

Self-Study Report for Autonomous Colleges

Profile of the Autonomous College

1. Name and address of the College:

Name: Guru Nanak Dev Engineering College

Address: Gill Park, Gill Road, Ludhiana

City: Ludhiana District: Ludhiana State: Punjab

Website: www.gndec.ac.in

2. For communication:

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Principal	Dr. M.S.Saini	O: 0161- 2502700 R: 0161- 5064600	09855400448	0161- 2502700	director@gndec.ac.in
Vice Principal	N.A.				
Steering Committee Co- ordinator	Dr R P Singh	O: 0161- 2502700 R: 0161- 2505771	09815298388	0161- 2502700	rpsingh@gndec.ac.in

3. Status of the Autonomous College by management.

- i. Government
- ii. Private
- iii. Constituent College of the University

4. Name of University to which the College is Affiliated

Punjab Technical University, Kapurthala

5. a. Date of establishment, prior to the grant of ‘Autonomy’ (8th April, 1956)
b. Date of grant of ‘Autonomy’ to the College by UGC: (27th Aug, 2012)

6. Type of institution:

a. By Gender

- i. For Men
- ii. For Women
- iii. Co-education

√

b. By shift

- i. Regular
- ii. Day
- iii. Evening

√

c. Source of funding

- i. Government
- ii. Grant-in-aid
- iii. Self-financing
- iii. Any other (Please specify)

√

7. Is it a recognized minority institution?

Yes

√

No

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

Religious

8. a. Details of UGC recognition:

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks (If any)
i. 2 (f)	F.No. F-2.2/1/2012 dated 17.8.2012	-
ii. 12 (B)	F.No. F-2.2/1/2012 dated 17.8.2012	-

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

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

Under Section/clause	Day, Month and Year (dd-mm-yyyy)	Validity	Programme/ institution	Remarks
F.No.North-West/1-1369808453/2013/EOA	19.3.2013	2013-14	All courses	

(Enclose the Certificate of recognition/approval)

9. Has the College been 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 contributions/performance by any other governmental agency?

Yes No

If yes,

Name of the agency 1. Accredited by NBA, New Delhi (2004)

F.No. NBA/ACCR-256/2003 Dt. 17-6-2004

2. Accredited by NBA, New Delhi (2008)

F.No. NBA/ACCR-256/2003 Dt. 17-6-2004

3. NPIU, MHRD (GOI), New Delhi

10. Location of the campus and area:

Location *	Urban
Campus area in sq. mts or acres	67 Acres
Built up area in sq. mts.	36746 sq. mts.

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

11. Does the College have the following facilities on the campus (Tick the available facility)? In case the College has an agreement with other agencies in using such facilities provide information on the facilities covered under the agreement.

• Auditorium/seminar complex Yes

• Sports facilities

* play ground Yes

* swimming pool Yes

* gymnasium Yes

• Hostel

* Boys' hostels Yes

* Girls' hostels Yes

• Residential facilities

* for teaching staff Yes

* for non-teaching staff Yes

• Cafeteria Yes

• Health centre –

○ First aid facility Yes

○ Inpatient facility No

○ Outpatient facility Yes

○ ambulance facility Yes

- emergency care facility Yes

Health centre staff –

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

 - Other facilities
 - Bank Yes
 - ATM Yes
 - post office Yes
 - book shops Yes
 - Transport facilities
 - * for students Yes
 - * for staff Yes
 - Power house Yes
 - Waste management facility Yes

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

Sl. No.	Programme Level	Name of the Programme/Course	Duration	Entry Qualification	Medium of instruction	Sanctioned/approved Student intake	No. of students admitted
1	UG	B.Tech.	4 years	10+2	English	825 +41*	843
2	PG	M.Tech.	2 years	B.Tech.	English	248	219
		MBA	2 years	Graduation	English	60	54
		MCA	3 years	Graduation	English	60	29
3	Integrated Masters	—	—	—	—	—	—
4	M.Phil.	—	—	—	—	—	—
5	Ph.D.	Ph.D.	—	PG	English	—	39
6	Integrated Ph.D.	—	—	—	—	—	—
7	Certificate	—	—	—	—	—	—
8	Diploma	—	—	—	—	—	—
9	PG Diploma	—	—	—	—	—	—
10	Any other (please Specify)	—	—	—	—	—	—

*Fee Waiver Scheme

13. Does the institution offer self-financed Programmes?

Yes No ✓

If yes, how many?

