campus are as given in 4.1.5 and off the campus we have tie up with Kalyani Hospital . Faculty members can avail medical facility as per government rules.

4.1.7 Give details of the Common Facilities available on the campus– spaces for special units like IQAC, Grievance Redressal unit, Women's Cell, Counseling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

S. No.	Name of Unit	Availability of facility
1	IQAC (Internal Quality Assurance Cell)	7
2	Grievance Redressal Unit	9A
3	Women Forum	105
4	Counseling and Career Guidance	9A
5	Placement Unit	9A
6	Health Center	108
7	Canteen	Available
8	Recreational spaces for staff and students	3 Under construction
9	Student Center	With canteen
10	Safe Drinking water facility.	Four water coolers fitted with RO system.
12	Auditorium /Seminar Hall	Multipurpose Hall with seating capacity of 200

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

Yes, the College has a Library Advisory Committee. The composition of the Committee is as under:

- | | |
|-----------------------|----------|
| 1. Mr. Jagdev Singh | Convener |
| 2. Mr. Nirmal Singh | Member |
| 3. Mr. Harpal Singh | Member |
| 4. Mr. Jatinder Singh | Member |
| 5. Ms. Sarabjote Bedi | Member |
| 6. Mr. Balbir Singh | S.L.A. |
| 7. Mr. Mandeep Singh | J.L.A. |

The Advisory Committee discusses and finalizes the infrastructural and academic requirements of the library and plans regarding the working of the library affairs so that the facility can be utilized to the maximum extent by the staff and the students.

4.2.2 Provide details of the following:

- **Total area of the library (in Sq. Mts.)**
- **Total seating capacity**
- **Working hours (on working days, on holidays, before examination days, during examination days, during vacation)**
- **Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing-resources)**

Sr. No	Information Regarding	Comments(if any)
1	Total area of the Library	About 200 sq.mt
2	Total Seating Capacity	80
3	Working hours (Daily)	09:20 am-04:00 pm
4	Before Examination Days	09:20 am-04:00 pm
5	During Examination Days	09:20 am-04:00 pm
6	Vacations	10:00 am-02:00 pm
7	Layout of the library	Librarian Cabin, Magazine section, Reading hall for the students and staff, Browsing facility available in the adjacent UGC network Resource centre.

4.2.3 How does the library purchase and use of current titles, print and journals and other reading materials? Specify the amount spent on procuring new books, journals, e resources during the last four years.

The decision regarding the purchase of books is taken in the meeting of the heads of the department according to the needs of the students and availability of the funds. The books are purchased through the purchase committee constituted for the above purpose.

Session	No of Books purchased	Amount spent(Rs)	No of journals	Amount spent	Total amount spent(Rs)	Source of fund
2010-11	171	72,832	9	31,180		Star College Fund
2011-12	284	1,05,669	9	17,699		Star College Fund
2012-13	649	1,99,990	--	--		UGC
	221	90,761	8	4,000		Star College Fund
2013-14	414	136155	3	1800		Star College Fund

4.2.4 Provide the details on the ICT & other tools deployed to provide maximum access to library collection

• OPAC	No
• Electronic Resource Management package for e-journals	yes
• Federated searching tools to search articles in multiple data base	No
• Library web sites	No
• In House remote access e- publication	No
• Library automation	No
• Total number of computers for public access	four
• Total number of printers for public access	four
• Internet Broad width/ speed 2 mbps, 10 mbps, 1 gb	2 mbps
• Institutional repository	yes
• Content management system for E learning	yes
• Participation in resource sharing network/ consortia (like INFLIBNET)	No

4.2.5 Provide details on the following items

• Average number of walk ins.	75
• Average number of books issued/ returned	45
• Ratio of library books to the students enrolled	23:1
• Average number of books added during the last three years -as in	4.2.3
• Average number of log ins to OPAC	-
• Average number of log ins to E resources	-
• Average number of E resources downloaded/ printed	-
• Number of information literacy trainings organized	-
• Details of weeding out of books and other material	-

4.2.6 Give details of specialized services provided by the library:

• Manuscripts	Students are provided with SOP and Lab Manuals
• References	yes
• Reprography	yes
• Inter library loan service	yes
• Information deployment and notification	No
• Downloads	yes
• Printing integrated with Photostat machine	yes
• Reading list/ bibliography compilation	yes
• In house remote access to e resources	No
• User orientation and awareness	No
• Assistance in searching data bases	No
• INFLIBNET / IUC facility	Under consideration

4.2.7 Enumerate on the support provided by the Library staff to the students and teachers of the college.

The students are issued books on all working days. The library staff helps the students and staff to find books in the library and maintain proper discipline. The library staff provides the list of catalogues of various publishers to

teachers so that new and relevant books can be purchased for library. Departmental libraries provide all facilities like internet downloading, Photostat, printing, scanning, etc.

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give details.

The physically challenged students are given top priority in getting the books issued. The library attendant helps such students to search books for them and the required books are issued to them at ground floor.

4.2.9 Does the library get the feedback from its users? If yes, how is it analyzed and used for improving the library services? (What strategies are deployed by the Library to collect feedback from users? How is the feedback analyzed and used for further improvement of the library services?)

The college has placed a suggestion box in the library to take feedback from the students. The suggestions are analyzed by the library advisory committee and acted upon. From time to time Director along with senior faculty members visits library and interacts with the students and efforts are made to improve quality of service.

4.3 IT Infrastructure

4.3.1 Give Detail on the computing facility available (hardware and software) at the institution.

- **Number of computers with Configuration (provide actual number with exact configuration of each available system)**
- **Computer-student ratio**
- **Standalone facility**
- **LAN facility**
- **Wi-Fi facility**
- **Licensed software**
- **Number of nodes/ computers with Internet facility**
- **Any other**
- **Number of computers with Configuration**

Total computers available in the college are 54.

S. no	Department	Company	RAM	Processor	HDD	Quantity
1	Chemistry	Compaq	1 GB	Intel Core 2 duo	250 GB	1
		Compaq	2 GB	Intel Core 2 duo	320 GB	2
		SAMSUNG				1
2	Botany	Compaq	1 GB	Intel Core 2 duo	250 GB	1
		Compaq	2 GB	Intel Core 2 duo	320 GB	2

		HP	2 GB	Intel core i5	520 GB	1
3	Physics	HCL	2 GB	Intel Core i5	320 GB	2
4	Zoology	Compaq	2 GB	Intel Core 2 duo	320 GB	2
5	Office	Dell	4 GB	Intel core i5	520 GB	4
		-	-	-	-	2
6	House Examination	HP	2 GB	Intel Core i5	320 GB	1
7	UGC-Network Resource Centre	HCL	2 GB	Intel Core i5	320 GB	5
8	Carrier Counseling Cell	HCL	2 GB	Intel Core i5	320 GB	2
9	RUSA	ACER	4 GB	Intel core i5	520 GB	20
10	Computer Centre do	SAMSUNG				7
		Zenth				1

- **Computer-student ratio** 1:13
- **Standalone facility** No
- **LAN facility** available in all departments
- **Licensed software** proposed
- **Number of nodes/ computers with Internet facility** 30

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

The Principal office, the Administrative Block and all of the departments have internet facility. For the students, internet facility is available in the college in computer lab, UGC network resource centre and language lab during college time.

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

The college has recently purchased 20 new i5 Third Generation computers, 7 new interactive projectors, one coloured photocopier with the grants received under RUSA. The college is likely to purchase software for administrative office and house examination office.

4.3.4 Provide details on the provision made in the annual budget for procurement, up gradation, deployment and maintenance of the computers and their accessories in the institution (Year wise for last four years)

In facts provision for purchase of limited number of computers at institute level exists only out of PTA fund. Proposals for purchase of computers are also sent to funding agencies like UGC/RUSA/DBT. The college prefers to purchase branded computers and accessories from certified agencies. Maintenance of such branded equipment is done by the company during the warranty period and when warranty period is over, the college maintains the

equipment out of PTA fund or UGC/ star scheme grant. The institution hires the services of a technician from the market in case of a problem. In order to provide uninterrupted power supply, 4 invertors and 2 generators are ever available.

Session	Amount spent on			
	Procurement of equipment/computer	Up gradation	Deployment	Maintenance
2010-11	i)4,26,921 UGC ii) 66930 PTA	--	--	--
2011-12	--	--	--	--
2012-13	406874/-UGC	--	--	--
2013-14	--	--	--	--
2014-15	i)2,08,500 PTA ii) 9,69,728 RUSA	--	--	--

4.3.5 How does the institution facilitate extensive use of ICT RESOURCES including development and use of computer-aided teaching/ learning materials by its staff and students?

The institution facilitates extensive use of ICT resources for development and use of computer aided teaching/ learning materials by the students and staff members in the following ways:

- All the class rooms have been converted into Smart Class Rooms
- teachers prepare and present their lectures through PPTs
- students use this facility to prepare their seminars, assignments and study materials
- Search and apply for various competitive examinations
- Students apply for state level and other scholarships on line.
- Photocopiers facility is provided to all students.

4.3.6 Elaborate giving suitable examples on how the learning activities and technologies deployed (access to on-line teaching - learning resources independent learning, ICT enabled classrooms/learning spaces etc.) by the institution place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

Use of technology has become very vital in imparting quality based education. The method of teaching and imparting knowledge has been aided with extensive use of internet downloading of study material, power point presentation through computer and projectors, MIPS, extension lectures, seminars, workshops, participation in symposia/ conferences, use of models and charts in all classes; institution encourages the staff to undergo training so that they keep pace with the changing scenario.

4.3.7 Does the Institution avail of the National Knowledge Network connectivity directly or through the affiliating university? If so, what are the services availed of?

The Institution avails of the National Knowledge Network connectivity directly through the EDUSAT.

4.4 Maintenance of campus Facilities

4.4.1 How does the institution ensure optimal allocation and utilization of the available financial resources for maintenance and upkeep of the following facilities (Substantiate your statements by providing details of budget allocated during last four years)?

a) Building

b) Furniture

c) Equipment

d) Computers

e) Vehicles

f) Any other

The college maintains and upkeeps its infrastructure and other facilities out of PTA fund, UGC grant. The details of budget allocated during last four years are given below:

	2010-11	2011-12	2012-13	2013-14	
Building, electricity, water supply	i) 2,98,563/-	26,130 /-	85,138	59,419	PTA
	ii) 12,00,000 /-				UGC
Furniture	1,25,504 /-	--	96,228	84,584	PTA
Equipment	--	--	8,99,789	-	UGC (IMF)
Computer	66930/-	-	-	-	PTA
Vehicles	--	--	-	-	-
Any other	2,04,091/-	2,29,188	2,61,703	4,23,141	PTA

4.4.2 What are the institutional mechanisms for maintenance and upkeep of the infrastructure, facilities and equipment of the college?

Infrastructure committee of the college works for the maintenance of the infrastructure. The Committee identifies the vulnerable areas and suggests the measures to be taken to repair the same. The part which requires immediate attention is repaired out of PTA fund while proposal for the renovation and repair is sent to the Govt. of Punjab for necessary action.

For the maintenance of other facilities like furniture, Electricity, water supply and sanitation, Laboratory maintenance, Campus beautification, and generator repair etc. PTA funds are used. Equipment is repaired either out of

IMF (UGC) or PTA Fund. Class IV employee look after the lawns, Garden and green belt of the college.

4.4.3 How and with what frequency does the institute take up calibration and other precision measures for the equipment/instruments?

The laboratory equipment, computers and electronic devices are maintained through the concerned departments by grants received from the government, or with the help of PTA fund.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment (voltage fluctuations, constant supply of water etc.)? Any other relevant information regarding Infrastructure and Learning Resources which the college would like to include

The sensitive equipment like, Computers, projectors, photocopiers, and other scientific instruments are kept in the laboratories under the supervision of laboratory staff. To prevent any damage due to voltage fluctuation all laboratories are equipped with voltage stabilizers.

To ensure the constant supply of water to the college, following facilities are available

- PWD Facility with Large storage Tank
- One Submersible pump donated by Sh. B.S. Sidhu in Hostel
- One submersible pump for main building
- One submersible pump for irrigation purpose to Botanical garden and lawns of the college.

Since the number of girls has constantly been increasing in the college and Number of residents in the hostel are much above the accommodative capacity of the Hostel. Hence, the immediate need is that of a New Girls Hostel.

Boys' common room, Gymnasium and Student Centre are need of the time.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Does the institution publish its updated prospectus/handbook annually? If 'yes', what is the information provided to students through these documents and how does the institution ensure its commitment and accountability?

Yes, The Institution publishes its Prospectus annually at least one month ahead of the admission process. The prospectus contains the following information.

- Profile of the college
- Vision and Mission of the college
- Message from the director of the college
- Admission Schedule and reservation policy
- Courses available and duration of the courses
- Faculty details, IQAC composition and role.
- Academic calendar as per Punjab university calendar.
- Fee structure and various financial aids available to the Students.
- Students support services
- Format of different categories of certificates for reservation.
- Subject societies
- Rules for admission to Hostel

Commitment and Accountability

- Admission committees are constituted prior to the admission process.
- Admission to UG classes is exclusively on merit of marks secured in eligibility class.
Consolidated merit of all the students is displayed on the Notice Board.
- Admission to PG classes is done on combination of merit cum entrance test as described in section 2.1.2
- Academic information is displayed on the notice board.
- Attendance record of students is maintained by teachers and the one attending maximum classes is honored on annual function.
- Financial aid to needy and deserving students is given out of SAF and other relevant funds.
- Allocation of Seminars, assignments, projects, class tests, snap tests as per curriculum is done.
- Student support services complete in all respects like clean water, neat and clean wash rooms, canteen facility, Photostat facility and power back up are made available.
- Allowed to use computer facility available in computer lab, UGC network Centre, language lab and in respective departments.
- The Students are encouraged to take part in extracurricular activities.
- The services and suggestions of PTA and Alumni association are welcomed for improvement of the college campus.

5.1.2 Specify the type, number and amount of institutional scholarships / free ships given to the students during the last four years and whether the financial aid was available and disbursed on time?

At the institutional level: The institution makes sincere efforts to make this facility available to students. Applications for financial assistance to students at Institutional level are invited in the beginning of the session. The needy and deserving students are identified on the basis of income of their parents at the time of interview by the committee. The students are given financial assistance out of Teachers Contributory Fund, SAF or PTA etc.

PTA

Year	Number of beneficiaries	Amount
2011-12	5	Rs. 15500/-
2012-13	15	Rs. 52500/-
2013-14	02	Rs. 3200/-
2014-15	11	Rs. 44,000/-

Teacher's fund

Year	Number of beneficiaries	Amount
2011-12	2	Rs. 2000/-
2012-13	23	Rs.26000/-
2013-14	03	Rs.6663/-
2014-15	05	Rs.11940/-

5.1.3 What percentage of students receives financial assistance from state government, central government and other national agencies?

In order to provide financial assistance under different schemes launched by state, central and other national agencies, the institute keeps on informing the students from time to time. The committee responsible for providing information regarding scholarships under different schemes makes all efforts in this respect. A perusal of scholarships received under different categories shows that percentage of beneficiaries varies from 4.09 in 2010-11 to 43.42 percentage in 2014-15. The average percentage of beneficiaries for the last five years is 26.91

Year	Category	Total No of students	Number of beneficiaries	Amount(Rs)	% age of beneficiaries
2010-11	i.State Merit Scholarship	391	12	14135/-	4.09
	ii.SC scholarship		14	29940/-	

2011-12	i.Poor and Brilliant student P.U.Chd. ii. State Merit Scholarship iii.SC / BC iv.Minority v.Single Girl child	449	03 10 17 106 01	18000/- 11715/- 99739/- 8,55,180/- 20,000/-	30.51
2012-13	i. State Merit Scholarship ii.SC/BC	524	14 76 on line	15785 --	17.18
2013-14	i.SC/BC ii.Minority	597	96 on line 139 on line	1083239/- 1477027/-	39.36
2014-15	i.SC/BC ii.Minority	691	131 on line 169 on line	3607780/- (Total)	43.42

5.1.4 What are the specific support services/facilities available for

- ✓ Students from SC/ST, OBC and economically weaker sections
- ✓ Students with physical disabilities
- ✓ Overseas students
- ✓ Students to participate in various competitions/National and International
- ✓ Medical assistance to students: health centre, health insurance etc.
- ✓ Organizing coaching classes for competitive exams
- ✓ Skill development (spoken English, computer literacy, etc.,)
- ✓ Support for “slow learners”
- ✓ Exposures of students to other institution of higher learning/ corporate/business house etc.
- ✓ Publication of student magazines

Different support services available for different categories are as follows.

Students from SC/ST, OBC and economically weaker sections.

Students belonging to these categories are identified at the time of admission and all possible support is provided to them.

- a. Reservation policy according to directions of Govt. of Punjab is strictly followed.
- b. No Tuition Fee is charged from UG Girls students of the college irrespective of categories, however, this benefit at PG level is limited to SC category only.
- c. Tuition fee is also not charged from male students of SC category the income of whose parents is below 2,50,000/-.

- d. Books for the full session are provided from the book bank or college library.
- e. Remedial Classes are arranged for slow learners.
- f. Financial aid is provided to deserving and needy students at college level.

Students with physical disabilities

- a. Reservation as per govt. rules for admission to the college.
- b. Time table is adjusted in such a way that they attend their classes on the ground floor only.
- c. Ramps are constructed at all main entry points.
- d. Monetary assistance is available at institute level.
- e. Allowed to bring their vehicle inside the college.

Overseas students

At present we do not have any foreign student but college is bound to provide all sorts of facilities according to government policies as and when admission is made under this category.

Students participating in various competitions at national and international level.

The Students are encouraged to participate in state and national level eligibilities test like NET/SLET/TET/BANKS etc. and guidance is provided to them. Those who take part in extracurricular and co-curricular activities are also extended all sorts of help.

SPORTS CATEGORY

- a. Game equipment and sports kits are provided.
- b. Refreshment and transport facility is provided as per rules.
- c. Need based coaches are provided out of Sports Fund.

Extra-curricular Activities Categories

Followings facilities are provided

- a. Contingent Leader
- b. Instructors
- c. Costumes
- d. Transport
- e. Refreshment
- f. Honored at annual functions

Health Care Facilities

- a. Part time Nurse
- b. Indoor facility at Civil Hospital/ Kalyani Hospital
- c. Ambulance in emergency from civil hospital/ Kalyani hospital
- d. Sick room and First Aid

Support for slow learners.

- a. Remedial classes
- b. Class tests
- c. Assignments.

Computer Literacy and Communication Skills

- a. Project Genesis: Mrs Nidhi, Assistant Professor in English, received training under this Programme conducted by Infosys at Chandigarh and is successfully employing the innovative ways to enhance the communication skills of the students in the college.
- b. English language lab.

Exposures of students to other institution of higher learning/ corporate/business house etc

To expose the students to wide spectral fields of study, students are taken to different research institutes and universities.

- a. During last four years educational tours were arranged to different research institutes and universities.
- b. HPLC training was imparted to ten students of department of chemistry at NIPER, Mohali.
- c. A Score of extension lectures were arranged by all the departments during last five years.
- d. Field study tours to hilly areas were organized by Department of Botany and Zoology.
- e. Students from Department of Physics often take part in inter college quiz competitions and national level test conducted by IAPT.

Publication of student magazines

College publishes its annual Magazine SCIENTIST under the supervision of teacher in charge “ Chief Editor “ and student editor. The magazine has different sections like English. Punjabi, Science etc. headed by sectional editor. The students contribute poems. Articles, stories, essays etc. exhibiting creative writing talents of students and other contributors.

5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

We encourage our students to take part in skill development programmes and in campus placement programmes organized by different institutes.

5.1.6 Enumerate the policies and strategies of the institution which promote participation of students in extracurricular and co- curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities etc.

- * Additional academic support, flexibility in examinations
- * Special dietary requirements, sports uniform and materials

*** Any other**

For the holistic development of the students, it is of utmost importance that they must participate in extracurricular activities. Teachers in charge of extracurricular activities Mr. Rakesh Kumar and Mrs. Nidhi Mahajan organize a talent hunting programmes for the fresher's right in the beginning of the session for various cultural activities. The promising students are marked and they are encouraged to participate in college /inter college and youth festival. The institute provides

- Guidance/training under expert teacher
- Transport and other expenditures is borne by the college.
- Costumes and other facilities are provided
- Refreshment to students participating in various activities.
- Relaxation in appearing the eligibility tests after the events.

5.1.7 Enumerating on the support and guidance provided to the students in preparing for the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR- NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc.

The PG department of Botany and Chemistry keep in touch with the students and encourage them to pursue research after qualifying NET/GATE etc. It has been observed that on an average three students have qualified NET in the last four years and have joined leading research institutes like Indian Institute of Petroleum, Dehradun, Indian Institute of Technology, Kanpur, Tata Institute of Fundamental Research, Panjab University, Chandigarh, Punjabi University Patiala and Central University Bathinda to complete their Ph.D. degree.

5.1.8 What type of counseling services are made available to the students (academic, personal, career, psycho-social etc.)

The college provides all types of counseling services to the students according to the needs. The member of the career counseling and guidance cell plays a vital role.

- Academic counselling: Is provided to the students as and when students approach for selection of streams at UG or at PG level. They are told about the scope of the subject/s in question.
- Personal Counselling is extended to those needy and deserving students who due to one or the other reason tend to discontinue their study. They are supported financially also to continue the study.
- Career Counselling cell keeps updating students with different available opportunities for employment and announcements are made in the class through the teachers as well as through notices.
- More than 80 % strength of the college comprises of girls. Senior most teachers of the college provide psycho social counselling to those students who suffer from complexes related to girls. Mrs. Savita Sharma, Mrs. Sumedha Syal, Mrs. Nidhi Mahajan , Dr. Monica Arora, Mrs. Sarabdeep Kaur Sidhu and Mrs. Neelam Bala handle the problems amicably on priority basis. Dr. Mohinder Kaur Grewal, Director of the

College, is ever available for the help of the students and they can meet the director without prior permission during working hours of the college to get their problems solved.

5.1.9 Does the institution have a structured mechanism for career guidance and placement of its students? If 'yes', detail on the services provided to help students identify job opportunities and prepare themselves for interview and the percentage of students selected during campus interviews by different employers (list the employers and the programmes).

The courses being offered are academic one. Our main aim is to make the students academically strong so that they excel and transcend their counterparts in every field. There is compulsory subject on communication skills in B.Sc. II.to prepare students for facing interviews. We also have career guidance and placement cell which makes efforts to arrange extension lectures on career opportunities .The information regarding vacancies in different fields is displayed on the notice boards from time to time.

5.1.10 Does the institution have a student grievance redressal cell? If yes, list (if any) the grievances reported and redressed during the last four years.

We do have Grievance redressal cell headed by senior most teacher of the college. The students are advised to discuss their problems with their tutors in the tutorial periods or They are free to get their problems solved through their class representatives. A complaint box is placed near the college office, they can put their complaints in the box. In the hostel, head girl of the hostel plays an important role in forwarding the problems of the resident students. The problems are solved immediately. It is worthwhile to mention that till date no serious problem has been encountered by the students.

During last four years the following grievances have been redressed

1. Girl's Common Room..... Being constructed
2. Geyser Facility.....Have already been installed
3. Improvement in Diet.....Regular check by committee is being done
4. Electricity complaints.....Part time Electrician has been arranged
5. Mutual conflicts of students....solved instantly.

Being girls dominated college; grave situations have never arisen till date which is a matter of pride for the college.

5.1.11 What are the institutional provisions for resolving issues pertaining to sexual harassment?

The college has taken all kinds of measures for safety and security of students and employees of the college. We have formed a Sexual harassment committee comprising of mainly senior female and two male teachers. We are proud of the fact that till date, no case of sexual harassment has been reported.

5.1.12 Is there an anti-ragging committee? How many instances (if any) have been reported during the last four years and what action has been taken on these?

Our College is known as **SHANTI NIKETAN** in the area where students love to study and live peacefully. Ragging is absolutely banned in the College campus. Ragging is a **punishable offence** is displayed at prime locations in the campus including hostel. It has been noticed that students belonging to science streams are usually serious about their studies and keep away from such activities. More over as mentioned above, **more than 80 per cent students** are girl students and male contribute less than 20 per cent of total strength of the college. We have never faced any problem related to discipline and ragging in the college. Even then, Discipline committee and Anti ragging committees of the college remain active throughout the year to curb such activities. .

5.1.13 Enumerate the welfare schemes made available to students by the institution.

The various welfare schemes available to the students are

- Book banks in the departments for needy and meritorious students.
- Financial assistance out of SAF, PTA, teacher's fund.
- Scholarships, Stipends under different state and central government schemes.
- Sports and Extra-curricular activities.

- Social services through NSS, Red Ribbon Club, Women Forum.
- Health services.
- Concessional Bus Pass facility. This facility was availed by a large number of students during last three years as given below.

Session	Per cent of student who availed Bus pass facility
2012-13	41.68
2013-14	43.05
2014-15	37.11

5.1.14 Does the institution have a registered Alumni Association? If ‘yes’, what are its activities and major contributions for institutional, academic and infrastructure development.

The college has alumni association. The composition of the association includes director of the college as Patron, senior most alumnus from the college faculty as President, Secretary and Treasurer of the association are selected from the faculty alumnus. The alumni association plays an important role in encouraging the students to excel in life. Some of alumni are occupying respectable positions in the state administration and in academics. They are projected as role model to students to achieve their goals. Dr. R.K Popli, the present SDM of Jagraon is our alumnus, has offered his services for the college all the time. Ten of our students of department of chemistry received one week training on “Perspective of HPLC” at NIPER with the guidance of our alumnus Dr. Manjinder Singh, who is serving as Assistant Professor in the Department of Pharmaceutical Technology, NIPER, Mohali.

The College has produced a score of renowned personalities; mention may be made of few of them.

- S. Darbara Singh Guru , I.A.S. Former chief Secretary of CM of Punjab,
- Dr. Paramjeet Singh Gill, Okanagan university College Kelowna.
- Dr. Anil Kumar Sharma, Prof . & Head, Kidwai memorial Institute of Oncology, Bangalore.
- Mrs. Harmandip Kaur, Former Director of the College.
- S. Jaswinder Singh brar, Former DPI colleges Punjab.
- Dr. Manjinder Singh Gil, Scientist . NIPER , Mohali
- Dr. Phulwinder Singh, Senior medical Scientist cum Senior research Fellow, University of Adelaide, Australia
- Mr. Hardeep Singh Gill, Graduate Research Assistant, University of Massachusetts Lowell.
- Sandeep Goyal, Ph.D TIFR Post Doc. U.S.A.
- Mandeep Ralhan, Assistant Commissioner Special Bureau: Leh
- Dr. Samandeep kaur, Asst. Prof. S.D.College Chandigarh

- Jaspreet Kaur, Ph.D Punjabi University, Patiala, Res Associate IMTECH
- Gagandeep Kaur, JRF IIT Kanpur
- Vaneeta Panwar, JRF IIP, Dehradun
- Amrita, Kanika, Sangeeta: JRF, PU CHD
- Sahil Sharma, B. Tech from IIT, BHU

5.2 Student Progression

5.2.1 Providing the percentage of students progressing to higher education or employment (for the last four batches) highlight the trends observed.

Students Progression	Percentage
UG To PG B.Sc. Medical 2010-11 2011-12 2012-13 2013-14	75.0% 70.6 65.0 65.32
B.Sc. Non-Medical 201-11 2011-12 2012-13 2013-14	14.0 49.12 27.90 31.06
PG to M Phil	More than 8.0%
PG to Ph.D.	More than 8.0%
Employed Campus Selection Other selections	Students get selection on their own

5.2.2 Provide details of the Programme wise pass percentage and completion rate for the last four years (course wise/batch wise as stipulated by the university)? Furnish Programme-wise details in comparison with that of the previous performance of the same institution and that of the Colleges of the affiliating university within the city/district.

Class	Session	Students Admitted	Students		Pass percentage	
			appeared	passed	College	University
B.Sc. I Medical	2009-10	23	19	18	94.73	62.68
	2010-11	35	30	26	86.66	57.82
	2011-12	54	47	38	80.95	60.00
	2012-13	79	64	59	92.18	62.24
	2013-14	82	70	60	85.71	51.88
B.Sc. I Non-Medical	2009-10	121	96	66	68.75	62.68
	2010-11	143	121	93	76.86	57.82
	2011-12	140	130	104	80.00	60.00
	2012-13	127	117	93	79.48	62.24
	2013-14	130	111	85	76.58	51.88
B.Sc. II Medical	2009-10	22	21	20	95.23	84.42
	2010-11	19	18	18	100	84.40
	2011-12	26	25	22	88.00	82.37
	2012-13	36	35	35	100	85.35

	2013-14	57	53	53	100	83.87
B.Sc. II Non-Medical	2009-10	46	46	42	91.30	84.42
	2010-11	66	63	62	98.41	84.40
	2011-12	89	87	84	96.55	82.37
	2012-13	111	106	103	97.17	85.35
	2013-14	102	100	97	97.00	83.87
B.Sc. III Medical	2009-10	41	40	40	100	91.41
	2010-11	20	20	20	100	81.05
	2011-12	18	17	17	100	83.81
	2012-13	22	21	21	100	84.15
	2013-14	35	34	34	100	87.11
B.Sc. III Non-Medical	2009-10	68	66	66	100	91.41
	2010-11	43	43	40	93.02	81.05
	2011-12	60	57	54	94.74	83.81
	2012-13	85	85	85	100	84.15
	2013-14	102	101	101	100	87.11

	14					
M.Sc. I Botany	2009-10	16	14	14	100	100
	2010-11	16	14	14	100	100
	2011-12	16	15	15	100	100
	2012-13	15	12	12	100	100
	2013-14	25	21	21	100	100
M.Sc. II Botany	2009-10	14	13	13	100	100
	2010-11	14	12	12	100	100
	2011-12	14	13	13	100	100
	2012-13	15	15	15	100	100
	2013-14	12	12	12	100	97.87
M.Sc. I Chemistry	2009-10	16	15	15	100	75.92
	2010-11	20	19	19	100	71.19
	2011-12	15	13	13	100	-
	2012-13	21	19	19	100	-
	2013-14	33	28	28	100	96.06

M.Sc. II Chemistry	2009-10	15	15	15	100	97.56
	2010-11	16	16	16	100	95.32
	2011-12	18	17	17	100	-
	2012-13	13	13	13	100	-
	2013-14	19	19	19	100	86.83

5.2.3 How does the institution facilitate student progression to higher level of education and/or towards employment

The Guidance and Career counseling cell of the college keeps updating about admission to different institutes of higher learning. The students are informed about the procedure of employing in details. Lectures on carrier counseling are also arranged.

5.2.4 Enumerate the special support provided to students who are at risk of failure and drop out?

As mentioned earlier special attention is paid to such students who are at risk of drop out due to one or the other reason.

- Financial assistance to needy one.
- Remedial classes to weak students.
- Psychological counselling to needy one.

5.2 Student Participation and Activities

5.3.1 List the range of sports, games, cultural and other extracurricular activities available to students. Provide details of participation and program calendar.

The range of sports, games, cultural and other extracurricular activities available to the students are

Sports:

- Athletics
- Cricket
- Football
- Badminton
- Basket Ball
- Cultural/ Co-curricular activities

- NSS
- Red Cross Society
- Red Ribbon Club
- Environment Club
- Legal Literacy Cell
- Youth festival: Folk dance, song, quiz, Story writing. Poem writing, Shabad, Spot painting, mimicry etc.

The tentative calendar of these activities is as below.

Month	Activities
July	<ul style="list-style-type: none"> • Admission • Enrolment of different units • Tree plantation
August	<ul style="list-style-type: none"> • Participation in departmental • Sports activities • Talent Search
September	<ul style="list-style-type: none"> • House examination • Sports related activities
October	<ul style="list-style-type: none"> • NSS Camp • Youth Festivals
November	<ul style="list-style-type: none"> • Departmental activities • Inter College Sports Activities • Semester Practical Examination
December	<ul style="list-style-type: none"> • Semester Examination • House Exams • NSS Camp]=
January	<ul style="list-style-type: none"> • Tree plantation • Seminars • Women week • Departmental Activities
February	<ul style="list-style-type: none"> • Annual Sports Meet
March	<ul style="list-style-type: none"> • Annual Function
April	<ul style="list-style-type: none"> • Convocation • Farewell Parties • Examination (Annual)
May	<ul style="list-style-type: none"> • Examination (Semester)
June	<ul style="list-style-type: none"> • Summer vacations

Different days are celebrated according to their occurrence participation. The College teams participated in different sports activities as given below.

Cricket: Inter College tournament organized by P.U. Chandigarh on 22-10-2014

Badminton: Inter college tournament organized by P.U. Chandigarh on 28-10-2014.

Athletics: Organized by P.U. Chandigarh on 18-11-2014.

5.3.2 Furnish the details of major student achievements in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. for the previous four years.

Zonal Youth Festival

Session	Number of participants	Number of prizes won	Detail of prizes
2012-13	32	3	Story writing 1 st Essay writing 2 nd Group song 3 rd
2013-14	35	1	Debate 3 rd
2014-15	69	8	Second Prizes in <ul style="list-style-type: none">• Gidha• Poem Writing• Folk Song• Spot painting Third Prizes in <ul style="list-style-type: none">• Shabad• Phulkari• Quiz• Mimicry

5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the institutional provisions?

The college seeks feedback from its graduates during alumni meetings in an informal way. The suggestions given by them are incorporated in the various planes of the institute for improvements of infrastructure for better teaching learning processes

5.3.4 How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine, and other material? List the publications/ materials brought out by the students during the previous four academic sessions.

The students are constantly encouraged regarding publication of their work. The college publishes its own magazine “**Scientist**” annually in which the contribution in the form of stories, poems and articles on different topics of science are published.

5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

Yes, the college has a student council which comprises of two representatives from each class. These representatives include

- i. First, topper of the class
- ii. Second, selected by the class

All the representatives select one president and the other secretary member of the council. The council forms the connecting link between the director and the students. They put forward the grievances and suggestions to the director for suitable action. They also help in organizing the functions of the college. The functions/ activities suggested by them for their uplift are funded by the college only.

5.3.6 Give details of various academic and administrative bodies that have student representatives on them.

The students are inseparable part of

1. Subject society
2. IQAC
3. Women Forum
4. Environment committee
5. Grievance Redressal/ Sexual Harassment Committee

6. Hostel committee
7. Canteen committee

5.3.7 How does the institution network and collaborate with the Alumni and former faculty of the Institution.

The institution networks and collaborates with the alumni and former faculty through social networking and phones. They are also formally invited on sport meet and annual prize distribution functions.

CRITERION VI:

GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional vision and leadership

6.1.1 State the vision and mission of the institution and enumerate how the mission statement defines the institution's distinctive characteristics in term of addressing the needs of the society, the students it seeks to serve , institution's traditions and value orientations, and vision for the future, etc.?

VISION

- To impart high quality science education to produce professionals of national and international repute, development of overall personality and inculcate the element of humanity so as to make them outstanding global citizens.
- Preservation of culture and heritage of India by organising cultural /extra-curricular activities.
- To ensure equity in higher education by providing adequate opportunities to under- privileged sections of society.

MISSION

Do Not limit your goals up to your abilities rather raise your abilities up to your goals is clearly indicative of mission of the college carved on our logo "TRANSCEND "and we are fully committed to train our students to achieve their goals by

- Providing high quality education and to make them sincere, honest, responsible and progressive citizens.
- Developing a feeling of social responsibility among the students by conducting various awareness programmes.

- Serving society by producing talented teachers, research scholars and good human beings through development of mind and knowledge.

6.1.2 What is the role of top management, principal and faculty in design and implementation of its quality policy and plans?

Ours is the Govt. College managed by the Director Public Instruction (colleges) Punjab, in league with the head of institution. The Director of the college is the academic and administrative head of institute. The Director maintains a strong link between the higher authorities and college for flow of information. The Director formulates the policies with the various administrative committees' viz. building, purchase, examination, PTA etc. for the welfare of the students.

6.1.3 What is the involvement of the leadership in ensuring?

1. **The policy statements and action plans for fulfillment of the stated mission.**
2. **Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan.**
3. **Interaction with stakeholders**
4. **Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders.**
5. **Reinforcing the culture of excellence**
6. **Champion organizational change**

1. The policy statements and action plans for fulfillment of the stated mission.

- Director is the head of institution and closely monitors the functioning of all committees for achieving the set plans by formulating strategies as per the norms of Govt. of Punjab through notifications issued by DPI colleges.
- The Director acquaints the faculty with vision and mission of the college, policies, and projects of the Government and decides process of their implementation in the beginning of the session in staff meetings.
- To provide quality education, sincere efforts at all levels are made.
- In the beginning of session, the ability of the students is assessed by the teachers through personal interaction and class tests. To make the basic concepts clear the teachers delivers some introductory lectures to bring them at minimum desired level.
- Students are encouraged to participate in extra- curricular activities for their multidimensional personality development.

2. Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan.

- Before the beginning of session, Director along with the members of college council and other faculty member's plans activities according to activity calendar of the college which includes teaching schedule, evaluation schedule and Extra-curricular activities schedule according to norms laid down by Panjab University, Chandigarh.
- Director of the college instructs the faculty to adhere to the plans strictly.

3. Interaction with stakeholders

- The Head of institution makes it sure that the stakeholders like students, teachers, parents and alumni take part in development of the institute within the norms of State Government and DPI (colleges).
- To fulfil this purpose PTA meeting, alumni meetings are held regularly to take their suggestions regarding the development of colleges.
- Their feedback is given due consideration and is incorporated into the strategic plans of the institutions.
- The students are encouraged to interact with teachers and give them suggestions personally or through suggestion box.
- Institution keeps a close interaction with the media for the coverage of events held in the college and makes the people aware of activities being performed in the college.

4. Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders.

By comparing our present subjects of teaching with the global demands, it was felt that in order to make our students to compete at national / international level, career oriented courses must be introduced in the college in addition to the conventional courses being taught at present. Keeping in view, a proposal to start the career oriented courses and B.Voc courses as mentioned in 3 has been sent to UGC and we are confident to start the same in the coming sessions.

5. Reinforcing the culture of excellence

Our college has always worked hard to achieve excellence in teaching, learning, extracurricular, extension activities. To maintain excellence in the working of institution classes are started strictly according to university guidelines so that teachers are able to finish syllabus in time and get enough time to revise the syllabus and conduct tests. Our results speak about the excellence of the college. Students get merit positions in university exams. Extracurricular activities are also organised for holistic development of the

students. We are proud of the fact that our students have done exceptionally good in the extracurricular activities and brought laurels to the college.

6. Champion organizational change

- During the last four years, we have championed in number of additions to bring excellence in the working of college.
- Our college was selected under the star college scheme of DBT, Govt. of India in 2009.
- All the departments have been provided with computers to keep pace with the world.
- Libraries have also been computerised.
- Smart classrooms have also been provided to facilitate teaching-learning process.
 - B-voc. Course in Food Processing and Technology, have also been applied for.

6.1.4 What is the procedure adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?

The institution has adopted various procedures to monitor and evaluate policies and plans. In the beginning of the session, the Head of the institute constitutes different committees headed by the convenor. These committees, College Council and IQAC frame the policies and plans. The committees are free to discuss any type of problem which they are facing in execution of the plan. Faculty and students are also involved in execution of these policies and plans. The head of the institution calls meetings of the committees from time to time to discuss about their progress.

The Director of the college convenes meetings of the new staff members to make them aware of work culture and policies of the college.

6.1.5 Give details of the academic leadership provided to the faculty by the top management

The Top management of the institute is Principal Secretary of Higher education and DPI (Colleges), Punjab. These offices communicate about the different policies of the Government to the Principal of the College who in turn exercises his power to allocate / motivates and encourages the faculty members to update and improve their academics by attending orientation and refresher courses, research projects and achieving doctoral degrees.

6.1.6 How does the college groom leadership at various levels?

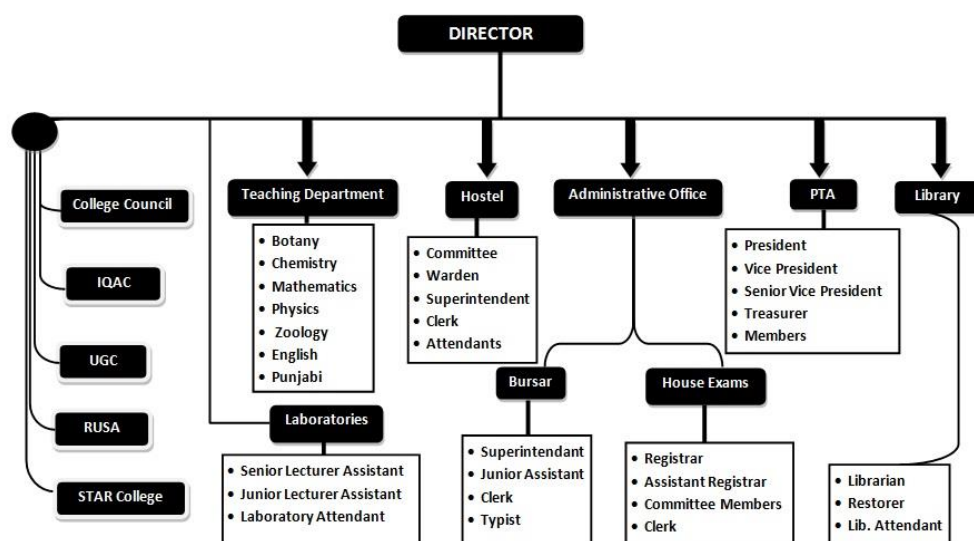
The Head of the institute provides intellectual support to faculty and students in every way. S/He constitutes committees comprising of mixture of seniors

and junior faculty members where in the juniors get an opportunity to work and learn with experienced seniors. Many main positions of responsibility like the Registrar, Bursar, Prof-in-charge-building, Extra-curricular activities in the college are managed by staff members and in the process these positions help to polish and refine their managerial and leadership skills. To provide opportunity of leadership, these duties are often reshuffled. We aim at making our students not only academically brilliant but also grooming them as true leaders having right approach and result oriented. They hold responsible positions like Secretary, Treasurer and executive members of Societies. They organize different activities of respective departments.