14. Whether new programmes have been introduced during the last five years?

Yes	<input checked="" type="checkbox"/>	No	
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If yes

Number	01
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15. List the departments: (Do not list facilities like library, Physical Education as departments unless these are teaching departments and offer programmes to students)

Particulars	Number	Number of Students
Science Under Graduate Post Graduate Research centre(s)	—	—
Arts Under Graduate Post Graduate Research centre(s)	—	—
Commerce Under Graduate Post Graduate Research centre(s)	—	—
Any Other (Engineering) Under Graduate Post Graduate Research centre(s)	07 07	3424 446
Any Other (Management) Under Graduate Post Graduate (MBA) Research centre(s)	01	113
Any Other (Computer Applications) Under Graduate Post Graduate (MCA) Research centre(s)	01	126

16. Are there any UG and/or PG programmes offered by the College, which are not covered under Autonomous status of UGC? Give details.

No

17. Number of Programmes offered under (Programme means a degree course like BA, MA, BSc, M Sc, BCom etc.)

- a. annual system
- b. semester system
- c. trimester system

18. Number of Programmes with

- a. Choice Based Credit System
- b. Inter/multidisciplinary approach
- c. Any other (specify)(Percentage basis)

19. Unit Cost of Education

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

- (a) including the salary component
- (b) excluding the salary component

20. Does the College have a department of Teacher Education offering NCTE recognized degree programmes in Education?

Yes No

If yes,

- a. How many years of standing does the department have?
..... years
- b. NCTE recognition details (if applicable)
Notification No.:
Date: (dd/mm/yyyy)
- c. Is the department opting for assessment and accreditation separately?
Yes No

21. Does the College have a teaching department of Physical Education offering NCTE recognized degree programmes in Physical Education?

Yes No

If yes,

- a. How many years of standing does the department have?
..... years
- b. NCTE recognition details (if applicable)
Notification No.:
Date: (dd/mm/yyyy)
- c. Is the department opting for assessment and accreditation separately?
Yes No

22. Whether the College is offering professional programme?

Yes No

If yes, please enclose approval / recognition details issued by the statutory body governing the programme.

Approval Letter No. of AICTE

F.No. North-West/1-1369808453/2013/EOA Dated: 19th March, 2013.

23. Has the College been reviewed by any regulatory authority? If so, furnish a copy of the report and action taken there upon.

College is regularly monitored by the Performance Auditor appointreed by NPIU, MHRD (GOI), New Delhi (copy attached)

24. Number of teaching and non-teaching positions in the College

Positions	Teaching faculty						Non- teaching staff		Technical staff	
	Professor		Associate Professor		Assistant Professor					
	*M	*F	*M	*F	*M	*F	*M	*F	*M	*F
Sanctioned by the UGC / University / State Government	—	—	—	—	—	—	—	—	—	—
<i>Recruited</i>	—	—	—	—	—	—	—	—	—	—
<i>Yet to recruit</i>										
Sanctioned by the Management/Society or other authorized bodies	13	—	23	3	76	65	67	29	54	5
<i>Recruited</i>	6	—	10	—	32	—	16	—	11	—
<i>Yet to recruit</i>										

*M-Male *F-Female

25. 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.	13	—	6	1	4	3	27
M.Phil.	—	—	—	—	—	2	2
PG	—	—	17	2	50	38	107
Temporary teachers							
Ph.D.	—	—	—	—	1	—	1
M.Phil.	—	—	—	—	2	2	4
PG	—	—	—	—	19	20	39
Part-time teachers							
Ph.D.	—	—	—	—	—	—	—
M.Phil.	—	—	—	—	—	—	—
PG	—	—	—	—	—	—	—

26. Number of Visiting Faculty/ Guest Faculty engaged by the College.

01

27. Students enrolled in the College during the current academic year, with the following details:

Students	UG		PG		Integ rated Mast ers		M.Ph il.		Ph.D.		Integrat ed Ph.D.		D.Litt. / D.Sc.		Certi ficate		Diplo ma		PG Diplom a	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
From the state where the College is located	602	131	175	96	-	-	-	-	20	16	-	-	-	-	-	-	-	-	-	-
From other states of India	78	32	23	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NRI students	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Foreign students	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	680	163	198	101	-	-	-	-	20	16	-	-	-	-	-	-	-	-	-	-

*M-Male F-Female

28. Dropout rate in UG and PG (average for the last two batches)

UG

PG

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

30. Number of teaching days during the last academic year

31. Is the College registered as a study centre for offering distance education programmes for any University?

Yes

No

If yes, provide the

a. Name of the University

b. Is it recognized by the Distance Education Council?

Yes No

c. Indicate the number of programmes offered.

32. Provide Teacher-student ratio for each of the programme/course offered

Programme/Course	Teacher:student Ratio
B.Tech.	1:20
M.Tech.	1:23
MBA	1:20
MCA	1:25

33. Is the College applying for?

Accreditation : Cycle 1 Cycle 2 Cycle 3 Cycle 4

Re-Assessment:

34. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)
–Not Applicable

Cycle 1: NBA Accreditation2004, F.No. NBA/ACCR-256/2003 Dt. 17-6-2004

Cycle 2: NBA Accreditation2008, F.No. NBA/ACCR-256/2003 Dt. 19-7-2008

Cycle 3: (dd/mm/yyyy) Accreditation outcome/results

* Kindly enclose copy of accreditation certificate(s) and peer team report(s)

Cycle 1 refers to first accreditation; Cycle 2 and beyond refers to reaccreditation

35. a. Date of establishment of Internal Quality Assurance Cell (IQAC)

College is ISO certified since 2003. The college is presently ISO 9001:2008 certified. The present certificate was issued in July, 2013 and expires in June 2016.

The college is audited internally every year by the respective committees constituted for this regard.
The ISO certifying external agency conducts the external audit every three years.

36. Any other relevant data, the College would like to include. (Not exceeding one page)

- A grant of Rs 10 Crore received under TEQIP-II , NPIU, MHRD (GOI), New Delhi in 2011
- A grant of Rs 1 Crore received under DST-FIST in 2013
- A grant of Rs 2 Crore received for SC/ST Hostel in 2013
- Ranked 1st in Punjab State by P.T.U., Kapurthala for Highest placement record
- Declared best Engineering College by ABP News national B-School Awards 2013 and 2013
- Ranked 1st in Region by Competition Success review Survey July, 2013
- Magazine Carees 360 gave AAA+ Ranking (Very high quality institution) 2013
- Ranked 2nd by Outlook in Punjab State May, 2013
- A team of students participated in ‘SAE BAJA International 2013” held at Washington (USA) May, 2013 and got second position.

C. Criteria-Wise Inputs

CRITERION I: CURRICULAR ASPECTS

1.1 Curriculum Design and Development

1.1.1 How are the institutional vision / mission reflected in the academic programmes of the College?

The vision/mission statement reflects the institute's distinctive characteristics as it aims at effective contribution to social development by producing professional engineers. Our mission is to render solemn service to society as well as to impart world class quality education to produce morally uprighteous, socially useful and competent technocrats who can face every challenge and can succeed in the modern cut throat competitive scenario. For the realization of glimpses of golden India which lives and abounds in villages, during admission process seats are reserved for rural category students for all the programmes.

1.1.2 Describe the mechanism used in the design and development of the curriculum? Give details on the process. (Need Assessment, Feedback, etc)

The curriculum is designed and developed by the Board of Studies (BOS) of the concerned Department keeping in view the aspirations and needs of the ever changing times. The members of the faculty who are on BOS participate in the curriculum design and development process. As and when the need arises, the suggestions regarding change in curriculum are conveyed to the appropriate authority. The curriculum is finally approved by the Academic Council.