The students are encouraged to join NSS, sports and co-curricular activities, stage various events in the college to channelize their energies. Such events inculcate in them skills of planning, teamwork, creativity etc. Women forum has been established on 20-10-2014 to sensitize women about their identity and rights.

6.1.7 How does the college delegate authority and provide operational autonomy to the departments /units of the institution and work towards decentralized governance system?

To work towards decentralization, many committees have been formed in the college. Conveners of all committees like Staff council, Examination Committee, Hostel Committee, Building Committee etc. work in collaboration for the smooth functioning of the college. Heads of departments prepare the time table, unitization of syllabus and organise lectures, workshops, projects and plan to ensure quality of teaching learning in co-operation with other faculty members of department. A decentralized mechanism empowers the faculty with a great level of responsibility in academic leadership & helps the faculty in taking decision.



6.1.8 Does the college promote a culture of participative management? If ‘yes’, indicate the levels of participative management.

Yes, the college promotes a culture of participative management by delegating powers among staff members. The college has set up various functional committees as mentioned in 6.1.7. The decisions are always taken in consultation with the members of committees headed by convener.. The members of non-teaching are also associated with the committee.

6.2 STRATEGY DEVELOPMENT AND DEPLOYMENT

6.2.1 Does the Institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

Yes, the college has framed quality policy which has been developed keeping in view the vision and mission of the college.

- IQAC develops plans and policies under the guidance of the Head of institute after having discussion with staff, council and heads of departments. Feedback of the students is also considered.
- Details of the policies are communicated to the faculty through staff meetings.
- The action plan is reviewed in the meetings of staff council, IQAC and staff, in the beginning of the session on the basis of the student’s performance in the examination, sports, cultural and other activities.

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

The college makes efforts to incorporate all the aspects such as teaching learning, research and development, community services while framing Institutional Infrastructural Development plans. A Planning Board has been constituted in order to formulate the developmental plans of the college to keep pace with the global trends. The college sends the proposals for assistance to various funding agencies on the suggestions of the PB of the college. During 2014-15 the college has received the following Grants.

1. Rs. 109,86,000/-for infrastructural Development from Punjab Government In session 2013-14
2. Rs. 25 Lakh as “Infrastructural Development grant to colleges and Universities” from RUSA 2014-15
3. Rs. 2.5 Lakh as MMER grant from RUSA in 2014-15
4. Rs. 1.25 Lakh as “Equity Initiatives” under RUSA in 2014-15

The above grants are being used

- To strengthen the infrastructure –purchase of computers, projectors, furniture,
- laboratory up gradation,

- ## 5. Proposal sent to UGC for development of Undergraduate education under XII plan

Sanmati Government College of Science Education & Research, Jagraon (Ludhiana), Punjab Page 137

	(including sanitary, electricity@ flooring) 10)Renovation of Mess in Girls Hostel Total amount for Building construction/renovation/extension	10.0 Lakh 362.06244 Lakh
e	Improvement of existing Premises	15.0 Lakh
f	Competence building initiatives in College	4.0 Lakh
g	Cultural activities	5.0 Lakh
h	Educational Innovation	2.0 Lakh
i	Field Work/Study Tours	5.0 Lakh
j	Extension Activities	2.0 Lakh
k	Improvement of facilities in existing premises –common room and toilet facilities for women	5.0 Lakh
l	Establishment of day care centres in colleges	---
m	Human Rights & Duties Education	0.5 Lakh
n	Career and Counseling Cell	1.0 Lakh
O	ICT in Education	3.0 Lakh
		Rs.4,34.56244/-

Proposal for assistance from UGC for development of postgraduate education

S. No.	Item other than building	Amount proposed by the college (Rs. In lakh)
Department of Chemistry	Books, e-Books ,Journals & E-Journals	1.0 Lakh
	Equipment	6.0Lakh
	Maintenance of Equipment	0.5 Lakh
	Improvement of facilities in existing premises	1.0 Lakh
	Field Work/study Tours	1.0 Lakh
	Competence building initiatives in College	0.5 Lakh
Department of Botany	Books, e-Books , Journals & E-Journals	1.0 Lakh
	Equipment	6.0Lakh
	Maintenance of Equipment	0.5 Lakh
	Improvement of facilities in existing premises	1.0 Lakh
	Field Work/study Tours	1.0 Lakh
	Competence building initiatives in College	0.5 Lakh
	Total	20.0 Lakh

ii) **Proposal for Remedial Coaching for SC/ST/OBC (non-creamy layer) & Minority Community Students= 6,35,000/-**

iii) **Proposal for B.Voc Programme under (NSQF)**

Food Processing and Technology (Certificate, Diploma and Degree)

=1.85 crore

iv) **Proposal for Introduction of Career Oriented courses (certificate/Diploma/Advanced diploma)**

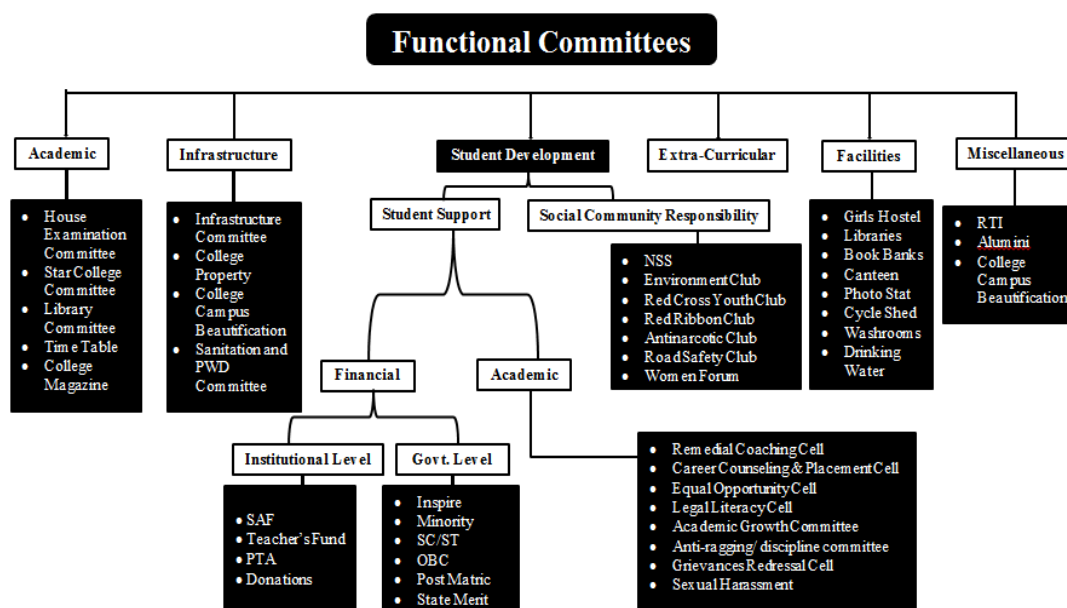
- a) Information and Computer sciences
- b) Biotechnology
- c) Electronics Hardware Maintenance
- d) Food technology
- e) Agriculture: Mushroom cultivation, Floriculture Landscaping, /apiculture /Organic Farming

v) **Proposal for Development of Sports Infrastructure and Equipment in Colleges=Rs. 12,00,000/-**

- a) 8 lanes grass running track.
- b) Standard size Concrete basketball court

6.2.3 Describe the internal organizational structure and decision making processes.

For performance of various academic and administrative duties, various committees have been constituted, whose organizational structure is given in the following



6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following

1. Teaching and Learning
2. Research and Development
3. Community Engagement
4. Human Resource Management
5. Industry Interaction

1. Teaching and Learning

In addition to Chalk and Talk method of teaching, modern means of teaching have been introduced.

- Teaching through PPTs , MIPS
- Smart class rooms to make teaching still more interesting and effective.
- The internet facility is provided to all the departments.
- Departmental libraries facility in all departments.
- Extensive use of internet downloading of study material by both teachers and students.
- Generation of SOPs and Lab manuals for the students
- Extension lectures by visiting faculty, seminars by students
- Participation of students in seminars/workshops/symposia and conferences.
- Participate of Students in group discussions in classes
- Assignments.
- Feedback from students is taken which helps to improve the class room teaching in future.

2. Research and Development:

- The teachers are encouraged to participate in and organize seminars/ symposia/ conferences/ workshops.
- The students are given minor research projects based upon their curriculum under the guidance of their class teachers.
- One of our Faculty member Ms. Monica Arora of department of Chemistry completed her Ph.D.
- Ms. Sarabdeep Kaur Sidhu of department of Physics has submitted her Ph.D. thesis.
- Ms. Ramandeep Kaur of department of Chemistry has submitted Ph.D thesis recently.
- Faculty members are encouraged to publish research work.

No. of papers published in National and inter-national Journals=11

- The no of Papers presented —03
- The no of Papers communicated —03
- The no of Papers accepted —02
- Workshops are organized from time to time out of star college scheme= 6
- Recently The Department of Botany has organized **Popular Lecture series in Biotechnology, sponsored by Panjab State Council for Science and Technology, Chandigarh** on 23-2-2015
- The college has been short listed for further extension under Star College scheme of DBT, Government of India.

3. Community Engagement:

To make our students sensitive towards social responsibilities, the college has established an environmental club, Red Ribbon club, Youth Red Cross Society and Road safety club. The college has two NSS units, one each for Boys and girls. NSS volunteers of the college organize camps in villages for creating awareness about different social issues. They undertake various development works like adult education, tree plantation, cleanliness of village, organizing medical camps and blood donation camps, arranging skits/ plays and holding rallies against social evils and arranging lectures by eminent persons.

i) **Three 7 days** NSS camps were organized during last two years.

- 16-05-2013 to 22-05-2013 -- 70 girls
- 12-10-2013 to 18-10-2013 -- 76girls and 35 boys
- 30-05-2014 to 05-06-2014 -- 104 girls and 19 boys

One Blood donation Camp was held on 03-06-2014 in which 41(Forty one) donors donated blood.

ii)**Red Ribbon club** of the college organized a rally to create awareness about Aids on 5-02-2010.

iii)Lecture and rally was organized on 10-02-15 under **National Environment Awareness Campaign scheme** of Punjab State Council for Science and Technology supported by DBT , More than 300 students participated in the rally.

4. Human Resource Management

The college makes effective use of its human resource. In addition to prime duty of teaching, the teachers are also assigned various administrative duties like Registrar (House Examination), Bursar etc. The teachers are assigned such work on the basis of their seniority but frequently the duties are reshuffled to give opportunity of leader ship to . The various members of the faculty get useful administrative experience and a feeling of responsibility about the institute.

The shortage of staff is managed by appointing guest faculty teachers in the beginning of the session. The vacant posts of non- teaching staff are also managed by hiring the persons on daily/ monthly basis and paid out of PTA/ AF on DC rates.

5. Industry Interaction

The college organizes visits to industries to give them exposure of manufacturing of different products.

6.2.5 How does the head of the institution ensure that adequate information (from feedback and personal contacts) is available for the top

management and the stakeholders, to review the activities of the institution?

- The information about the academic and non- academic activities is given to the students and staff through notices, staff meetings, prospectus, website and the annual report.
- Annual report of the college providing detailed information about all activities, various grants received and utilized and scholarships to students is sent to the DPI colleges and Secretary Higher Education.
- Achievements of the college are published through media.

Head of institution ensures that adequate information is obtained through the regular meetings with staff council, Heads of departments, staff, office superintendent and same is communicated to DPI (colleges) and the Secretary, department of higher education through periodical meetings or through mails. Annual report of the college academics as well as administrative activities are published and sent to higher authorities.

6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional process?

Academic and administrative policies are designed and implemented under the guidance of, Head of the Institute. Head of institute involves the staff members in various activities related to development of the college and convenors of committees enjoy the full autonomy to complete the assignment. . Issues pertaining to the departments are discussed and worked out during the Departmental meetings. Outstanding teachers are felicitated by the Head of the Institute at the annual prize distribution function.

6.2.7 Enumerate the resolutions made by the management council in the last four year and the status of the implementation of such resolutions?

Our college is run by Govt. Of Punjab, the major policies are framed by State authority and Department of higher education. At college level strategic plans are formulated by committees under the guidance of Head of institute in close consultation with college council and IQAC. The project and proposals are adopted for prompt implementation.

Resolutions were made during previous sessions for various developmental activities out of PTA and their status of implementation is given below.

Date	Subject of Resolution	Status
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7-8-2010	Flooring of Botany Lab Fitting of A.C.	Flooring of Botany Lab completed
29-9-2012	Vacant posts of Lecturers to be filled through advertisements.	Followed
29-9-2012	Installation of RO system in College and hostel	Done
11-7-2013	Salary of Guest faculty to be increased to maximum Rs. 10,000/-	Completed the process
11-7-2013	PTA fund to be increased from Rs.3500/- to Rs.4000/- per year per student	Increased
21-12-2013	Computer operators salary to be increased from 5000 to 7000 per month	Increased
19-6-2014	To Purchase 4 computers for office out of PTA	Purchased
28-7-2014	To replace alternator of college generator.	replaced
28-7-2014	installation of CCTV cameras and computerization of office	In Process
20-10-2014	10% annual increment in salary of guest faculty lecturers	Increment given to eligible teachers.

6.2.8 Does the affiliating university make a provision for according the status of autonomy to affiliated institutions? If yes, what are the efforts made by the institution in obtaining?

There is a provision for giving autonomous status to the college by the university but it can only be availed under the direction of Govt. of Punjab.

6.2.9 How does the institute ensure that grievances/complaints are promptly attended to and resolved effectively? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder relationship?

The institute has a well-defined grievance redressal procedure.

- Institution has constituted grievance redressal cell for students and staff, Sexual harassment prevention committee and anti-ragging committee. Teacher in-charge and committee members deal with the complaints patiently and resolve the issues promptly in a comfortable atmosphere. The committee is free to discuss the matter with the Principal to solve the problem of the staff and the students and other members of the college .We have planned to take the parents in confidence in grave situations but we have never encountered such state till date. .
- Personal grievances of the students are listened and redressed in tutorial classes, where a teacher is allotted a fixed number of students
- Grievances of the resident are referred to the Hostel Superintendent. They are resolved by hostel committee in close consultation with Principal.

6.2.10 During the last four years, had there been any instances of court cases filed by or against the institution? Provide details on the issues and decisions of the courts.

No. there has not been any instance of court cases filed against the institution in the last four years. Moreover, ours is a Government college, court cases are filed against the policies of State Government.

6.2.11 Does the institution have a mechanism for analyzing student feedback on institutional performance? If yes, what was the outcome and response of the institution to such an effort?

Yes, the institute has a clear cut and defined mechanism for obtaining students feedback. Teachers collect the feedback from all the students regarding various aspects of teaching learning and infrastructure through feedback Proforma. On the basis of suggestions of students as given in the feedback Performa, one to one interaction with students and parents, all possible efforts are made to solve problems related to sanitation, canteen and mess promptly.

6.3 FACULTY EMPOWERMENT STRATEGIES

6.3.1 What are the efforts made by the institution to enhance the professional development of its teaching and non-teaching staff?

Members of faculty are extended all sorts of help to enhance their professional development. They are allowed to attend orientation courses, refresher courses, seminars, conferences and symposia organized by different institutions. The TA/DA is duly paid to them for the purpose. Duty leave and all other facilities are admissible as per rules.

- Mrs. Nidhi Assistant Professor in English, attended Special Summer training at GNDU Amritsar from 10-06-2014 to 30-06-2014.
- Dr. Surjit Singh, Mrs.Sumedha Syal, Ms Monica Arora and Ms. Neelam Bala attended two days seminar organized by G.H.G.Khalsa College Sadhar from 25-03-2015 to 26-03-2015

- Ms Monica Arora , dept. of chemistry has completed her Ph.D while in service.
- Ms. Sarabdeep Kaur Sidhu Assistant Professor in physics has submitted her Ph.D thesis.
- Extension lectures are arranged.
- Internet facility , projectors are provided in classroom/labs for teachers
- Heads of departments and office staff have been provided computers with internet facility. UGC Resource Net-work Centre is available for all the faculty members and students.
- Automation of office is planned for the next session. A conducive environment is provided to office staff .s

6.3.2 What are the strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employees for the roles and responsibility they perform?

The strategies adopted by the institute for faculty empowerment range from motivating the staff to participate in conferences, seminars, symposia, workshops, refresher courses and orientation courses. The faculty members are involved in decision making through various administrative committees which are free to suggest and initiate policies and plans under the guidance of the head of institute for the betterment of the college.

The faculty members are also involved in decision making at university level as members of boards of studies. Dr. Surjit Singh, Head, post Graduate Department of Botany, is a member of Post-Graduate Board of Studies in Botany and Member of Under Graduate Board of study of Animal Husbandry and Dairy Technology since 2008 onward, Ms. Savita Sharma ,Head, post-Graduate Department of Chemistry, remained a member of Post Graduate Board of Studies in Chemistry 2009-2012.

Mrs. Nidhi, Head, Department of English participated in a training conducted by Infosys under the programme ‘Genesis’ to sharpen her communication skills.

To motivate teachers, there is a provision of advance increments for M.Phil. and Ph.D. as per govt. rules.

6.3.3 Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.

The Head of Institute prepares a annual confidential report of the staff (ACR) on the basis of self-appraisal report of individual teachers. All the employees get the opportunity to express their performance and analyses themselves inclusively. The self-appraisal proforma thus filled is put forward to Head of the Institute for perusal and expert comments

It is a record of their academic administrative, professional, co-curricular achievements and average results of the classes taught.

The performance of faculty is evaluated by the Principal through multiple channels as given below.

- Feedback is taken from students and Parents about teachers.
- Performance of academic and non-academic duties assigned by Head of Institution.
- Duties performed in University Examination like paper evaluation, paper setting, and invigilation duties during University Exams.
- Involvement of faculty in Research and participation in workshop/conference /seminar/symposia etc.

The appraisal report is then graded and sent to DPI (colleges) for necessary action and approval.

6.3.4 What is the outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?

Review of appraisal report are studied and analyzed by the Head of Institute taking into consideration all factor mentioned in 6.3.3, the ACR is written and sent to DPI for consideration for increments, promotions and other service matters.

6.3.5 What are the welfare schemes available for teaching and non-teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

Punjab Government has started many welfare schemes for the teaching and non-teaching employees. The institution facilitates the process of availing these schemes by providing all the necessary help. The welfare schemes which are in force are listed below:

- Leave facilities for females
 - Maternity,
 - child care,
 - Abortion Leave
- Earned and casual leaves
- medical leave (full pay/half pay)
- Study leave under career advancement Programmes for pursuing higher education.
- Loan facility from State Govt. for Housing Loan and Vehicle Loan.
- Wheat Loan and festival loan facility for group D employees.
- Group Insurance Scheme.
- Refundable and non- refundable loan out of GPF.
- Mobile Allowance.
- Reimbursement of medical expenditure.

- Leave Travel Concession facility.

S. No	Name of official	Designation	Type of Loan	Time of Sanction	Amount
1	Dr. Surjit Singh	Asso. Prof	HBL	2004	10,00,000/-
2	Me. Mohinder Kumar	SLA	HBL	2008	7,00,000/-
3	Mrs. Sumedha Syal	Asso. Prof	HBL	2010	14,00,000/-
4	Mr. Narinder Singh	SLA	HBL	2010	9,00,000/-
5	Mr. Jagdish Singh	JLA	HBL	2010	3,65,000/-
6	Mr. Balbir Singh Raiwal	SLA	HBL	2013	30,00,000/-
7	Mr. Mandeep Singh	JLA	HBL	2013	5,00,000/-
8	Mrs. Neelam Bala	Asst. Prof (PT)	HBL	2014	30,00,000/-
9	Mr. Nirmal Singh	Asso. Prof	Car loan	2014	6,00,000/-

6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?

As ours is a government college, so we have no authority to recruit new teachers on our own. The regular teachers are appointed by the Punjab Govt. through Punjab Public Service Commission. Part-Time teachers are recruited by D.P.I.(Colleges) Punjab/Principals as per guide-lines of Punjab. Govt. Guest faculty is arranged against the vacant posts duly on merit and experience by the Principal as per the guidelines of Government of Punjab. The best efforts are made to recruit the best possible teachers for one session.

The new teaching posts are created relative to the strength of the college.

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism to monitor effective and efficient use of available financial resources?

The available financial resources of the college for use are PTA, Star college scheme funds, UGC Grants and RUSA funds. The judicious use of these resources is planned in the beginning of the session in the following manners.

1. The budget of PTA is framed in the beginning of the session keeping in mind the requirement of the college under various heads. The budget is put up in general house of the PTA for approval. In case of urgent needs arise in between the session the budget proposals can be revised and approved in the meeting of PTA executives.
2. Proposals to other financial bodies like UGC/RUSA/State Govt./ Central Govt. funding agencies are made by the concerned committees under the guidance of the Head of Institute whenever invited. Proposals / plans are prepared and sent for sanction to the funding agency. The sectioned amount is spent as per the approved plan strictly in accordance with rules and regulations of the concerned funding agency.