1.1.3 How does the College involve industry, research bodies, and civil society in the curriculum design and development process? How did the College benefit through the involvement of the stakeholders?

The Board of Studies (BOS) of each department has experts from the allied industries, national level research institutes and social workers. The Academic Council also has national and international level experts of different subjects. The college is immensely benefited by these experts in the design and development of the curriculum.

1.1.4 How are the following aspects ensured through curriculum design and development?

- * Employability
- * Innovation
- * Research

The courses leading to more employability are continuously strengthened by updating the syllabi in accordance with the need of the industry. Soft skill development courses are conducted regularly. The compulsory industrial training of one semester opens more avenues for placement of students. The students inculcate the culture of observing good practices in industry.

In the curriculum design, it is ensured that due weightage is given to advanced/innovative topics. The participation of students is encouraged by giving due weightage of marks for general fitness in every semester.

The suggestions of the experts from the allied industries and national level research institutes who are members of BOS and Academic Council, are brainstormed to incorporate the Research aspect in the curriculum. The undergraduate students of all the programmes have to complete a Major Project during final year. The PG students have to complete their research project and submit the Thesis. The elective subjects are offered in UG and PG courses.

1.1.5 How does College ensure that the curriculum developed address the needs of the society and have relevance to the regional / national developmental needs?

Long Term Goals

The major long term goals are to build & promote teams of experts in the upcoming specializations, to promote quality research and undertake research projects keeping in view their relevance to needs and requirements of technology in local industry, to enhance testing & consultancy facilities to various Government, Semi Government, and private Organizations with a view to enhance additional resources; and with that end in view to remain in touch with latest demands of the profession, to achieve total financial independence, to start on-line transfer of knowledge in appropriate technology by means of establishing multipurpose resource centers, to establish New Centers in the emerging fields like Bio-Technology, Mechatronics, Artificial Intelligence etc.,

The curriculum changes are based on the industrial need and industrial training camps and survey camps are being organized. Some general courses such as environment science, human values have been introduced. Some special electives in departments are being offered. Special courses for PG students are being offered.

Short Term Goals

The major short term goals are to keep faculty members abreast with the latest trends and developments in Research, Technology and Teaching methodologies especially through interaction, by sending them to other premier Institutions for research and by conducting AICTE-ISTE sponsored STTPs in our own College, to motivate the faculty to remain alive to the Industrial processes & activities. At least 40% of the students should graduate with Distinction/Honors in all branches. College aims to arrange Special classes for rural students for improving their Communication Skills, Enhance the Hostel accommodation especially for Girls and improve the existing hostel facilities, to make the Campus green (planting at least 5000 more saplings) and chemical free, to go for the energy auditing of the whole campus. College with rural roots excels in games and strives to produce national level players. All information concerning students/ staff to be made available On-line.

- 1.1.6 To what extent does the College use the guidelines of the regulatory bodies for developing or restructuring the curricula? Has the College been instrumental in leading any curricular reform which has created a national impact?

The college curriculum is designed and developed by the Board of Studies (BOS) of the concerned department and finally approved by the Academic Council. The curricular reforms initiated by the college include the inclusion of student in assessment. The students are shown the marked answer sheets of end semester examination to clarify their doubts. The two way visibility of online attendance of the students has been started. The in-house developed ERP system has included the online display of course contents covered by a faculty in a lecture, examination and result related information.

1.2 Academic Flexibility

- 1.2.1 Give details on the following provisions with reference to academic flexibility

- a. Core / Elective options

Core options and Elective options are provided to the students as per curriculum norms devised by BOS.

- b. Enrichment courses

Add on/Enrichment courses like Moral Education, a course on Human Values and Professional Ethics; and Environment Science is mandatory for all first year students. Some department specific courses are offered by different departments as elective

courses. Traffic awareness, First aid training and Art of Living sessions etc. are arranged at the level of the Institute.

c. Courses offered in modular form

Courses like Soft skills, Computer programming as C++, Java, Institutional training sessions are offered in modular form.

d. Credit transfer and accumulation facility

-No-

e. Lateral and vertical mobility within and across programmes and courses available in Undergraduate courses at the end of 1st year.