The college budget is utilized for carrying out administrative and academic activities. For making any expenditure, sanction form is duly filled in by the concerned authority stating the purpose and estimate of the given expenditure. This sanction form is scrutinized by the bursar of college and later approved by the college principal for suitable action. Record of all expenditure is duly maintained in the office.

6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

Internal Audit:

The college superintendent and clerical staff maintain the record of all funds and entries are duly made in assigned registers which are cross checked by college bursar.

Internal audit of PTA is done by the Parents in the executive committee of PTA. In the beginning of the session, the income and expenditure statement of previous year is read out in the general house of the PTA for approval of the budget.

External Audit:

External audit of PTA fund, grants under Star college scheme and UGC grants are done by authorized Chartered accountant. The Government funds are audited by auditors appointed by the office of the AG, Punjab.

The external audit of Govt. Funds and Grants of the college was done from 24-02-2015 to 27-02-2015.

Major audit objections:

Audit Report is awaited till date.

6.4.3 What are the major sources of institutional receipts/funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund/corpus available with Institutions, if any.

The major sources of institutional receipts/funding are:

- The grants from State Government for salary/development/renovation/improvement of infrastructure.
- UGC grants
- Star College Scheme fund
- RUSA grants
- PTA fund
- Science funds and Amalgamated funds from student fees.

The major sources of institutional receipts/funding during 2014-15

S. n o	Name of the fund	Amount received (Rs)	Amount Spent	Amount received (Rs)	Amount Spent	Amount received (Rs)	Amount Spent
	Session	2009-2010		2010-2011		2011-2012	
1	Salary	15902886	15902886	17492828	17492828	23997843	23997843
2.	The grants from State Govt. for development / renovation/ improvement of infra-structure	-	-	-	-	-	-
3.	UGC grants	2,49,696	2,49,696	33,60,000	22,35,969	-	-
4.	RUSA grants	-	-	-	-	-	-
5.	Star College Scheme fund	28.0 lac	28.0 lac	8.0 lac	8.0 lac	8.0 lac	8.0 lac
6.	PTA fund	13,53,850	12,70,417	14,22,522	13,96,524	16,60,448	11,99,150
7.	Funds collected as fees	7,87,177	6,00,853	106471	119745	615718	473301

		Amount received	Amount Spent	Amount received	Amount Spent	Amount received	Amount
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		(Rs)		(Rs)		(Rs)	Spent
	session	2012-2013		2013-2014		2014-2015	
1	Salary	33679866		23275613		25494200	
2.	The grants from State Govt. for development/renovation/improvement of infra-structure	-	-	10986000	Work in progress-	-	87,11,045
3.	UGC grants	550000+1124031	1233495	-	-	-	-
4.	RUSA grants	-	-	-	-	28.75Lac	23.25Lac
5.	Star College Scheme fund	8.0 Lac	8.0 Lac	11.0 Lac	811867/-	Not received yet	
6.	PTA fund	2363472	1471250	3477644	1984192	4355141	3230886
7.	Funds collected as fees	668002	431490	44076	949194	723755 811192	358700 239238

Management of the deficit

Expected expenditures are planned within the allotted budget. In case the expenditures exceed the limits then extra amount is managed out of PTA fund with due permission of the Executive committee.

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any).

The following funds were generated for the welfare of the students and the college

S. No.	Name of Scheme	Amount of Grant Allocated	Amount of Grant Sanctioned
A	UGC Grant		
1.	Development Grants (XI Plan) for PG	10,00,000/-	10,00,000/-
2	Merged Scheme		

i	Improvement of facilities in existing premises	2,00,000/-	-
ii.	College with relatively higher proportion of SC/ST/ OBC (excluding creamy layer) Minorities, Economically deprived/ Physically challenged	6,00,000/-	1,20,000/-
iii	Special grant for enhancement of initiative for capacity building in colleges	7,00,000/-	5,60,000/-
Iv	Establishment of UGC- Network Resource Centre(UGC-NRC) Internet-connectivity	2,50,000/- 36,000/-	2,00,000/- 30,000/-
V	Equal Opportunity centre in colleges	1,65,000/-	80,000/-
vi.	Remedial Coaching for SC/ST/OBC (excluding creamy layer)and minorities (100students must belong to categories mentioned)	15,00,000/-	12,00,000/-
vii	Career and Counseling Cell	2,00,000/- 3,00,000/-	1,60,000/- 60,000/-
	GRAND TOTAL	39,51,000/-	24,10,000/- Actual Grant Received=23,60,000/-
3	Instrument Maintenance Facility(IMF)		
	Amount Approved for Essential spares, components, contingencies for instrument Repair and maintenance	1,00,000/- p.a.	1,00,000/-
	<u>Non-Recurring Head 3</u> (xxiv)(35)		
(a)	Test and measuring instruments like CRO Multimedia, DVMs, etc.	1,00,000/-	90,000/-
(b)	Personal computer including software	50,000/-	45,000/-
	TOTAL	2,50,000/-	2,35,000/-
4.	Additional grant, equipment	315000/-	315000/-
C			

	RUSA Grant		
	Star college Grant (DBT)	63,00,000/- (from 2009-2014)	
	equipment in (2009-10 session) for Recurring items ie. chemicals/glass Ware, organize seminars, workshops, educational tours, extension lectures	20,00,000/- 43,00,000/-	

6.5 Internal Quality Assurance System (IQAS)

6.5.1 Internal Quality Assurance Cell (IQAC)

- Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?
- How many decisions of the IQAC have been approved by the management/authorities for implementation and how many of them were actually implemented.
- Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.
- How do students and alumni contribute to the effective functioning of the IQAC?
- How does the IQAC communicate and engage staff from different constituents of the institution?

a) Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?

Yes, the college has an IQAC cell.. The constitution of the committee for the session 2014-15 is as under:

- Prof.(Dr.) Mohinder Kaur Grewal
Director- Chair Person
- Dr. Surjit Singh
Coordinator
- Ms. Savita Sharma
Member
- Ms. Sumedha Syal
Member
- Mr. Rakesh Kumar
Member
- Mr. Jagdev Singh
Member
- Mr. Nirmal Singh
Member
- Mr. Balwinder Singh
Member
- Ms. Nidhi
Member

10. Dr. Manjinder Singh (Alumnus)	Member
11. Mr. Rohit Verma (Alumnus)	Member
12. Ms. Vandana (Student)	Member
13. Ms. Arushi Kumar	Member

The policy of the institute is to make improvement in quality in all spheres of college:

1. academic performance of all students
2. promote research culture among staff and students
3. motivate the students to participate in various curricular , extra-curricular activities and sports activities
4. To improve the process of teaching and learning by providing latest infrastructure by purchasing computers, projectors, furniture etc.
5. Enhancing infra-structure to cope up with the increasing strength of students
6. Computerization of office and departmental libraries
7. Introduction of career orienting courses and honours courses
8. Organizing, attending seminars, workshops, conferences etc.
9. Plan for various welfare schemes like various scholarships, arrangement of remedial coaching , provide financial help to poor students
10. Feedback from students to improve in the next session.

The IQAC prepares academic calendar for all the above activities and motivates all departments to perform all activities as per schedule.

b). How many decisions of the IQAC have been approved by the management/authorities for implementation and how many of them were actually implemented.

All the above listed plans were approved by the college council and most of them were implemented.

Plans under process of implementation:

Computerizations of office and l libraries are under process.

Plans actually implemented

Updation processes of teaching and learning by improving existing infrastructure by purchasing computers, projectors, furniture, desks, chairs, tables etc.

1. The students and teachers participated in various seminars, workshops, conferences etc. Students of M.Sc. Chemistry and Botany have delivered seminars.
2. Plan for various welfare schemes like various scholarships, arrangement of remedial coaching , provide financial help to poor students
3. Feedback from students is taken.
4. The college and hostel building has been repaired and whitewashed/painted

Plans under progress

1. Construction of girls' common room, new class rooms and laboratories is under progress by P.W.D. and will be completed in near future.
2. Computerization of office and departmental libraries is under progress
3. Applied for Introduction of career oriented courses and honours courses in Chemistry

c.) Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.

At present we have not included any external member in the IQAC but whenever the need arises, services of administrative officers or any other relevant personality are availed for development. Suggestions of retired Directors are often taken.

d) How do students and alumni contribute to the effective functioning of the IQAC?

The students help the college administration by giving inputs regarding various problems faced by the students. The students specially the class representatives help greatly in organizing various functions. Two of our students are members of the IQAC..

Alumni members of the college generally meet every year and discuss their past experiences in the college and give suggestions for uplift and modernization of the college. Alumni of the college help and guide our students on curriculum and courses through social links (on phone, Facebook etc.), whenever needed. Two of our alumni are members of the IQAC as given above. A few of them also deliver extension lectures to enrich the knowledge of the students.

e.) How does the IQAC communicate and engage staff from different constituents of the institution?

All the decisions/strategies of IQAC are formed with consultation of council and faculty members. The Director of the college holds regular staff meetings where the teaching faculty is informed about administrative, academic and other issues. The decisions of overall development of the college are implemented by staff committees. During the execution of plans, staff members and students are involved. Departmental and inter departmental programmes are done through cooperation of staff members.

The administration in institution is maintained with staff involvement from different departments at every level.

6.5.2 Does the institution have an integrated framework for quality assurance of the academic and administrative activities? If yes, give detail on its operationalization.

Yes, keeping in view, the vision, mission and the objectives of the institution, constant efforts are made for the achievement of academic excellence.

Academic reforms

- The Director along with council members and IQAC members monitor the internal quality assurance process. Main purpose is to ensure regular classes and completion of curriculum in time.
- Head of departments ensure the unitization, successful completion of syllabus, class tests, doubt clearing sessions, lab work, revisions, and enrichment of syllabus through extension lectures, seminars and workshops.
- Registrar conducts the House Examination as per the Schedule decided in the meeting. Details of the performances of student in house exams/class tests are kept in registers.
- Financially weaker students are provided financial aid and allotted books for full session from the book bank/departmental library. The college provides remedial coaching to educationally disadvantaged students as and when college receives grant from UGC.
- The college provides extra guidance to brilliant students from teachers. The brilliant students are guided by teachers during free period. The college holds Olympiad test for brilliant students in the subjects of Physics. They are encouraged to work hard and secure high marks in university examinations and get merit positions.
- The students play important role in assuring quality of education through their active participation in class rooms. Students attend classes regularly and interact their class teachers, request for extra classes if needed and ask the teachers to solve their problems regarding syllabus.

Administrative reforms

- Administrative powers are delegated and decentralized in an integrated way so that the employees may feel empowered.
- Teachers and some students are put on duty to maintain proper discipline.
- Duties of the non-teaching have been allocated so that there may be optimum utilization of the human resources. Important notices are displayed regularly on notice board.

6.5.3 Does the institution provide training to its staff for effective implementation of quality assurance procedures? If yes, give detail enumerating its impact.

Yes, relevant trainings are provided to the teaching and non-teaching staff for effective implementation of its policies. Quality assurance of academics and governance is not possible until the staff members are motivated properly in the up-gradation of their skills with the use of modern technology. Relevant training is provided to non-teaching staff to equip them with the knowledge of computer management. Teaching faculty is trained to use smart boards for effective teaching learning process. An interactive session of the faculty members with the engineers of Globus Company was held on 17-03-2015 regarding operation of recently installed interactive projectors in college under RUSA scheme for teaching.

Teachers are deputed to undergo special training for professional development programmes like Genesis, AISHE organized by Govt. of Punjab from time to time..

6.5.4 Does the institution undertake Academic Audit or other external review of the academic provision? If yes, how are the outcomes used to improve the institutional activities?

Academic auditing is done at three levels. The institution audits its academic performance through class tests, house tests and university exam. At the time of the execution of its policies and plans, all the staff members are involved and the students are also consulted formally and informally. Results are thoroughly analyzed by IQAC and college Council-and the future strategies for further improvement are framed. Integrity, discipline and performance of the staff are monitored regularly by the Principal objectively keeping in mind the vision of the institution. The working of different faculties is monitored by the senior members of the staff authorized to do so by the Director of the college. Students' views regarding academic atmosphere are also elicited through suggestion box and in the one-to-one session with the Principal. External audit is done by DPI (colleges) and affiliating University as and when required.

To start a new course in the college a team deputed by the Vice Chancellor visits the college to analyze the minimum facilities available in the college like infra-structure (Building and Staff) to start that course. The course comes into force only on the recommendation of the committee communicated to the college.

6.5.5 How is the internal quality assurance mechanism aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

We are directly under the command of the DPI (Colleges) Punjab and follow the academic directions of the Panjab University Chandigarh.

6.5.6 What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome.

Following mechanism is in place to continuously review the teaching learning process

- IQAC and College Council review the whole process of teaching – learning.
- Heads of Departments shoulder the responsibility regarding the unitization of syllabus, time table, setting up of question papers, arranging extension lectures, seminars, allotting minor projects based on their syllabi etc.
- During vacant period Classes are arranged for weak and meritorious students.
- At the end of the session, student's attendance is submitted to the office for further action.
- To evaluate their learning standard, Registrar office conducts house examinations.

- The Head of the department coordinates with all the faculty members teaching a class. They ensure that the problems of the student are properly addressed.

The results are reviewed by the IQAC and remedial classes are recommended by the cell.

It has been recorded that students showed geometric improvements in their results.

6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

- The institution communicates its quality assurance policies to the stakeholders through prospectus, PTA meetings, annual report, college website, alumni meet and newspapers.
- Notices are displayed on the notice board for the information of the students.
- Schedule of work is put up at the notice board.
- An increase in demand ratio is clear testimony of our effective quality assurance policies.

CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Does the Institute conduct a Green Audit of its campus and facilities?

It is the prime duty of the public in general and students and teachers of Science in particular to protect the environment from being degraded further. Moreover, the institute where only the subjects of Science are being taught like ours, must shoulder such responsibilities as they are well conversant with the factors responsible for making the environment hazardous for existing if checks are not imposed then future generations would hardly lead healthy life. Cumulative efforts of communities and institutes would certainly play a marvelous role in securing and preserving clean, green and healthy environment not only for human beings but also for other living creatures. The Campus of the college is spread over 42 acres and more than 1500 plants are growing in it at present excluding 300 different plant species growing in Botanical Gardens of the College. Our Botanical Garden is considered to be one of the best gardens among the colleges of Punjab. It contains a variety of plants belonging to almost all the important orders of Monocots, Dicots and Gymnosperms. A part of the college is maintained as conservatory where intervention of human being is avoided.

- We have developed our own system of conducting green audit of the college campus. A team comprising of senior teachers from all the departments visit the different sites of the campus periodically. The team devises the strategies to keep a check on practices that may prove to be hazardous to the environment.

- Segregation of biodegradable and non-biodegradable waste is done. Biodegradable material particularly the bio-waste is directed to vermicomposting unit for production of organic manure and the other components are collected at a far off site and is left for natural biodegradation.
- Non-biodegradable materials are sold in the market according to the government regulations and the money earned hereby is deposited in the government treasury through chalan.
- Hundreds of plants are planted every year on different occasions for further enriching the green area of the college.
- Strong efforts are made to avoid the usage of chemical fertilizers. As a matter of fact use of pesticides, be it of any kind is strictly prohibited.
- Non-biodegradable materials especially plastic is totally banned in the college campus.
- Clean drives are undertaken in cooperation with NSS volunteers regularly.
- Incinerator has been installed in the girls' hostel of the college.

7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?

***Energy conservation**

***Use of renewable energy**

***Water harvesting**

***Check dam construction**

***Efforts for Carbon neutrality**

***Plantation**

***Hazardous waste management**

***e-waste management**

- The measures taken by the institution authorities to make the campus eco-friendly include:
- Sensitizing the students towards healthy environment by celebrating different occasions **like Environment Day, Earth Day, Van Mahoutsav Day, Water Day** etc. 'Declamation contest, Poster making, chart making, quiz competitions are hosted related to the events.
- Under the able guidance of the present Director, Dr. M.K. Grewal, following days were celebrated to make the students aware of importance of these days during the session 2014-15.

Van Mahoutsav	–	1 st week of Feb and July.
National Science day	–	28 th Feb
World Forest day	–	21 st March
World Earth Day	–	22 nd April
World Red Cross day	–	8 th May
World environment day	–	5 th June

Undoubtedly the active involvement of the staff and students help the college in saving considerable amount of energy, but it is worth mentioning that the constructed area of the college is less in comparison to the total area of the college. The planning of the building is such that the rooms are adequately lighted and ventilated. On bright sunny days the rooms are very well lit. The need of switching on the tube lights is felt only during the cloudy days.

Switching off of the lights and fans are taken care of while leaving the class.

Only CFLs or fluorescent tubes are used in labs and rooms. No incandescent bulbs are used. Further the wattage of the lighting devices is as per the requirement of room.

Scientific instruments are disconnected immediately after their use.

Before leaving the labs all the appliances and equipment's are de plugged except for the refrigerators.

High energy consuming and luxury devices such as electric heaters, electric kettles are strictly banned in girls hostel.

Use of Renewable Energy:

- We have planned solar water heaters for the girls hostel to replace geysers.
- Solar lights for the roads in the interiors of the college.

Water harvesting:

- The campus area of the college is very large. The rain water collected in the college building is directed towards the lawns which play a significant role in conserving water and recharging the water table naturally. No run away water has ever been reported in our campus.

Check dam construction: N.A.

Efforts for carbon neutrality:

As stated earlier, more than 1800 plants are grown in the college campus at present excluding the well maintained lawns which plays a great role in neutralizing the carbon di-oxide burden.

In order to check the emission of CO₂, following preventive measures are strictly in operation;

- Vehicles of staff and students are parked just at the gate of the college.
- Burning of stubs leaves, uprooted weed is avoided; rather they are dumped for natural decay to get converted into compost.
- Plantation is done systematically every year.

Plantation

Department of Botany in collaboration with NSS and youth club involves the staff and students to participate with full enthusiasm in plantation drives every year. Renowned personalities are requested to plant saplings in the botanical garden from time to time. Different occasions like Van Mahoutsav Earth Day,

World Environment day, Ozone day etc. are celebrated to make the students aware of the role of plants in controlling the corrosion of the environment.

The botanical garden of the college is arranged according to the Bentham and Hooker's system of classification which is divided into 8 sectors out of which 4 are Arboretum. This part of the college gives an outstanding look and makes the institute unique in sense that what so ever is taught in theory can be studied practically in translated form in the Botanical Garden.

Hazardous waste management:

The students in the college wear lab coats while performing experiments in the Chemistry labs. Use of extremely hazardous chemicals is avoided. Students are advised to use a restricted amount of chemicals to perform experiments and the waste is disposed of carefully under the supervision of laboratory technicians and concerned teachers.

E. waste:

The non-functional components and other e-wastes are identified and dumped at safer place. We follow the government regulations for the disposal.

7.2 Innovations

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the college.

Following innovative techniques have been introduced into practice in the college.

Lectures by dignitaries and visits by students:

The faculty and students are equally benefited by the extensive activities arranged by the college from renowned scientists and scholars. They are also exposed to different research labs through visits and interactions with the scientists.

Book bank: Both the PG departments have established book banks. Needy and deserving students receive the help from these for whole of the session.

Feedback mechanism: We are proud of our highly dedicated and student centric faculty who listen to the problems of the students patiently. There is always a scope of improvement, so feedback from the students and stake holders helps the faculty members to improve their professional competency.

Use of technology: All the departments have **Wi-Fi** facility. ICT based teaching facilities are used extensively by the PG departments for dissemination of knowledge. Use of PowerPoint presentation, magnus imaging projection system in addition to OHPs are also deployed for effective teaching. To update the knowledge of teachers, they are encouraged to attend workshops and seminars and undergo training on computer aided teaching.

Seven class rooms have been converted into smart classes under RUSA scheme.

The internal green audit team is playing commendable job in maintaining the green cover of the college campus and providing pollution free environment to the students for study.

Improvement of surveillance system with CCTV cameras is on record and is likely to be installed in near future.

RO water purification systems have been installed both in college campus and the girl's hostel.

Geyser facility is provided in the girls' hostel.

Incinerator is installed in girls' hostel.

7.3 Best Practices

7.3.1 Elaborate on any two best practices **in the given format at page no. 98**, which have contributed to the achievement of the Institutional Objectives and/or contributed to the Quality improvement of the core activities of the college.

For the holistic development of the students a number of value based practices are carried out in the college. These practices are centered to achieve the goal of the college that is to explore the best in the students and to bring them up as excellent personalities who can transcend their counterparts elsewhere. The practices may vary within their reach outs, but the ultimate goal is to provide healthy environment. For the holistic development of the students, following cells play significant roles.

- Lectures by dignitaries
- Women forum
- Legal literacy cell
- Youth welfare club
- Red ribbon club
- Anti-ragging and discipline cell
- Green audit cell
- Grievance redressal cell
- Tutorials and proctorial
- Educational tours and trips
- Celebration of occasions and days
- Involvement of students in student council.

Two Best Practices of our College

Our Institution has started a number of healthy practices aimed at the holistic development of the students and to make teaching and learning process more students centric. The following practices help in the all-round development of the students as well as provide them opportunities to excel in their chosen endeavors.