In case of vacancy, the change of branch facility is available based on the result of 1st year.

- 1.2.2 Have any courses been developed specially targeting international students? If so, how successful have they been? If 'no', explain the impediments.

As such there are no courses specially targeting international students. But the International students, as and when admitted, are provided special facilities with regard to communication skills, general education and information about the local culture and traditions, food and rules & norms.

- 1.2.3 Does the College offer dual degree and twinning programmes? If yes, give details.

-No-

- 1.2.4 Does the College offer self-financing programmes? If yes, list them and indicate if policies regarding admission, fee structure, teacher qualification and salary are at par with the aided programmes?

-No-

- 1.2.5 Has the College adopted the Choice Based Credit System (CBCS)? If yes, how many programmes are covered under the system?

-No-

- 1.2.6 What percentage of programmes offered by the College follows:

- * Annual system – 0%
- * Semester system – 100%
- * Trimester system – 0%

- 1.2.7 What is the policy of the College to promote inter-disciplinary programmes? Name the programmes and what is the outcome?

At M.Tech. level, two interdisciplinary courses are being offered: (a) M.Tech. (Environment Engg.), (b) M.Tech. (Industrial Engg.). The students with B.Tech. degree in any discipline are eligible for these courses.

1.3 Curriculum Enrichment

- 1.3.1 How often is the curriculum of the College reviewed for making it socially relevant and/or job oriented / knowledge intensive and meeting the emerging needs of students and other stakeholders?

The Boards of Studies (BOS) of different subjects meet at least once in an Academic year to discuss about the changes, addition/deletion of topic/subject etc.

- 1.3.2 How many new programmes have been introduced at UG and PG level during the last four years? Mention details.

* Inter-disciplinary

M.Tech.(Environment Engg.) was introduced in 2009.

* programmes in emerging areas -No-

- 1.3.3 What are the strategies adopted for revision of the existing programmes? What percentage of courses underwent a major syllabus revision?

The existing programmes are revised as per the decisions of BOS and Academic Council. All the programmes at UG level were revised by the Punjab Technical University, Jalandhar in 2011.

- 1.3.4 What are the value-added courses offered by the College and how does the College ensure that all students have access to them?

The two courses namely, Human Values and Professional Ethics; and Environment Science are mandatory for all first year undergraduate students. The courses on Soft skills, Programming languages as C++, Java, are conducted during summer vacation. College has a well developed Communicative English Lab. The students attend one month Industrial training at the end of 1st year and 2nd year; and one-semester industrial training in final year.

- 1.3.5 Has the College introduced any higher order skill development programmes in consonance with the national requirements as outlined by the National Skills Development Corporation and other agencies?

It is under serious consideration by the newly constituted BOS after getting autonomy from UGC.

1.4 Feedback System

- 1.4.1 Does the College have a formal mechanism to obtain feedback from students regarding the curriculum and how is it made use of?

Though there was no formal mechanism to obtain feedback regarding the curriculum from the students, but head of the departments generally take the opinion about the curriculum content from students informally, which is being conveyed to BOS

members for possible consideration and incorporation in the syllabus during the BOS meeting. But, after getting the autonomy, the college has decided to take feedback from students regarding curriculum content for all subjects at the end of each course.

- 1.4.2 Does the College elicit feedback on the curriculum from national and international faculty? If yes, specify a few methods adopted to do the same - (conducting webinar, workshop, online forum discussion etc.). Give details of the impact on such feedback.

The feedback is received during Workshops/Conferences/Symposium conducted in college. The feedback/suggestions received during any of the above mentioned programmes by the faculty are discussed and analyzed by the department concerned and the same is passed on to the appropriate authority for necessary action.

- 1.4.3 Specify the mechanism through which alumni, employers, industry experts and community give feedback on curriculum enrichment and the extent to which it is made use of.