- Inviting dignitaries /scientists to the college
- Visits to research institutions
- Women forum to address women issues
- Grievance redressal cell
- Maintenance of proper discipline
- Sexual harassment committee
- Career guidance and counseling cell

Title of the practice: Interaction with dignitaries: To nurture Scientific temperament in the students.

Goal: Sanmati Govt. College of Science Education and Research, Jagraon was established in 1968 with a mission to impart quality Science Education to the students of area especially rural, weaker sections of the society and semi urban youth so that they might transcend their counterparts. To realize our mission, we have started

- The practice of inviting renowned personalities/scientists to the college
- Arranging educational tours to research labs and universities
- Holding workshops at college level under the supervision of scientists to nurture scientific attitude in the students of the college and orienting them towards research.

Context: As our college caters to the needs of the students of rural, socially backward and semi –urban youth of Malwa belt of Punjab, this practice was highly desired. These categories of youth need exposure to the outer modern global world. Feeling the need to provide those opportunities where they can get a chance to upgrade their knowledge along with interacting with the renowned personalities from the prestigious institutions, this practice was enhanced on the suggestions of IQAC with effect from 2009. The practice facilitates academic growth of the students and acquaints them with the latest concepts.

The Practice: Renowned scientists are invited to the college to deliver lectures to the students on the emerging concepts of the science along with the type of research being carried in their respective labs. The students are also taken to research labs for practical demonstrations and exposing them to variety of techniques being employed in these institutes. Forty seven

dignitaries have been invited to the college to deliver lectures and 21 educational tours have been arranged to different research labs by all the departments of the college during last five years. In addition to above, 7 workshops have also been conducted to impart training. The purpose of this practice is to provide the opportunities to the students to have tete-a-tete with the renowned scientists. During last five years, students got the opportunity to meet number of scientists, to name a few:

- Dr. U.C.Banerjee
- Dr. P.K.Pati
- Dr. A.K.Ganguli
- Dr.S.S.Mukhopadhyaya
- Dr.A.S.Ahluwalia
- Dr.R.C.Gupta
- Dr.R.K Kohli
- Dr. K.K.Chahal
- Dr.M.I.S.Sagoo
- Dr. J.S Malik
- Dr. Bhajan Singh

Department of botany organized ‘Popular lecture series on bio- technology under the theme Nanobiotechnology on 23-02-2015. Dr. A.K. Ganguli, Director, Institute of Nano science technology, Mohali, Dr. S.S. Mukhopadhyaya, Professor, PAU, Ludhiana and Dr. Alkesh, Senior Scientific officer, PSCST, Chandigarh were key speakers.

Evidence of success: This practice has proved highly successful for our students. The students feel encouraged and enlightened by interaction with the dignitaries. As a result of this initiative, following observations have been made

- The number of joining post-graduation after completing UG have increased
- Students have started undertaking minor research projects and are whole heartedly involved in these. They feel encouraged to emulate such personalities and develop in their chosen field.

Problems encountered and resources required -- Being a govt. institute, it is managed by securing grants from different funding agencies like DBT, UGC and state council for carrying out such activities in the college. In case of shortage of funds, the required amount is managed from PTA fund.

Notes: This practice has proved very successful in inspiring and orienting students towards research. They feel the need to upgrade their knowledge to well fit in this global village.

2 Title: Empowerment of women

Our college has always provided safe and congenial atmosphere to the girl students, as a result we have more girl students than boys in the college. Our college is popularly known as “Shanti Niketan” in the area .Every effort is made to encourage and empower them by the college staff.

Goals:

1. To make them aware of their rights and identity.
- 2 To prepare them for facing the challenges of life.
- 3 To eradicate the evils from the society like female foeticide, dowry system.
- 4 To address their problems by providing counseling.
- 5 To excel in life and achieve higher positions in life

Context: The majority of the girls of the college belong to rural and semi urban middle class families who still believe in the submissiveness of women. To develop confidence and to prepare them for changing this attitude of society in every way. The girls coming from such areas really required a platform to discuss their problems and share ideas with the intellectuals.

Practice: Women Forum has been established in the college to sensitize women about their identity and their vital role in improving the attitude of the society. This Forum has done a commendable job to achieve its purpose. The students are free to approach for counseling to all the teachers, specially the women teachers involved in the forum.To sensitize women about their identity and role, following programmes were conducted

- Dr. Mohinder Kaur Grewal, Head of the institution often holds meetings with the students and teachers to make them aware of their rights and duties in improving the mindset of the society.
- Poster making competitions are often organized on problems related to women like female foeticide and violence against women to prepare them to face these challenges.
- Seminar on Equity Initiatives under RUSA was organized on January24, 2015 on women rights. Dr. Gurmukh Singh of Department of Punjabi, Punjabi University, Patiala was key speaker on the occasion. He delivered a highly informative lecture on women rights and advised the society to treat them in a dignified way.
- Sexual Harassment Committee also works for the welfare of women and solves their general problems on the spot.
- World AIDS day is celebrated to make the students aware of this serious problem.

Evidence of Success:

The girls coming from rural and semi urban areas have shown much improvement in their confidence level. They are more aware and enlightened about their rights and legal status as given in the constitution. Now, they feel themselves capable of raising their voice against the various social evils prevalent in the society like gender discrimination, dowry system and female foeticide.

Problem faced and resources mobilized: Funds are raised by making collection from the students of the forum. The expenditure is borne out of this fund. Every student contributes rupees fifty towards this fund.

Note: This practice has proved very successful in boosting their confidence and changing their mindset.

EVALUATIVE REPORT OF THE DEPARTMENTS

POST GRADUATE DEPARTMENT OF BOTANY

1. Name of the department : Department of Botany
2. Year of Establishment : 1982
3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)
: UG B.Sc. Medical
: PG M.Sc. Botany
4. Names of Interdisciplinary courses and the departments/units involved
Environmental Education being integral part of curriculum, thus the entire departments of the college are involved.
5. Annual/ semester/choice based credit system (Programme wise)
Semester System: B.Sc. I and M.Sc.
Annual System : B.Sc. II and III
6. Participation of the department in the courses offered by other Departments M.Sc. Chemistry: Biology for Chemist is taught to M.Sc. students.
7. Courses in collaboration with other universities, industries, foreign institutions, etc. : At present we don't have collaboration with any department.
8. Details of courses/programmes discontinued (if any) with reasons Nil
9. Number of teaching posts

	Sanctioned	Filled
Professors	-	-
Associate Professors	1	1
Asst. Professors	7	2 (protected by supreme court)

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. Surjit Singh	M.Sc. M.Phil. Ph.D.	Associate Professor	<ul style="list-style-type: none"> • Cytogenetic, • Plant breeding and Genetics, • Molecular Biology and Biochemistry 	27	-
Mr. Jatinder Singh	M.Sc.	Asst. Professor (PT)	<ul style="list-style-type: none"> • Forestry • Ecology • Gymnosperms 	15	-
Mrs. Neelam Bala	M.Sc. M.Phil.	Asst. Professor (PT)	Phycology Physiology Biochemistry	15	-

11. List of senior visiting faculty Nil

12. Percentage of lectures delivered and practical classes handled (Programme wise) by temporary faculty

S. No	Name of Programme	Lectures delivered	Practical classes
1	UG (B.Sc. I,II III)	100	82
2	PG M.Sc. Botany	34	34

13. Student -Teacher Ratio (Programme wise)

S. No	Name of Programme	Student –Teacher ratio
1	UG	34:1
2	PG	8:1

14. Number of academic support staff (technical) and administrative

staff; sanctioned and filled

Kind of staff	<u>Number of Technical staff members</u>	
	Sanctioned	Filled
Technical Staff	4	4
Administrative staff	----	----

15. Qualifications of teaching faculty with DSc / D.Litt./ Ph.D./ MPhil / PG.

Same as given at S. No.10

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received: Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received

Under DBT star college scheme sanctioned in 2009

Non-Recurring grant received : 5,00,000/-
Recurring Grant at the rate 2.0 lakhs
for first four years and 2.5 lakhs for
Next years : 1050000/-

18. Research Centre /facility recognized by the University

No separate research labs are available in the department; however, research facilities are available in working labs where students are allotted minor investigatory projects.

19. Publications:

a) Publication per faculty

Dr. Surjit Singh

1. Pelia, S.S. & Sandhu, R.s. 1990 Further studies on the occurrence of lectins in Indian Plants. Lectins, Biology Biochem. Clin Biochem 7 : 27-33.
2. Sandhu, R.S., Arora, J.S., Chopra, S.K., Pelia, S.S., Kamboj, S. S., Naidu, Y.C. & Nath, I 1990 New Sources of Lectins from Araceous indian Plants. Lectins, Biology Biochem. Clin Biochem 7 : 19-26.
3. Sidhu, M. & Pelia, S.S. 1987 Karyomorphology of some of weeds : Compositae .J. Cytol. Genet. 22: 143-150
4. Pelia, S.S. & M.K. Sidhu. 2001 Chromosomal analysis of *Vicia*

- Linn.species. Indian J, Mndel 18 (3) : 81-82
5. Sandhu, R.S., Arora, J.S., Pelia, S.S., Chopra, S.K., and Kamboj, S. S., 1987 Studies on lectins from Indian plants: Genus *Crotalaria* Linn. 9th International Lectin Meeting, Cambridge, July 27-31, 1987.
 6. Khanna, A., Sandhu, R.S. and Pelia, S.S. 1988. Purification and Characterization of the *Amaranthus* lectins. Interlec-11 Meeting, Tartu Estonia.
 7. Sandhu, R.S., Pelia, S.S., Khanna, A. and Chawla, D. 1990. Purification and Characterization of Lectins from six *Crotalaria species* InterLec-12 Meeting, University of California, Davis, USA, Sept. 9-14, 1990.
 8. Pelia, S. S. (2013) Affinity Purification and Characterization of *Vicia* Lectins.” 7th Chandigarh Science Congress CHASCON, 1st – 3rd March 2013
 9. Pelia, S. S. (2014) ”OCCURRENCE AND CHARACTERISATION OF LECTINS FROM NON-LEGUMINOUS INDIAN PLANTS” National Symposium on “Emerging trends in botanical sciences” February 17-18, 2014. Punjabi University, Patiala
 10. Pelia, S. S. (2014) ”OCCURRENCE AND CHARACTERISATION OF HAEMAGGLUTININS FROM LEGUMINOUS INDIAN PLANTS” National Conference on “Perspective & Trends in plant sciences and biotechnology” February 21-23, 2014, Panjab University, Chandigarh.
 11. Pelia, S. S. (2015) Purification and Characterisation of Lectin from *Crotalaria*. Communicated.
 12. Pelia, S. S. (2013) ”Occurrence And Characterisation Of Lymph Agglutinins From Leguminous Indian Plants” Communicated.
 13. Pelia, S. S. (2013) ”Occurrence And Characterisation Of Lymph Agglutinins From Non Leguminous Indian Plants”. Communicated.

*** Number of papers published in peer reviewed journals (national /International) by faculty and students . 5**

*** Number of publications listed in International Database (For E.g.: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**

***Monographs** Nil

***Chapter in Books** Nil

***Books Edited.** Nil

***Books with ISBN/ISSN numbers with details of publishers** Nil

***Citation Index**

***SNIP**

***SJR**

***Impact factor**

***h-indexb**

20. Areas of consultancy and income generated.

Department provides academic guidance free of cost and income is generated. The department provides academic guidance to students and public free of cost as a good will gesture.

21. Faculty as members in

a) National committees

b) International Committees

c) Editorial Boards

- Member board of Post Graduate studies in Botany
- Member board of under graduate studies in Animal Husbandry and Dairy Technology.
- Life member of Indian Association of Biological Teachers

22. Student projects

a) Percentages of students who have done in-house projects including inter departmental/ Programme .

40 per cent in PG and great majority of Undergraduate students undertake projects. Mention of some of the projects undertaken by the students of Department of Botany are mentioned below year wise during last four years.

2009-10	<p>Karyotype analysis.</p> <p>Prevalence of fungal diseases in the college campus.</p> <p>To study the flora of college campus.</p> <p>To study the forests of Shimla.</p>
2010-11	<p>To study forest type & flora of Dalhausie.</p> <p>To study the algal flora of the college campus and adjoining areas.</p> <p>To study the pollination in plants.</p> <p>Study of medicinal plants.</p> <p>Karyotype analysis.</p> <p>To study the flora of college campus</p>
2011-12	<p>1.To study the pollination in plants.</p> <p>2. Study of leaf morphology</p> <p>3 Study of medicinal plants.</p>
2012-13	<p>Cytological studies in two cultivars of <i>Phlox drumundii</i></p> <p>An account of vegetation of Botanical Gardens of Sanmati Government College of Science Education and Research-Jagraon</p>
2013-14	<p>Occurrence of Fabaceous plants in College Campus</p> <p>Occurrence of Gamopetalous plants in College Campus</p> <p>Isolation of DNA from human peripheral blood</p> <p>Extraction of essential oils from <i>Pimpinella anisum</i></p>
2014-15	<p>Characterization and Partial purification of Lectin from <i>Amaranthus spinosus</i></p> <p>Characterization and Partial Purification of Lectin from <i>Crotalaria medicaginea</i> var <i>luxuriens</i>.</p> <p>To Characterize the lectin from <i>Artocarpus integra</i>. With respect to biological action spectrum and MEAPC.</p> <p>To Characterization and partial purify lectin from <i>Amaranthus caudatus</i>.</p>

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies. Nil

23. Awards / Recognitions received by faculty and students

Session	Name of the student/s	Class	Position in the University
2009-10	Rupinder Kaur	M.Sc. Botany	1 st in University
	Harjeet Kaur	....do.....	2 nd in university
	Sangeeta Sharma	....Do....	3 rd in University
2010-11	Kirandeep Kaur	M.Sc. Botany	1 st in University
2011-12	Shifali Mehta	M.Sc. Botany	3 rd in University
	Varinderpal Kaur	....do.....	4 th in University
	Yadwinder Kaur	....do.....	5 th in University
2012-13	Poonam Rani	M.Sc. Botany	1 st in University
	Ramandeep Kaur	....do.....	3 rd in university
	Manwinder Kaur	....do.....	4 th in University
2013-14	Daljeet Kaur	M.Sc. Botany	5 th in University
2014-15	Ms. Jagmeet Kaur	3 rd SEM	3 rd in University
	Ms. Charanjeet Kaur	....do....	5 th in University
2014-15	Ms.Vandana	1 st SEM	1 st in University
	Ms. Gagandeep Kaur	....do....	5 th in University
	Mr. Rajesh Thakur	....do....	5 th in University

- Mr. Jatinder Singh of the department was honored with Best Teacher award by Lions Club of Jagraon on Teacher's day.
- Dr. Surjit Singh Honored at CHASCON-7, Panjab university Chandigarh for acting as Judge of Poster Presentation Session in Life Sciences.

24. List of eminent academicians and scientists / visitors to the department.

- Dr. M.I.S. Saggoo, Professor, Department of Botany, Punjabi University, Patiala.
- Dr. J.I.S. Khattar , Professor, Department of Botany, Punjabi University, Patiala
- DDr. A.S. Ahluwalia, Professor, Department of Botany, Panjab University, Chandigarh.
- DDr. R.K. Kohli, Professor, Department of Botany, Panjab University, Chandigarh.
- DDr. N S Atri, Professor, Department of Botany, Punjabi University, Patiala
- DDr. P.K. Pati , Professor, Department of Biotechnology, G.N.D. University, Amritsar
- Dr. R.C. Gupta Professor, Department of Botany, Punjabi University, Patiala.
- Dr. U.C. Banerjee, Professor, Department of Pharmaceutical Technology NIPER Mohali.
- Dr. A.K. Ganguli, Director, Institute of Nano Science & Technology, Mohali
- Dr. S.K. Mukhopadya, P.A. U., Ludhiana
- Dr. Alkesh Kandoria, Punjab State Council for Science & Technology

25. Seminars/ Conferences/Workshops organized & the source of funding a) National b) International c) Workshops

S. No.	Title	Name of the Supervisor/Guest	Duration of Workshop	No of Participants		
				Teachers	Students	Total
1.	Summer Training School	College Teachers	04-05-2009 To 11-05-2009	-	23	23
2.	Vermicomposting	Dr. Alkesh, Deptt. of Biotechnology, Punjab State Council of Science and Technology	One day 18-11-2010	10	48	58
3.	Current Environmental	Padam Shri Surjit Patar & Sh.	24-01-	-	110	110

	Issues	Jaswant Singh Jaffar	2012			
4.	Allium Assay	Dr. Arneet Kaur Deptt. of Botany Punjabi University Patiala	One day 03-03-2012	7	25	32
5.	Computer Training	Mr. Gurjeet Singh S. Government College of Science Education and Research- Jagraon,	21-05-2012 to 26-05-2012 6 Days	20	0	20
6.	Algal Diversity	Dr. D.P. Singh Associate Professor, Deptt. Of Botany Punjabi University, PTA	One day 06-03-2014	7	35	42

26. Student profile Programme/course wise: Session 2013-14

Name of the Course/Programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
B.Sc I Medical	173	82	8	74	85.72
B.Sc. II Medical	57	57	4	53	100
B.Sc. III Medical	35	35	1	34	100
M.Sc. I Botany	25	25	3	22	100
M.Sc. II Botany	12	12	2	10	100

Name of the Course/Programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			Male	Female	
B.Sc .I Medical	240	84	11	73	Appearing in Examination
B.Sc. II Medical	71	71	2	69	Appearing in Examination
B.Sc. III Medical	52	52	3	49	Appearing in Examination
M.Sc. I Botany 1 st Sem	35	35	5	30	100
M.Sc.II Botany 3 rd sem	22	22	3	19	100

27. Diversity of Students w.r.t. 2014-15

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
B.Sc. I Medical	100	Nil	Nil
B.Sc. II Medical	100	Nil	Nil
B.Sc. III Medical	100	Nil	Nil
M.Sc. I Botany	94.1	5.9*	Nil
M.Sc. II Botany	91	9*	Nil

* Two out of 34 students in M.Sc. I and two out of 22 in M.Sc.II

At present as one of the student has left.

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

According to the data available, one to two students qualify
NET, SLET/GATE/University test every year to join Research

Session	No of students passing UGC-NET	No of students passed GATE	No of students passing Ph.D. entrance of Uni.
2008-09	2		
2009-10	2		
2010-11	1		
2011-12	1		1
2012-13			1
2013-14			2

- Ms. Poonam 2012-13. Doing Ph.D at Punjabi University Patiala.
- Mr. Ellu 2013-14 University Doing Ph.D at Punjabi University Patiala
- Ms. Preetinder Kaur 2013-14 Pursuing Research at PU Patiala

29. Student progression:

Student progression	Against % enrolled			
	2010-11	2011-12	2012-13	2013-14
UG to PG	75.0	70.58	65.0	67.74
PG to M.Phil.				8.33
PG to Ph.D.				8.33
Ph.D. to Post-Doctoral	NA		NA	
Employed <ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	Students get selection on their own off the campus			
Entrepreneurship/Self-employment				

30. Details of Infrastructural facilities a) Library: Available

b) Internet facilities for Staff & Students: Available

c) Class rooms with ICT

Facility : Yes

d) Laboratories : Three. Two with

ICT facility

31. Number of students receiving financial assistance from College, University,

Government or other agencies.

Session	Category	Number of Students	Amount (Rs.)
2013-14	SC/BC/MINORITY	78	Applied on line
2014-15	SC/BC/MINORITY	101	Applied on line
2014-15	PTA	4	4000

32. Details on student enrichment programmes (special lectures / workshops /

Seminar) with external experts

Sr. No	Name Of Speaker	Institute of the Speaker	Title of the lecturer	Date
1.	Dr. M.I.S. Saggoo Professor	Department of Botany, Punjabi University, Patiala	Green Cleaning	25-11-2009
2.	Dr. J.I.S. Khattar Professor	Department of Botany, Punjabi University, Patiala	Algae for bio-fuels	25-11-2009
3.	Dr. Deepak Lal	Kalyani Hospital, Jagraon	AIDS: its causes and controls	21-12-2009

4.	Dr. Y.K. Rawal Asst Professor	Department of Botany, Panjab University, Chandigarh	Electron Microscopy for Biologists	12-11- 2010
5.	Dr. A.S. Ahluwalia Professor	Department of Botany, Panjab University, Chandigarh	Algal Biotechnology	30-11- 2010
6.	Dr. R.K. Kohli Professor	Department of Botany, Panjab University, Chandigarh	Allelopathy and weed management	02-12- 2010
7.	Dr. Y.K. Rawal Asst Professor	Department of Botany, Panjab University, Chandigarh	Fish Migration	01-11- 2011
8.	Dr. R.K. Kohli Professor	Department of Botany, Panjab University, Chandigarh	Conservation and Management of Forests	27-02- 2012
9.	Dr. M.I.S. Saggoo Professor	Department of Botany, Punjabi University, Patiala	Environmental Mutagens” and “Plant based Genotoxicity	03-03- 2012
10.	Dr. Sajid Husain Professor	Department of Microbiology G.N.D. University, Amritsar	Emerging viruses and Hepatitis -C	04-02- 2013
11.	Dr. A.S. Ahluwalia Professor	Department of Botany, Panjab University, Chandigarh	Algal Diversity	09-02- 2013
12.	Dr. N S Atri, Prof & Head	Department of Botany, Punjabi University, Patiala	Global Climate Changes and Green Business	20-02- 2013
13.	Dr. J.I.S. Khattar Professor	Department of Botany, Punjabi University, Patiala	Thallus Diversity In Algae	06-03- 2014

14	Dr. P.K. Pati Assoc. Professor	Department of Biotechnology, G.N.D.University Amritsar	RNA interference Technology : A New Tool for Crop Improvement	18-10- 2014
15	Dr. R.C.Gupta Professor	Department of Botany, Punjabi University, Patiala	Transgenic Organisms	12-02- 2015
16	Dr. R.C.Gupta Professor	Department of Botany, Punjabi University, Patiala	Medicinal Plants	12-02- 2015
17	Dr. U.C. Banerjee Prof. and Head	Department of Pharmaceutical Technology, NIPER, Mohali	Role Of Microorganisms In The Preservation Of Nature And Survival Of Mankind	14-02- 2015
18	Dr. U. C. Banerjee Prof. and Head	Department of Pharmaceutical Technology NIPER Mohali	Waste water Treatment	14-02- 2015
19	Dr. Felix Bast Assistant Professor	Central University Of Punjab, Bathinda	Aquatic Plants	16-02- 2015
20	Dr. A.K.Ganguli Director	Institute of Nano Science & Technology, Mohali	Nanotechnology and its applications in life science - an overview	23-02- 2015
21	Dr Sidharth S Mukhopadhyay Professor	P.A. U., Ludhiana	Nanotechnology applications: Prepare yourself for career leap	23-02- 2015
22	Dr. Alkesh Kandoria Sr. Scientific Officer	Punjab State Council for Science & Technology	Recent advances of Nano- biotechnology in Food Industry	23-02- 2015
23	Mr. Amritpal Singh Assistant Professor	Government College for Girls,Ludhiana	Noise pollution	10-03- 2015

33. Teaching methods adopted to improve student learning:
MIPS, PPTs, OHP in addition to Chalk and Talk method.
34. Participation in Institutional Social Responsibility (ISR) and Extension activities
35. SWOC analysis of the department and Future plans

STRENGTH

- Our dedicated Staff
- Outstanding results
- Sincere and hardworking Students.
- Well-equipped laboratories.
- Fully functional departmental library
- Internet facility for staff and students.
- Well maintained Herbarium and Museum.
- Botanical Garden with a variety of plants growing systematically.

Weakness

- Deficient in regular qualified teaching staff.
- Lack of sophisticated instruments like refrigerated centrifuge, PCR and HPLC system for carrying on advanced research
- Shortage of laboratories.

Opportunities

- Facilities available for carrying on taxonomic and advanced research.
- Students after completing PG degree can join Research or Teaching profession or Food industry.
- Challenges.
- To manage funds to meet growing needs of recurring expenditure.
- Declining quality of students at entering level due to start of courses in large number of colleges.
- To involve all the students of PG class in Research.

Future Plans

- Organise National level conference on recent trends in life sciences.
- To establish Herbal garden.
- To start five years integrated course of M.Sc. in Botany
- To Start Honours School in Botany and Environmental Education.
- To start add on courses in applied field.

POSTGRADUATE DEPARTMENT OF CHEMISTRY

1. **Name of the department :** Chemistry
2. **Year of Establishment :** 1968
3. **Names of Programmes/ Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D. etc.):**
UG: (B.Sc. Medical & Non-Medical),
PG: (M.Sc. Chemistry)
4. **Names of Interdisciplinary courses and the departments/units involved**
Environmental Education being integral part of curriculum, thus the entire departments of the college are involved.
5. **Annual/ semester/ choice based credit system (programme-wise):**
Semester system: (B.Sc. I, M.Sc. Chemistry),
Annual System : (B.Sc. II and III)
6. **Participation of the department in the courses offered by other departments**
Nil
7. **Courses in collaboration with other universities, industries, foreign institutions etc.**
Nil
8. **Details of courses/ programmes discontinued (if any) with reasons.**
Nil
9. **Number of teaching posts**

Category	Sanctioned	Filled
Professors	--	--
Associate Professors	3	3
Assistant Professors	9	1 Part Time (protected by supreme court)

10. **Faculty profile with name, qualification, designation, specialization, (D.Sc./ D.Litt./ Ph.D./ M.Phil. etc.)**

S no	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
1	Mrs. Savita Sharma	M.Sc., M.Phil.	Associate Professor	i). Physical Chemistry, ii) Group Theory, Spectroscopy and Diffraction Methods	32 years	nil
2	Mrs. Sumedha Syal	M.Sc., M.Phil.	Associate Professor	i). Organic Chemistry ii). Organic Synthesis iii. Chemistry of	30 years	nil
3.	Mr. Nirmal Singh	M.Sc., M.Phil.	Associate Professor	i). Organic Chemistry ii). Heterocyclic Chemistry iii). Photo Chemistry	26 years	nil
4.	Dr. Monica Arora	M.Sc., M.Phil., Ph.D.	Assistant Professor (part-Time)	i). Inorganic chemistry ii. Spectroscopy iii). Environmental Chemistry	10 years	nil
5-12	Arranged out of PTA fund for full session as guest faculty members. Preference is given to experienced and old faculty members working with the college.					

11. List of Senior Visiting Faculty: Nil

**12. Percentage of lectures delivered and practical classes handled (programme wise)
by temporary faculty**

S. No	Name of Programme	Lectures delivered	Practical classes
1	UG : (B.Sc.)	51/63 = 80 %	116/144 = 80 %
2	PG : M.Sc. Chemistry	6/48 = 12.5 %	16/48 = 33 %

13. Student-Teacher Ratio (programme-wise)

P.G. $67/4 = 16.25 : 1$,

U.G. $624/8 = 78 : 1$

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Name of post	Sanctioned	Filled
S.L.A.	2	2
J.L.A.	4	1
L.A.	4	2

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil/ PG.

As mentioned in Sr no 10

16. Number of faculty with ongoing projects from

a) National b) International funding agencies and Grants received:
Nil

17. Departmental projects funded by DST-FIST;UGC, DBT, ICSSR, etc. and total grants received:

Under DBT, Star College Scheme sanctioned in 2009-2010

Non-Recurring grant received : Rs. 5,00,000/-

Recurring Grant 2.0 lakhs per annum
for first four years and 2.5 lakhs for

next years : Rs. 10,50,000/-

18. Research Centre/ facility recognized by the University: Nil

19. Publications:

a) Publication per faculty :

Dr. Monica Arora : 5

i) Sanjay K. Singh; Ramandeep Kaur; **Monika Arora**; Harjeet Gujral and Gurpreet Kaur "Kinetics of Phosphotungstic Acid Catalyzed oxidation of Propan-1,3-diol and butan-1,4-diol by N-Chlorosachharine" published in Journal "Orbital" Vol 3 No. 2; April-June 2011, ISSN 1984-6428.

ii) Sanjay K. Singh; Harjeet Gujral ,Ramandeep Kaur; **Monika Arora**; and Gurpreet Kaur "Kinetics and Mechanism of

Phosphotungstic Acid Catalyzed oxidation of Citric acid by N-Chlorosaccharine” published in Journal of Chemical Biological and Physical Sciences (An Inter-National peer Review E-3 Journal of Sciences) Vol-2 No. 2; pp 590-596 Feb-April 2012, ISSN 2249-1929.

- iii) Sanjay K. Singh; **Monika Arora**; Gurpreet Kaur; Ramandeep Kaur and Harjeet Gujral ” N-Chlorosaccharine oxidation of Kinetics of Propan-2-ol : Kinetic Study” published in Scholar Research Library (Archives of Applied Science Research) 2010, 2(4) : 271-277; ISSN 0975-508 X.
- iv) Ramandeep Kaur; **Monika Arora**; Harjeet Gujral, Gurpreet Kaur; S.N. Nayak and Sanjay Singh ”Kinetics and Mechanistic Approach of N- Chlorosaccharine Oxidation of some non-vicinal poly hydroxyl alcohols” Published in International Journal of Chem Tech Research CODON (USA): IJCRGG :Vol 2 No 3, pp 1480-1485, July-Sept 2010 ISSN 0974-4290
- v) Sanjay K. Singh; Harjeet Gujral ,Ramandeep Kaur; **Monika Arora**; Gurpreet Kaur and Parampreet Kaur “Kinetics of oxidation of Malic acid by N-Chlorosaccharine in the presence of Hetero poly acids” published in International Journal of interdisciplinary Approaches FUSION Vol-1; pp 149-159 March 2011, ISSN 2231-2005.

Ms. Ramandeep Kaur : 5

- i) Sanjay K. Singh; **Ramandeep Kaur**; Monika Arora; Harjeet Gujral and Gurpreet Kaur ”Kinetics of Phosphotungstic Acid Catalyzed oxidation of Propan-1,3-diol and butan-1,4-diol by N-Chlorosaccharine” published in Journal “Orbital” Vol 3 No. 2; April-June 2011, ISSN 1984-6428.
- ii) Sanjay K. Singh; Harjeet Gujral ,**Ramandeep Kaur**; Monika Arora; and Gurpreet Kaur “Kinetics and Mechanism of Phosphotungstic Acid Catalyzed oxidation of Citric acid by N-Chlorosaccharine” published in Journal of Chemical Biological and Physical Sciences (An Inter-National peer Review E-3 Journal of Sciences) Vol-2 No. 2; pp 590-596 Feb-April 2012, ISSN 2249-1929.
- iii) Sanjay K. Singh; Monika Arora; Gurpreet Kaur; **Ramandeep Kaur** and Harjeet Gujral ” N-Chlorosaccharine oxidation of Kinetics of Propan-2-ol : Kinetic Study” published in Scholar Research Library (Archives of Applied Science Research) 2010, 2(4) : 271-277; ISSN 0975-508 X.

- iv) **Ramandeep Kaur**; Monika Arora; Harjeet Gujral, Gurpreet Kaur; S.N. Nayak and Sanjay Singh "Kinetics and Mechanistic Approach of N- Chlorosachharine Oxidation of some non-vicinal poly hydroxyl alcohols" Published in International Journal of Chem Tech Research CODON (USA): IJCRGG :Vol 2 No 3, pp 1480-1485, July-Sept 2010 ISSN 0974-4290
- v) Sanjay K. Singh; Harjeet Gujral ,**Ramandeep Kaur**; Monika Arora; Gurpreet Kaur and Parampreet Kaur "Kinetics of oxidation of Malic acid by N-Chlorosachharine in the presence of Hetero poly acids" published in International Journal of interdisciplinary Approaches FUSION Vol-1; pp 149-159 March 2011, ISSN 2231-2005.

- b) Number of papers published in peer reviewed journals (national/ International) by faculty and students : 10

*Number of publications listed in International Database (For e.g.: Web of Science, Scopus, Humanities International Complete, Dare Database- International Social Sciences Directory, EBSCO host, etc.)

* Monographs	Nil
* Chapter in Books	Nil
* Books Edited	Nil
* Books with ISBN/ ISSN numbers with details of publishers	Nil
* Citation Index	Nil
* SNIP	Nil
* SJR	Nil
* Impact factor	Nil
*h-index	Nil

20 Areas of consultancy and income generated:

Consultancy service is extended to needy as a goodwill gesture and no income is generated.

21. Faculty as members in

a) National committees	Nil
b) International Committees	Nil
c) Editorial Board:	Nil

22. Student projects

- a) Percentage of students who have in-house projects including interdepartmental/ Programme **about 10%**

The students are assigned Project Work to inculcate in them the research aptitude based on their curriculum. The details of projects assigned during last 5 years are given below:

Session 2009-10

- To detect common adulterant/ contaminants in food by simple screening tests.
- Extraction of Caffeine quantitatively from tea leaves, coffee and coke by chemical methods
- Separation of different mixtures of compound by Thin layer Chromatography using suitable solvents.
- To compare the cleansing powers of different samples of detergents and to determine the CMC of different samples of detergents by measuring conductance & surface tension at various concentrations.

Session 2010-11

- To detect common adulterants in milk samples
- To check the purity of a given sample of Benzylic acid, a compound containing $-\text{COOH}$, $-\text{OH}$ group by analysis of its I.R. spectrum.
- Determination of amount of glucose in fresh & preserved juices colorimetrically.

Session 2011-12

- Determination of free alkali contents of various commercial washing and bathing soaps.
- Study of chemical properties (pH, electrical conductance, calcium carbonate content, organic matter) of five different soils.

Session 2012-13

- To determine the cross sectional area of n-butyl alcohol by surface tension measurement.
- To determine the dosage of chlorine water required for sterilization of different samples of water

Session 2013-14

- Determination of pH and contents (sucrose and glucose quantitatively) of different cold drinks.
- Determination of pH, sucrose and glucose quantitatively of different preserved juices.
- Qualitative determination of citric acid in various citrus fruits (orange and lemon).
- Study of chemical properties (pH, electrical conductance and hardness) of five different samples of water.
- Determination of TDS of water samples collected from different sites.
- Extraction of essential oils from aniseed (Saunf).

Session 2014-15.

- Role of Calcium Carbonate content in determining the quality of different types of marbles.

- Separation of essential oils from different plants.
- Physico -chemical Characterization of different fruits.
- Study of change of properties of detergent solutions at critical micelle concentration.
- Comparison of occurrence of monosaccharides and disaccharides in different products of sugarcane.

b) Percentage of students placed for projects in organizations outside the institution i.e. in Research laboratories/Industry/ other agencies: **nil**

23. Awards/ Recognitions received by faculty and students

Session	Name of the student/s	Class	Position in the University
2008-09	Gagandeep Kaur	M.Sc. Chemistry	Ist position in P.U.
2009-10	Ayushi Jain Gurpreet Kaur Dherdi	M.Sc. Chemistry	IInd in P.U IV in P.U.
2010-11	Jyoti Sharma Baljeet Kaur	M.Sc. Chemistry	IInd in University IV th in University
2011-12	Mausami Sharma	M.Sc. Chemistry	4 th in University
2012-13	Geetika Sethi	M.Sc. Chemistry	2 nd in University
2013-14	Neha Mittal	M.Sc. Chemistry	5 th in University
2014-15	Lakhwinder Singh	M.Sc. Chemistry	4 th position in P.U in M.Sc. 3 rd semester.

- Mrs. Savita Sharma was awarded the fellow member of “The Inter National Council of Ayurveda, India” on 22-02-2010.
- Inspire scholars:

2	M.Sc
4	B.Sc.
- Mr. Karan Dhawan M.Sc student, got third prize in MIMICRY at Zonal Youth and Heritage Festival in 2014-15
- Mr. Hemant Kumar and Mr. Jaswant Singh, M.Sc (2009-10) students

got First Prizes in Emergency Bridge - working model and Hydraulic Electricity-Static model at Inter-institutional Science fair organized by M.M.Modi College Patiala.

24. List of eminent academicians and scientists/visitors to the department

- Prof. K.K. Chahal Department of Chemistry, P.A.U.Ludhiana.
- Dr. Jaspreet Singh, Department of Chemistry, Punjabi University, Patiala.
- Dr. Jatinder Singh Aulakh, Department of Chemistry, Punjabi University, Patiala.
- Dr. Ashok Kumar Malik, Department of Chemistry, Punjabi University, Patiala .
- Dr. Manjinder Singh Gill. Assistant Professor, NIPER, Mohali.
- Dr. Raghubir Singh Assistant Professor, D.A.V. College, Chandigarh.
- Dr. Varinder Kaur Assistant Professor, Department of Chemistry, Punjab University, Chandigarh.

25. Seminars/Conferences/Workshops organized & the source of funding

- a) National: Nil
b) International: Nil
c) College/ Departmental level: Source of Funding: Star College Fund

The detail of workshops/ trainings organized by the department:

Sr. No	Title	Name of the Supervisor/Guest	Duration of Workshop	No of Participants		
				Teachers	Students	Total
1	Summer Training School	College Teachers	04-05-2009 To 11-05-2009 5 days	-	23	23
2	Advanced Techniques in Chromatography	Dr. K.K. Chahal Associate Professor &, Head Deptt. of Chemistry PAU, Ludhiana	One day 24-02-2011	10	34	44
3	Computer Training	Mr. Gurjeet Singh S. Government College of Science Education and Research- Jagraon,	21-05-2012 to 26-05-2012 6 Days	20	0	20
4	Advanced Analytical Techniques (Inter-Departmental)	Dr. K.K. Chahal Associate Professor, Head Deptt. Of Chemistry PAU, Ludhiana	One day 08-03-2013	8	25	33

26. Student profile programme/course wise:

Session 2013-14

Name of the Course/Programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			Male	Female	
B.Sc. I Medical	173	82	8	74	85.71
B.Sc. I Non-Medical	450	130	33	97	89.19
B.Sc. II Medical	57	57	4	53	92.59
B.Sc. II Non-Medical	102	102	21	81	90
B.Sc. III Medical	35	35	1	34	100

B.Sc. III Non-Medical	102	102	15	87	100
M.Sc. I Chemistry	35	33	11	22	100
M.Sc.II Chemistry	19	19	03	16	100

SESSION: 2014-15

Name of the Course/Programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			Male	Female	
B.Sc. I Medical	240	84	11	73	Appearing in Examination
B.Sc. I Non-Medical	433	164	41	123	
B.Sc. II Medical	71	71	2	69	
B.Sc. II Non-Medical	99	99	11	88	
B.Sc. III Medical	52	52	3	49	
B.Sc. III Non-Medical	97	97	19	78	
M.Sc. I Chemistry	91	39	08	31	
M.Sc.II Chemistry	28	28	10	18	

Result of session 2013-14 in comparison to the results of University

Class	P.U result %	Result of Chemistry %
B.Sc. I	51.88	87.84
B.Sc. II	83.87	90.91
B.Sc. III	87.11	100
M.Sc. I	96.06	100
M.Sc. II	86.83	100

27. Diversity of Students

Name of the Course	%of students from the same state	% of students from other States	%of students from abroad
B.Sc. (Medical)	100%	--	--
B.Sc. (Non-Medical)	100%	--	--
M.Sc.(Chemistry)	95%	5% (2 out of 39)	--

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defence services, etc.?

Session	No of students passing UGC-NET	No of students passed GATE	No of students passing Ph.D. entrance of Uni.
2008-09	3		
2009-10	2		
2010-11	1		
2011-12	1	1	2
2012-13	2	1	
2013-14	1		

29. Student progression

Student progression	Session	Against % enrolled
UG to PG	i)2009-10 ii)2010-11 iii)2011-12 iv)2012-13 v)2013-14	i) 35.75 % ii) 33.3 % iii) 54.05% iv)34.90% v)39.20 %
PG to M.Phil.	--	
PG to Ph.D.	--	2-4 %
Ph.D. to Post-Doctoral	--	
Employed •Campus selection •Other than campus recruitment	--	
Entrepreneurship/Self-employment	--	

30. Details of Infrastructural facilities

- a) **Library:** Departmental Library facility: available
- b) **Internet facilities for Staff and Students:** yes
- c) **Class rooms with ICT facility :** yes
Laboratories 4, One with ICT facility.
- d) **Laboratories:** 4

31. Number of students receiving financial assistance from college, university, Government or other agencies :

Scholarships for SC/BC, Minorities

session	Category	Number Of Students at the college level	Amount(Rs)
2013-14	SC/BC/Minority	235	2560266
2014-15	SC/BC/Minority (64+67+169)	300	3607780

32. Details on student enrichment programmes (special lectures/workshops/seminar) with external experts

- a) Extension lectures and workshops are arranged every year by eminent academicians
- b) Seminars are allotted to UG and PG students to improve their communication skills.
- c) Students are taken for academic tours to prestigious institutes
- d) Students actively participate in different public awareness programmes.
- e) Ten students of M.Sc. took training on HPLC at NIPER, Mohali in, 2014.
- f) Miss Rashu Rikhi, a student of M.Sc., joined a summer Research Project entitled 'Carbon Nanotubes and its applications' under the guidance of Dr. Vikas Rana, Assistant Professor, Centre for Applied Research in Electronics ,I.I.T. Delhi, from 11June,2010 to11August,2010.
- g) Miss Rashu Rikhi, M.Sc. student was considered for the position of "Executive Operations" by IBM-DAKSH Business Process Services Pvt. Ltd.(Company),after completing her course

EXTENSION LECTURES IN CHEMISTRY

Sr. No	Name Of Speaker	Institute of the Speaker	Title of the lecturer	Date
1	Dr. K.K. Chahal Professor	Department of Chemistry PAU Ludhiana	Status of Pesticide residues in India and their Management	18-12-2009
2	Dr. K.K. Chahal Professor	Department of Chemistry PAU Ludhiana	Infrared spectroscopy and its applications	25-02-2010
3	Dr. Jaspreet Singh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Significance of Energy terms in the interpretation of electrons spectra	03-02-2011
4	Dr. J.S. Aulakh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Advanced Separation techniques	03-02-2011
5	Dr.Jaspreet Singh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Group Theory" and "Applications of Group Theory to Spectroscopy	01-02-2012
6	Dr. J. S. Brar D.P.I. Panjab	DPI Colleges of Panjab, Chandigarh	IR and NMR Spectroscopy	04-02-2012

7	Dr. Ashok K Malik Associ Professor	Department of Chemistry, Punjabi University, Patiala	Gas Chromatography-Mass Spectrometry	02-03-2013
8	Dr. J.S. Aulakh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Group theory and spectroscopy for Chemist	02-03-2013
9	Dr. K.K. Chahal Professor	Department of Chemistry PAU Ludhiana	Different techniques Applied in Analytical Chemistry	08-03-2013
10	Dr. J.S. Aulakh Asst Professor	Department of Chemistry, Punjabi University, Patiala	Chemical Applications of Group Theory	06-03-2014
11	Dr. Raghubir Singh Assistant Professor	, D.A.V. College, Chandigarh	Group Theory and Spectroscopy	13-02-2015
12	Dr. Varinder Kaur Assistant Professor	Department of Chemistry, Punjab University, Chandigarh.	Electronic spectroscopy	13-02-2015

33. Teaching methods adopted to improve student learning:

Interactive projector, PowerPoint Presentations, models, Charts, assignments in addition to chalk and Black Board

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- Students of the department take part in public awareness programmes, departmental and cultural activities actively.

35. SWOC analysis of the department and Future plans

Strength

- Our dedicated Staff
- Outstanding results
- Sincere and hardworking Students.
- Well-equipped laboratories.
- Fully functional departmental library
- Internet facility for staff and students.

Weaknesses

- Deficient in regular qualified teaching staff.
- Lack of non-teaching staff
- Shortage of laboratories.
- Lack of sophisticated instruments.

Opportunities

- Facilities available for carrying on research.
- Students after completing PG degree can join Research or Teaching profession or industries.

Challenges

- To manage funds to meet growing needs of recurring expenditure.
- To attract meritorious students at entering level due to start of courses in large number of colleges.
- To involve all the students of PG class in Research.

PLANS

- Organize National level conference on recent trends in life sciences.
- To start five years integrated course of M.Sc. in Chemistry
- To Start Honors School in Chemistry.
- To start add on courses in applied field.

DEPARTMENTS OF PHYSICS

1. Name of the department : Department of Physics
2. Year of Establishment : 1968
3. Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D., and Integrated Masters; Integrated Ph.D. etc.)
: UG B.Sc. Non-Medical
4. Names of Inter-disciplinary courses and the departments/units involved
Environmental Education being integral part of curriculum, thus the entire departments of college are involved.
5. Annual/semester/choice based credit system (Programme wise)
Semester System: B.Sc. I
Annual System : B.Sc. II and III
6. Participation of the department in the courses offered by other departments
At present contribution not required by any other Department
7. Courses in collaboration with other universities, industries, foreign institutions, etc. At present we don't have collaboration with any department.
8. Details of courses/programmes discontinued (if any) with reasons
Nil
9. Number of teaching posts

Faculty	Sanctioned	Filled
Professors	-	-
Associate Professors	2	2
Asst. Professors	3	1 (protected by supreme court)

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D./M.Phil. etc.)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students
Mr. Jagdev Singh	M.Sc. M.Phil.	Associate Professor	Electronics	30	----
Mr. Balwinder Singh	M.Sc. M.Phil.	Associate Professor	Solid State Nuclear Track Detector	29	-----
Mrs. Sarabdeep Kaur	M.Sc. M.Phil.	Asst. Professor (PT)	Electronics	15	----
Guest Faculty	Arranged out of PTA fund for full session as guest faculty members. Preference is given to experienced and old faculty members working with the college.				

11. List of senior visiting faculty Nil

12. Percentage of lectures delivered and practical classes handled (Programme wise) By temporary faculty

S. No	Name of Programme	Lectures delivered	Practical classes
1	UG (B.Sc. I)	66	50
2	B.Sc. II	66	40
3	B.Sc. III	33	60

13. Student-Teacher Ratio (Programme wise)

S.No	Name of Programme	Student –Teacher ratio
1.	UG	72: 1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Kind of staff	<u>Number of Technical staff members</u>	
	Sanctioned	Filled
Technical Staff	5	2
Administrative staff	----	----

15. Qualifications of teaching faculty with DSc/ D.Litt/Ph.D/MPhil/PG.
Refer to S.No.10

16. Number of faculty with ongoing projects from a) National b)
International funding agencies and grants received
Nil

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received

Under star college scheme sanctioned in 2009-till date

Non-Recurring grant received : 5,00,000/-

Recurring Grant at the rate 2.0 lakhs

for first four years and 2.5 lakhs for

next years :10,50,000/-

18. Research Centre/facility recognized by the University

No separate research labs are available in the department; however, research facilities are available in working labs where students of UG courses work on minor projects.

19. Publications:

Sarabdeep Kaur Sidhu.

- B.K.Mishra, R.K.Tiwari, Sarabdeep Kaur and P.K Shrivastava. A study of relation between coronal mass ejection and cosmic ray intensity variation.
Ultra Science vol.22 (1),91.2010.
- Vastava, Prashanti, B.S.Satyul, Inderjit Singh, Sarabdeep Kaur. Long-term association of coronal mass ejections with cosmic rays and geomagnetic field variation .“ Fusion” March 2011, Vol.I. ; ISSN 2231-2005.

*** Number of papers published in peer reviewed journals (national/International) by faculty and students. 1**

***Number of publications listed in International Database (For E.g. :Web of Science, Scopus, Humanities International Complete, Dare Database – International Social Sciences Directory, EBSCO host, etc.)**

*** Monographs**

*** ChapterinBooks**

*** BooksEdited**

*** BookswithISBN/ISSNnumberswithdetailsofpublishers**

*** CitationIndex**

*** SNIP**

*** SJR**

*** Impactfactor**

*** h-index**

NA

20.Areas of consultancy and income generated

Consultancy service is provided to the needy ones. No income is generated.

21.Faculty as members in

a) National committees b) International Committees c)Editorial Board Nil

22.Student projects

a) Percentage of students who have done in-house projects including interdepartmental/Programme

Projects are performed by B Sc. III

Total numbers of students	No of students assigned Projects	Percentage of students done project
97	19	19.58

b) Percentage of students placed for projects in organizations outside the institution i.e. in Research laboratories/Industry/ other agencies

Nil

23. Awards/Recognitions received by faculty and students

Mr. Jagdev Singh Gill was awarded by All India Human Rights Association Jagraon for his social activities

24. List of eminent academicians and scientists/visitors to the department

- Dr. Darshan Singh from Department of Physics, Punjabi University Patiala on 23-2-2011
- Dr. Bhajan Singh from Department of Physics, Punjabi University Patiala on 22-2-2012 and 23-2-2013

25. Seminars/Conferences/Workshops organized & the source

of funding a) National b) International

Nil

26. Student profile Programme/course wise:

Name of the Course/Programme(refer question no. 4)	Applications received	Selected	Enrolled		Pass percent
			Male	Female	
B.Sc. I (2010-11)	320	143	44	99	Given in table below
2011-12	375	138	116	24	
2012-13	400	127	91	36	
2013-14	450	130	97	33	
2014-15	433	164	41	123	

Result of session 2013-14

Class	P.U result %	Result of Physics %
B.Sc.I	51.88	69.37 %
B.Sc.II	83.87	95 %
B.Sc.III	87.11	100

27. Diversity of Students

Name of the Course	%of students from the same state	% of students from other States	% of students from
B.Sc. I	100	Nil	Nil
B.Sc. II	100	Nil	Nil
B.Sc. III	100	Nil	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

NA

29. Student Progression

Student progression UG to PG	Against % enrolled
2009-10	35.57
2010-11	33.33
2011-12	54.05
2012-13	34.90
2013-14	39.26
Entrepreneurship/Self-employment	

30. Details of Infra structural facilities a)

Library: Available

b) Internet facilities for Staff & Students: Available

c) Class rooms with ICT Facility: Under

Process

d) Laboratories: 2, One Dark room fully equipped

31. Number of students receiving financial assistance from College, University, Government or other agencies

Scholarships for SC/BC, Minorities

session	Category	Number Of Students	Amount	
2013-14	SC/BC/Minority	235	2560266	Applied On Line
2014-15	SC/BC/Minority	300	3607780	Applied On Line

32. Details on student enrichment programmes (special lectures/workshops/Seminar) with external experts.

Sr. No	Name Of Speaker	Institute of the Speaker	Title of the lecturer	Date
1	Dr. Bhajan Singh Professor	Department of Physics, Punjabi University, Patiala	Nuclear Radiations and their applications	23-02-2011
2	Dr.Darshan Singh Professor	Department of Physics, Punjabi University, Patiala	Space, Weather and Sun Earth relationship	23-02-2011
3	Dr. Bhajan Singh Professor	Department of Physics, Punjabi University, Patiala	Nuclear radiation and their applications	22-02-2012
4	Dr. Bhajan Singh Professor	Department of Physics, Punjabi University, Patiala	Radiations, its origin and applications	23-02-2013
5	Dr. P.S.S. Sandhu Professor	Department of Physics, Punjabi University, Patiala	Modern learning techniques of electronics	23-02-2013

33. Teaching methods adopted to improve student learning

Seminars and Projects are given by the students on various topics of the syllabus. Quiz is also organized by department.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Faculty and students of the department are the members of the women forum. NSS, Red Cross. Mr. Jagdev Singh Coordinator of the NSS organize camps and Participates in various public awareness programmes.

35. SWOC analysis of the department and Future plans

Strength:

- Fully equipped labs
- Departmental library
- Faculty is well qualified and experienced.
- Participation of Students in competitions like National Graduate
- Physics Examination conducted by IAPT every year.

Weakness :

- shortage of regular staff.
- Lack of adequate number of laboratories

Objectives:

- To prepare the students for higher study.
- To make the students socially responsible.

Challenges:

- To attract regular faculty from other colleges.

Future plans:

- To start Honours in the subject
- To Start PG in Physics

DEPARTMENT OF ZOOLOGY

1. Name of the department : Department of Zoology
2. Year of Establishment : 1982
3. Names of Programmes /Courses offered(UG ,PG , M .Phil. , Ph.D. ,and Integrated Masters ;Integrated Ph.D. ,etc.)
: U G B. Sc. Medical
4. Names of Inter disciplinary courses and the departments /units involved
Environmental Education being integral part of curriculum, thus the entire departments of college are involved.
5. Annual/semester/choice based credit system (Programme wise)
Semester System: B. S c .I
Annual System : B. Sc. II and III.
6. Participation of the department in the courses offered by other departments
Biology for Chemist is taught to M.Sc. Chemistry.
7. Courses in collaboration with other universities, industries, foreign institutions, etc. : At present we don't have collaboration with any department.
8. Details of courses/ programmes discontinued (if any) with reasons
Nil
9. Number of teaching posts

	Sanctioned	Filled
Professors	-	-
Associate Professors		
Asst. Professors	4	1 (protected by supreme court)

10. Faculty profile with, name, qualification, designation, specialization, (D.Sc. /D.Litt. /Ph.D./M. Phil .etc.)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students Guided for the last 4 years
Ms. Sarab Jote Bedi	M.Sc. M.Phil.	Asst. Professor [PT]	Entomology Embryology Genetics	18	----
Three Guest Faculty teachers are working on vacant posts					

11. List of senior visiting faculty Nil

12. Percentage of lectures delivered and practical classes handled (Programme wise)

By temporary faculty

S. No	Name of Programme	Lectures delivered	Practical classes
1	U G (B.Sc. I , II , III)	100 %	82 %

13. Student-Teacher Ratio (Programme wise)

S. No	Name of Programme	Student –Teacher ratio
1	UG	52 : 1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Kind of staff	<u>Number of Technical staff members</u>	
	Sanctioned	Filled
Technical Staff	3	1
Administrative staff	----	----

15. Qualifications of teaching faculty with D. Sc /D . Litt / Ph .D / M .Phil /PG.

Refer to S.No.10

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received

Nil

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received

Under star college scheme sanctioned in 2009-till date

Non-Recurring grant received : 5,00,000/=

Recurring Grant at the rate 2.0 lakhs

for first four years and 2.5 lakhs for

next year :10,50,000/-

18. Research Centre/facility recognized by the University

No separate research labs are available in the department; however, research facilities are available in working labs where students work on minor projects.

19. Publications:

* a) Publication per faculty

Ms. Kamalpreet Kaur

Kamalpreet Kaur and D. K. Kocher (2015) Effect of water salinity and pH on survival and developmental period of *Aedes* mosquito larvae . Accepted for publication

* Number of papers published in peer reviewed journals (national/International) by faculty and students

* Number of publications listed in International Database (For Eg .:Web of Science , Scopus , Humanities International Complete , Dare Database-International Social Sciences Directory , EBSCO host , etc.)

* Monographs

* Chapter in Books

* Books Edited

* Books with ISBN /ISSN numbers with details of publishers

* Citation Index

* SNIP

* SJR

* Impact factor

* h-index

20.Areas of consultancy and income generated-Nil

21.Faculty as members in

a)National committees b) International Committees c) Editorial Boards....-Nil

22.Student projects

a) Percentage of students who have done in-house projects including inter departmental/ Programme –

Class	Students	%
B.Sc.I	43.	61.42%,
B.Sc .II	70.	100%,
B.Sc.III	22	42.30%)

b) Percentage of students placed for projects in organizations outside the institution i.e. in Research laboratories/Industry/ other agencies - Nil

23. Awards/Recognitions received by faculty and students - Nil

24. List of eminent academicians and scientists/visitors to the department

1. Dr .C . K. Dhanju Professor Department of Zoology P A U Ludhiana (2009)

2. Dr . Deepka Lal Physian Kalyani Hospital Jagraon (2009) .

3. D r .O .S. Baraich Assistant Professor Department of Zoology Punjabi University Patiala (2010).

4. Dr .O . S . Baraich Assistant Professor Department of Zoology Punjabi University Patiala.

5. Dr. N .R . Kumar Department of Zoology Punjab University Chandigarh.(2013).

6. Dr . Jagbir Singh Department of Zoology Punjabi University Patiala.

25. Seminars/Conferences/Workshops organized & the source

of funding a) National -NILb) International-NIL

26. Student profile Programme /course wise:
(Session 2014-15)

Name of the Course/ Programme(refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			* M	*F	
B.Sc.I	240	84	11	73	Result awaited
B.Sc.II	71	71	2	69	Result awaited
B.Sc.III	52	52	03	49	Result awaited

Session 2013-14

Name of the Course/ Programme(refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			* M	*F	
B.Sc.I	173	82	08	74	94.28 %
B.Sc.II	57	57	4	53	100 %
B.Sc.III	35	35	01	34	100 %

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
B.Sc .I	100%	Nil	Nil
B.Sc .II	100%	Nil	Nil
B.Sc. III	100%	Nil	Nil

28. How many students have cleared national and state competitive

examinations such as NET , SLET , GATE , Civil services , Defense services ,etc.?

-N.A.

29. Student progression

Student progression	Against % enrolled			
	2010-11	2011-12	2012-13	2013-14
UG to PG	75.0	70.58	65.0	67.74
PG to M.Phil.				
PG to Ph.D.				
Ph.D. to Post-Doctoral	NA		NA	
Employed <ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	Students get selection on their own off the campus			
Entrepreneurship/Self-employment				

30. Details of Infrastructural facilities

a) Library- Available

b) Internet facilities for Staff Students : Available

c) Class rooms with I C T Facility :Available

d) Laboratories : Available

31. Number of students receiving financial assistance from College , University Government or other agencies

Session	Category	Number of Students	Amount (Rs.)
2013-14	SC/BC/MINORITY	78	Applied on line
2014-15	SC/BC/MINORITY	101	Applied on line

32. Details on student enrichment programmes (special lectures/workshops/Seminar) with external experts

Sr. No	Name Of Speaker	Institute of the Speaker	Title of the lecturer	Date
1	Dr. C.K. Dhanju Professor	Department of Zoology PAU Ludhiana	Effects of Environmental Pollution on the reproductive biology of animals and man	21-12-2009
2	Dr. Deepka Lal	Kalyani Hospital, Jagraon	AIDS: its causes and controls	21-12-2009
3	Dr. O.S. Baraich Asst Professor	Department of Zoology, Punjabi University, Patiala	Status on Wet land Conservation and management in Punjab	12-11-2010
4	Dr. O.S. Baraich Asst Professor	Department of Zoology, Punjabi University, Patiala	Biodiversity of Punjab	01-11-2011
5	Dr. Sajid Husain Professor	Department of Microbiology G.N.D. University, Amritsar	Emerging viruses and Hepatitis -C	04-02-2013
6	Dr. N.R. Kumar, Professor	Department of Zoology, Panjab University, Chandigarh	A Bee C of a Busy Bee	09-02-2013
7	Dr. Jagbir Singh, Prof & Head	Department of Zoology, Punjabi University, Patiala	Environmental degradation, Climate Change and Human Health	23-02-2013

33. Teaching methods adopted to improve student learning:

1. Use of Internet by Staff & Students.
2. Charts.
3. Models.
4. Specimens (original-preserved in jars & plasto mounts).
5. Chalk & Board method.
6. Introduction of smart class room system.
7. Dictation of notes as per requirement.
8. MIPS , PPT and OHP

34. Participation in Institutional Social Responsibility (ISR) and Extension activities as given in department of botany

35. SWOC Analysis of the department and Future plans

Strength

- Our dedicated Staff
- Outstanding results
- Sincere and hardworking Students.
- Well-equipped laboratories.
- Fully functional departmental library
- Internet facility for staff and students.

Weaknesses

- Deficient in regular qualified teaching staff.
- Lack of non-teaching staff
- Shortage of laboratories.

Opportunities

- Facilities available for carrying on research.

Challenges

- To manage funds to meet growing needs of recurring expenditure.
- To attract meritorious students at entering level due to start of courses in large number of colleges.

PLANS

- Organize National level conference on recent trends in life sciences.
- To start add on courses in applied field.

POST ACCREDITATION INITIATIVES

The college was accredited with B⁺⁺ grade by the NAAC in 2004. The suggestions put forwarded by the NAAC peer team to improve the functioning of the college further have been fully taken care of during post accreditation period.

- The specific objective like holistic development of students, improving their communication skills, inculcating the ideas of community service has been identified. A strategic plan has been framed to fulfil these objectives.
- To enhance the communication skills of the students language lab has been established.
- A proposal to introduce job oriented courses like
 - a) Information and Computer sciences
 - b) Biotechnology
 - c) Electronics Hardware Maintenance
 - d) Food technology
 - e) Agriculture: Mushroom cultivation, Floriculture Landscaping, /apiculture /Organic Farming

has been sent to UGC for financial assistance

- In order to manage bio waste of the college a vermicomposting unit has been established, the organic manure thus produced is used in the college campus
- MIPS, Power point presentation, OHP's and interactive projectors and other teaching aids are being used to full extent for better understanding of the concepts.
- Photostat facility is available in the college for the student
- The students are allowed to have access to internet facility in the department as well as in UGC network resource centre and computer lab.
- New books and journals have been added under the star college scheme and other funds.
- IQAC of the college has been constituted for internal quality enhancement, it comprised of 8 faculty members, two alumni and two

students under the chairmanship of director of the college. They have done commendable jobs in quality enhancement.

- The counselling and guidance has been strengthened to guide and prepare the student in effective way. Not only the information regarding career choice is provided to them but practically also trained by organizing lectures on the topics like resume writing and interview skills.
- A number of plants has been introduced in the college to increase the green belt of the campus.
- College has developed its own website and e-mail
- The important information is displayed on the website.
- Infrastructure of the laboratories have been strengthened under the star college and UGC scheme.

**Peer Team Report on
Institutional Accreditation of
Sanmati Govt. College of Science Education And
Research
Jagraon, Dist- Ludhiana, Punjab**

Dated 29&30th October,2003

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous ^{institution} of the University Grants Commission
2/4, Dr. Rajkumar Road, P.O. Box No. 1075, Rajajinagar
Bangalore-560 010 India

**Peer Team Report on
Institutional Accreditation of
Sanmati Govt. College of Science Education and Research
Jagraon, Dist – Ludhiana, Punjab**

Section I Preface

Sanmati Govt. College of Science Education and Research, Jagraon (Punjab) affiliated to the Punjab University, Chandigarh is a Govt. funded college. This college has been established in the year 1968 and located in a semi-urban area. The campus is spread over a sprawling area of 40 acres. It has an enrollment of 357 students of which 298 have offered UG and 59, PG programmes. The college has total 09 departments including two post-graduate departments of Botany, Chemistry and 35 teaching faculty and includes 19 permanent, 08 part time, 08 guest lecturers and 51 non-teaching staff members. The college has the central library, computer centre, Health centre, Sports facilities, Girls' Hostel, Guest house, Director's residence, Canteen, Botanical Garden, Animal House and generator of 25 KW. The college is recognized by the UGC under section 2f and receiving development assistance.

Sanmati Govt. College of Science Education and Research, Jagraon Dist. Ludhiana, Punjab has volunteered to be assessed by the National Assessment & Accreditation Council (NAAC) and submitted its self study report (SSR) on 30th April 2003. The council constituted a Peer Team consisting of Prof. R. S. Mali, Vice-Chancellor, North Maharashtra University, Jalgaon (M.S.) as chairperson and Dr. K. N. Patil, Principal, Vidya Bharati Mahavidyalaya, Amravati (M.S.), Dr. (Ms). Bala Dhankhar, Principal, Maharaja Aggrasen College, Jhajjar, Haryana, as team Members. Dr. G. Srinivas, Deputy Adviser from NAAC coordinated the Peer Team visit. The Peer Team visited the institution on 29th & 30th October 2003.

The peer team has carefully analyzed the Self Study Report (SSR) submitted by the college, verified the data presented and confirmed the facts during the two day visit to the college through interactions with the Director, Faculty, Students, PTA, Alumni and staff etc. The peer team has also visited all the academic departments, Facilities etc to arrive at an understanding about the institution and prepared the peer team report. Accordingly the assessment of the college under the various criteria as prescribed by the NAAC has been conducted. The criterion-wise peer team

Page 1



NAAC For Quality and Excellence in Higher Education

report including the commendable features and the issues of concern are detailed in the following pages.

Section II : Criterion-wise Analysis

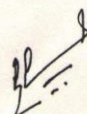
Criterion – I : Curricular Aspects

- As an affiliated college of the University of the Punjab, the college follows the syllabi prescribed by the University for B.Sc. (N.M. and M.) and M.Sc. Botany and Chemistry in the non-semester pattern (Annual). The college offers four programmes two UG and two PG programmes. A certificate programme in computer IT Primer I, II is being conducted by MoU with Tata Infotech. Except for the certificate course, the UG and PG Programmes are of a conventional nature since college is working in a affiliating system.
- The college takes six months to one year to introduce new programme within the regulations of the present University system. The college lecturers contribute in the framing of the syllabi of various subjects by making suggestions to B.O.S. Some teachers are members of the BOS in Punjab University. The existing curricula for a subject is reviewed and updated generally after a span of three years or whenever it is required. The mission and goals of the college include overall development of the personality of the students through extension activities like environmental awareness, NSS, youth and cultural activities, etc.
- The range of programme options available to the students are B.Sc. and M.Sc. in Botany and Chemistry.

Criterion - II : Teaching, Learning and Evaluation

- Admission to the various courses of study in the college is through academic merit in the qualifying examination. Some seats are reserved in accordance with the policy of reservation of the Punjab Govt.
- The college has a provision for assessing the student's knowledge and skill after admission through class tests, house examinations and seminars(for P.G. Students).
- The college conducts Remedial Courses for disadvantaged students (weaker section) with assistance of UGC. The advanced learners are challenged to work ahead of the rest by seeking extra guidance from the teachers during free time and through computer education.

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- The teachers are encouraged to make teaching plan unitized into 4 phases and progress of the course taught, is monitored by the college Director in the staff meetings. The college supplements the lecture method of teaching in class by giving home assignments, showing slides through OHP, slide projector, models, charts and students are exposed to industries, universities, labs and field visits. Charts are used by PG students as a significant teaching aid under the guidance of teachers during seminars.
- Evaluation methods are communicated to the students orally by the teachers and also through prospectus at the beginning of the year. The college monitors the overall performance of students at the beginning of the year asking questions orally and by occasional class tests and observing their skill in practical classes.
- Regular teachers are recruited by the Punjab Govt. through the Punjab Public Service Commission. The new teaching posts are created when there is academic growth and or after the introduction of a new subject / course / option. The college has the freedom to appoint and pay temporary / ad hoc teaching staff and guest faculty out of PTA.
- Two teachers have participated in National level seminar / workshop and one as a resource person.
- The teacher's performance is assessed through an annual confidential report and the results of University Exam. by the Director and if the performance is unsatisfactory, it is communicated to the teacher concerned with advice for improvement in future. There is no institutional mechanism for faculty appraisal.
- The college collects student evaluation on campus experience through 'Students' Questionnaire' duly filled in by the students.
- Twelve teachers have been benefited by attending Refresher and Orientation courses.
- The college considers visiting different laboratories, institutions and universities for developing national / international linkages for teaching and / or research.

Criterion – III : Research, Consultancy and Extension

- The college promotes research by allowing teachers to go on study leave.
- There are 07 and 09 teachers having M.Phil. and Ph.D. degrees respectively. However there seems no active research being carried out

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in the college. There is only one publication in the year 2001 and no publication thereafter but there are 15 publications in the previous years.

- Similarly, no consultancy services are provided by the college, but there is potential in some areas where consultancy services could be possible. These areas are to be identified. This exposure will enrich the faculty and will also greatly help the students and society.
- The college has designated ¹⁵⁻⁶ ~~him~~ ^{them the} teachers for undertaking extension activities by assigning ~~him~~ ^{them the} an additional charge. Extension activities undertaken by the college include Social work, Health Hygiene awareness, AIDS awareness, Dowry System, Blood donation, Environmental awareness and Drug addiction etc. This work is appreciated and recognized by the institution. The college works and plans all these activities with the help of NGOs and GOs. Students participating in NSS programmes are given incentive marks. There is scope for further utilization of the potential of the students in extension activities and outreach programmes in the field of Empowerment of Women as there are 13 female teachers and 233 girl students out of 357 enrolled.

Criterion – IV : Infrastructure and Learning Resources

- The college being a Govt. college established 35 years ago, has expanded its infrastructural facilities in the form of Main building, laboratories, gas plant, library, museum, girls hostel, botanical garden in a campus. The college has provided Director's residence and Class IV quarters.
- There is a big library in the college which includes 12,900 books on different subjects with some Scientific Journals, Abstracts, Reviews, Monographs, etc. The library opens on all the working days from 9 a.m. to 4 pm., but college has to strengthen computer, reprography and internet facilities. A few additions of Journals / periodicals in the library will not only strengthen and enrich the library but will also be of great help to faculty and students. Therefore the library facilities need to be revamped. Arrangements may be made to allow free access for students.
- The college has a physical education centre with sports facilities on the playground for Hockey, Football, Basketball, Athletics, 400 meter track (8 lanes) of international standard and Olympic torch.

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- The college has first aid facilities medical checkup and one post of nurse for minor ailments. Employees / students are provided with medical help in the state-run hospital or civil hospital.
- The college campus is kept beautiful and pollution free by a dedicated team of

Gardeners and other staff. All the infrastructural facilities are maintained by PWD, B & R, Public Health and from P.T.A. funds.

- The college has a botanical garden in an area of 3.32 acres in which 300 species of plants which are uncommon and have a varied importance are grown.

Criterion – V : Student Support and Progression

- The college consistently maintains very good results including ranks in the University Examination.
- Success rate is high and dropout rate is low. This is an admirable feature of the college.
- Ten students have cleared UGC-CSIR(NET) Examination and one passed TOEFL.
- Financial aid is available and provided to the needy students in the form of scholarships like Merit Scholarships, National scholarships, Terrorist affected students and other agencies.
- Progression to further study is about 30%.
- The college has recently developed employment guidance/ placement cell.
- There is an Alumni Association, but a list of past students holding prominent positions has been perused and appreciated by the Peer Team. A registered Alumni Association is therefore suggested as it will be able to mobilize resources for the benefit of the college and students.
- Adequate sports and recreational services are available.
- The students have participated in Athletics at the University level in 100 meter Hurdles and 100 meter Race and got IV and VII places respectively at the university level.

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Criterion – VI : Organisation and Management

- The college is a Govt. institution, being run and governed by the rules of the Punjab Govt.
- There is the College Council consisting of five seniormost teachers, HODs, Bursar and Registrar under the guidance of College Director for internal co-ordinating and monitoring system for various functioning of the college.
- Staff members are divided into small committees and put in charge of various responsibilities pertaining to day to day functioning of the college.
- There is a periodical inspection by the Punjab University, Chandigarh after every five years.
- Recruitment of the staff is made by the Punjab Govt. and in case of an emergency, Director has freedom to appoint visiting faculty.
- The college has a Grievance Redressal Cell.
- The college has regular budgetary provision though inadequate. Accounts are audited by local C.A. followed by AG of the Punjab Govt. Funds under PTA for development is appreciable.
- The college has various welfare programmes for students like Education Fund and Book Bank facility. Facilities are also provided to the regular employees of the college.

Criterion - VII : Healthy Practices

- The college imparts Value-Based education to the students by inviting eminent persons for lectures and seminars.
- The community orientation is brought in the college through activities like lectures on Dowry, Drug Addiction, AIDS and NSS camps. The young blood donors association is doing good social work.
- The college has strong PTA which augments the academic and infrastructural needs of the college.
- The college has generated healthy academic atmosphere in the campus. Teachers are committed. The teachers students have cordial relations.
- The students are very enthusiastic and majority of them are found to be serious of their studies and emotionally attached to the college.
- For all round development of the student's personality, college organizes Quiz competition, cultural festivals, debates and elocution and sports.

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- Various activities conducted in the college help the students to work as a part of the team like NSS, Giddha, Bhangras, one-act plays and Sports Events.

Section 3 : Overall Analysis

After going through the Self-Study Report and visit to the institution it has been observed that the college has been translating its goal and objectives effectively in imparting higher education and overall development of students through its academic and extension activities.

The peer team considers that there are several good features in the college. These will aid the college to further work towards quality assurance of academic standards. of the college, certain areas of concern for its consideration. The peer team would like to commend the institution for several best things including some of the following aspects:

- High success rate and low dropout rate are admirable.
- Facilitating aspect of the institution to promote student participation in extension activities and sports.
- Adequacy in the maintenance of infrastructure.
- Beautiful and pollution free environment spread over 40 acres campus.
- The botanical garden is impressive with good species diversity .
- The college conducts certificate programs in Computers in collaboration with Tata Infotech.
- The college has obtained permission for NRI quota admissions in PG classes from the session 2004-05.
- The college is constructing Multipurpose Hall with support from MPLADs and PTA etc.
- The young blood donors association is doing good social work
- The college has 110 capacity girls hostel with excellent facilities and maintenance.
- The college has subject societies i.e. Botanical Society Association, Chemical Society Association etc. which encourage and promote students academic activities.
- The performance of the students in general and in particular in post graduate courses of Botany and Chemistry are impressive.

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- Involvement, encouragement and participation given by the Director of the institution who resides in the campus and keeps watch for 24 hrs. in the college functioning, good human relationship and effective leadership resulting in efficient team work.

Despite the constraints pertaining to governance of State Govt. and affiliating system of the university, the peer team would suggest the following for consideration of the college:

- The college should identify specific objectives and make strategic plans to attain the overall mission.
- The college may explore the possibility of introducing more course options to increase flexibility in course combinations keeping in mind the latest trends and societal needs. Institutions own Certificate programmes in relevant areas such as Functional English, Communicative English, Vermiculture, Plantation techniques, Laboratory techniques etc.
- The Library can get computerized with the support of INFLIBNET, Ahmedabad. The library needs further improvement including strengthening of book bank scheme. There is need of more new books. There is requirement of procuring few more research journals particularly in post graduate subjects.
- Teaching aids, supplementary academic recourses, Xerox, OHP etc need to be effectively used.
- Access to computers Internet and student support services like placement cell need be strengthened. The administrative staff may be trained in the use of computer facilities.
- The counseling and guidance cell need to be strengthened to further evolve effective planning and suitable strategies for the career benefits of the students.
- Complementary systems like self-financing need-based courses, non-formal mode and distance education are suggested for strengthening regular academic programme.
- National / international linkages, for teaching and research may require to be established

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- The self-appraisal and other appraisal mechanism of the teachers has been introduced to strengthen the faculty. Similarly formal mechanism for collecting feedback from students on the various aspects of their learning experience at the departmental / institutional level has been instituted.
- To strengthen and widen the teaching learning process, it is necessary to recruit teaching staff against vacant positions as there is no recruitment since 1996. The institute is meeting its teaching requirements by appointing temporary teachers with the support of Parents teachers Association
- The college may try for the establishment of National / International linkages for teaching and research.
- Possible areas for consultancy services need to be identified and formalized.
- The Alumni Association is yet of an informal nature and needs to be established as a registered body.
- The spacious land of the college can be further utilized for raising wood plantations in addition to existing plants with support of agencies such as Social Forestry, Department of Environment etc.
- The college can have its Website and E-Mail etc to provide better information to stake holders.
- There is need of adopting Microanalysis laboratory techniques in Chemistry.
- Laboratory infrastructure needs improvement including subjects offering postgraduate courses.
- There is need of greatly strengthening the research atmosphere in the college. The faculty members are advised to take up minor and major research projects with the assistance of UGC, CSIR, DST, DBT, DOEn etc. Research projects and activities will also enrich the laboratory and library facilities in addition to spill over effect on teaching, learning activities of the college.

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राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद्

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

Certificate of Accreditation

*The Executive Committee of the
National Assessment and Accreditation Council
on the recommendation of the duly appointed
Peer Team is pleased to declare the
Sanmati Government College of
Science Education & Research*

Jagraon, Dist. Ludhiana, affiliated to Panjab University, Chandigarh as

Accredited

at the B⁺⁺ level.

Date : January 08, 2004



Masad
Director

- This certification is valid for a period of Five years with effect from January 08, 2004
- An institutional score (%) in the range of 55-60 denotes C grade, 60-65 - C⁺ grade, 65-70 - C⁺⁺ grade, 70-75 - B grade, 75-80 - B⁺ grade, 80-85 - B⁺⁺ grade, 85-90 - A grade, 90-95 - A⁺ grade, 95-100 - A⁺⁺ grade (upper limits exclusive).

Quality Profile

Name of the Institution : Sanmati Government College of
Science Education & Research

Place : Jagraon, Dist. Ludhiana, Punjab

Criterion	Criterion Score (Ci)	Weightage (Wi)	Criterion X Weightage (Ci x Wi)
I. Curricular Aspects	80	10	800
II. Teaching-learning and Evaluation	85	40	3400
III. Research, Consultancy and Extension	60	05	300
IV. Infrastructure and Learning Resources	75	15	1125
V. Student Support and Progression	80	10	800
VI. Organisation and Management	85	10	850
VII. Healthy Practices	80	10	800
		100	$\Sigma C_i W_i = 8075$

$$\text{Institutional Score} = \frac{\Sigma C_i W_i}{\Sigma W_i} = \frac{8075}{100} = 80.75$$

Harad
Director

विश्वविद्यालय अनुदान आयोग
UNIVERSITY GRANTS COMMISSION

All communications should be addressed to the
Secretary by designation and not by name

बहादुरशाह जफर मार्ग
BAHADUR SHAH ZAFAR MARG

नई दिल्ली-१, तिथि October, 1969.
NEW DELHI-1, Dated

संख्या No.F.13-14/69(CD)
No.

To

The Registrar,
Panjab University,
Chandigarh-14.

Subject: List of colleges prepared under section 2(f)
of the UGC Act, 1956 - inclusion of new
colleges in the -

I am directed to refer to your letter No.Misc/20199,
21238, 21631, 21627 dated 30-9-69, 14-10-69, 17-10-69 and
17-10-69 respectively on the above subject and to say that
the following colleges have been included in the above list:-

1. Nehru Memorial College, Hansi.
- ✓ 2. Govt. College of Science, Educational Research,
Jagraon.
3. Lalpat Rai Centenary College, Dhudike (Distt: Feroz-
pur).
4. Vaish College of Education, Rohtak.

Yours faithfully,

(Inder Lal)
for Secretary

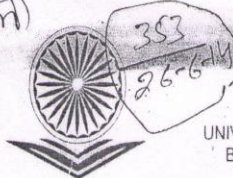
Copy forwarded to:

1. The Principal, Nehru Memorial College, Hansi.
- ✓ 2. The Principal, Govt. College of Science, Educational
Research, Jagraon.
3. The Principal, Lalpat Rai Centenary College,
Dhudike (Distt: Ferozpur).
4. Vaish College of Education, Rohtak.
5. E.O. (C-II)
6. E.O. (S&P)
7. E.O.S.A.)
8. A.O.U.G.C.

(Inder Lal)
for Secretary

Ph. 23236351, 23232701, 23237721
23234116, 23235733, 23232317
23236735, 23239437, 23239627

Extension No. 413 (CPP-I Colleges)
UGC Website: www.ugc.ac.in
F. No. 8-326/2013 (CPP-I/C)



Speed post

विश्वविद्यालय अनुदान आयोग
बहादुरशाह जफर मार्ग
नई दिल्ली-110 002
UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110 002

June, 2014

The Principal,
S. Govt. College of Science Education & Research
Jagraon, Dist. Ludhiana
Punjab

17 JUN 2014

**Sub: - Recognition of Sanmati Govt. College of Science, Education & Research,
Jagraon, Dist. Ludhiana, Punjab under Section 2 (f) & 12 (B) of the UGC Act, 1956.**

Sir,

With reference to your letter no. UGC/14/090 dated 19.03.2014 on the above subject, I am directed to say that the name of **Sanmati Govt. College of Science, Education & Research, Jagraon, Dist. Ludhiana, Punjab** established in the year of 1968, affiliated to **Punjab University** is included in the list of Colleges maintained under Section 2 (f) & 12 (B) of the UGC Act, 1956 under the head **Government College teaching upto Master's Degree.**

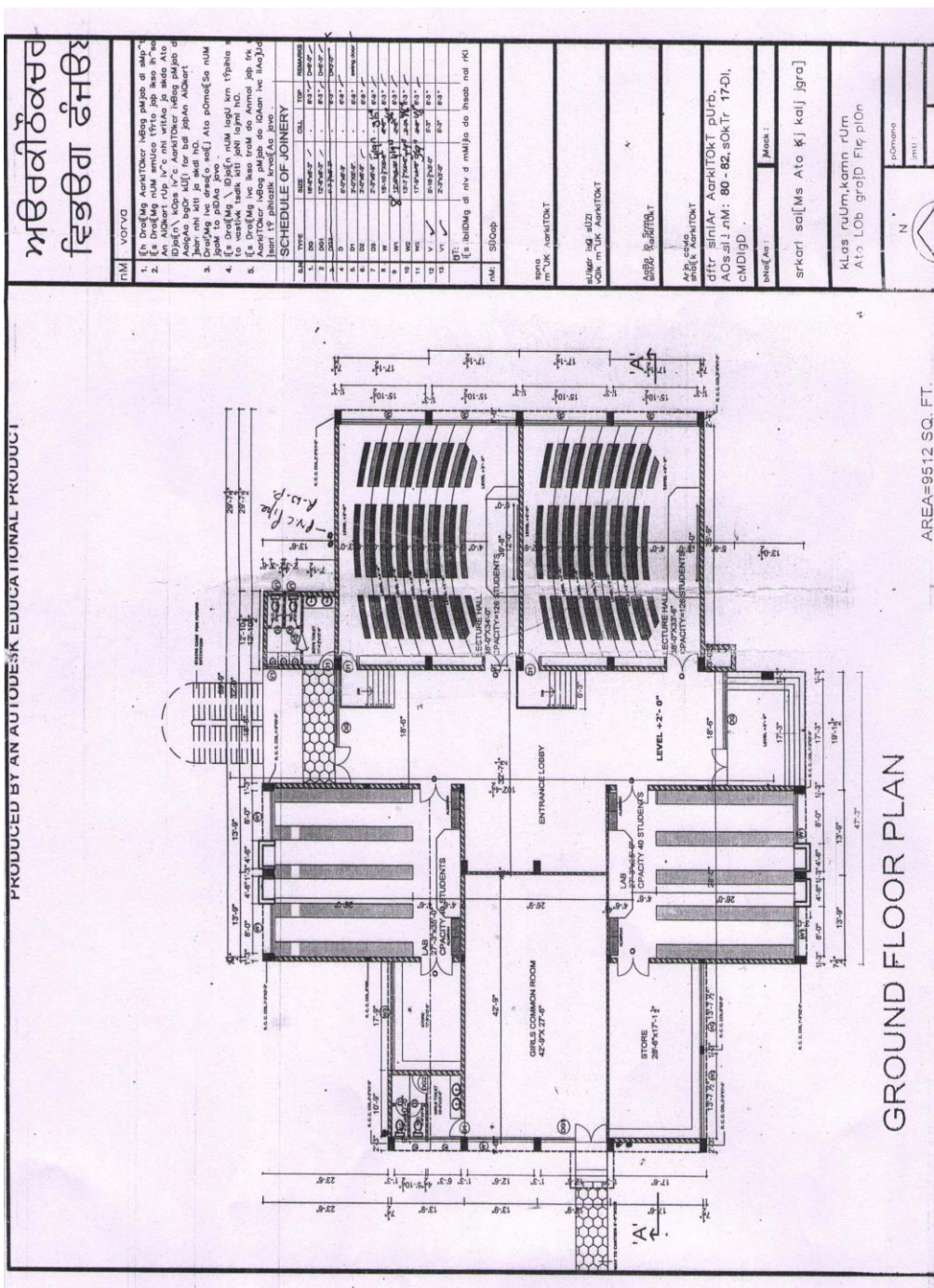
Yours faithfully,

Charan Dass
(Charan Dass)
Under Secretary

Received by 13/7/14
4/7/14



Master Plan of the College



Plan of New Block