The alumni, employers, industry experts and community give their feedback by interacting with the concerned Dean or Head of the department. The suggestions/feedback received are analyzed at the department/college level and the necessary guidelines/directives are issued by the competent authority for incorporation and the improvement of the system.

- 1.4.4 What are the quality sustenance and quality enhancement measures undertaken by the institution in ensuring effective development of the curricula?

The quality sustenance and enhancement measures undertaken by the institution during the last five years in curricular aspects include proper implementation of the curricula designed and prescribed by the University. At the institution level, it is being ensured that the students get the best of infrastructure, education and training through modern tools to fulfill which is envisaged by designers of curriculum. The college is applying for accreditation to different National agencies to maintain and upgrade the quality of system. The college has been accredited twice by NBA and applied for the third time. The college is also a part of TEQIP-II of World Bank which also evaluates academic reforms regularly through their regular audit.

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 is done through a centralized counseling process based on All India Rank of JEE(Main) by the Punjab Technical University based on defined laid down rules and

procedures duly advertised through newspapers/ University/Institute website/ Prospectus. If any seat becomes vacant after the centralized counseling, the admission is done at the college level after giving the advertisement in National Newspapers/ college website and following the guidelines issued by the university.

- 2.1.2 Explain in detail the process of admission put in place for UG, PG and Ph.D. programmes by the College. Explain the criteria for admission (Ex. (i) merit, (ii) merit with entrance test, (iii) merit, entrance test and interview, (iv) common test conducted by state agencies and national agencies (v) others followed by the College?

For UG: Common Test JEE (Main) conducted by National Agencies.

For M.Tech.: On the basis of Merit of GATE Score & Marks of B.Tech.

For MBA/MCA: Common Entrance Test conducted by National agencies/University

For Ph.D.: (a) Entrance Test and Interview conducted by PTU, Jalandhar

(b) Centralized admission by IITs for Q.I.P. centres

- 2.1.3 Does the College have a mechanism to review its admission process and student profiles annually? If yes, what is the outcome of such an analysis and how has it contributed to the improvement of the process?

The admission process and student profile is reviewed at the end of every session after the process of admission is over. The shortcoming/deficiencies of the process are discussed and the ways for the improvement are discussed. Based on the student profile, the necessary actions such as remedial classes, soft skills training, ethics and moral values education are proposed. These proposals are implemented by the competent authority of the concerned department.. Though this review has no direct influence on admission process, since it is a well defined centralized admission process.

- 2.1.4 What are the strategies adopted to increase / improve access to students belonging to the following categories

- * SC/ST
- * OBC
- * Women
- * Different categories of persons with disabilities
- * Economically weaker sections
- * Outstanding achievers in sports and extracurricular activities

In order to ensure equity, the Institute adheres to the reservation policy of the state / national Government/University. Differently-abled and economically weaker students are given due concession in fees and funds during their stay as per State Govt. guidelines.

The students who exhibit extra-ordinary achievements in the fields of sports, Technical competitions, co-curricular activities, social service, NSS etc. are given special concession/incentives in the form of 10% attendance, and due credit is reflected in the marks of general fitness.

- 2.1.5 Furnish the number of students admitted in the College in the last four academic years.

Categories	Year 2013		Year 2012		Year 2011		Year 2010	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	113	56	88	36	112	53	109	15
ST	0	0	0	0	0	0	0	0
OBC	37	11	20	19	25	14	22	8
General	605	216	796	185	730	192	645	160
Others	61	48	45	35	40	43	48	42

- 2.1.6 Has the College conducted any analysis of demand ratio for the various programmes offered by the College? If so, indicate significant trends explaining the reasons for increase / decrease.

The first two rounds of admission for all the courses are being conducted by Punjab technical University at central level. The vacant seats are filled through admission at college level. Though the college has not conducted any formal data analysis of demand ratio for various programmes, but the number of applications against the number of seats can give fairly good idea about the demand ration during direct admission for leftover seats at college level. The last year admission data for the number of applications and the number of students admitted for the leftover seats during admission at college level is as follows.

Programmes	Number of applications	Number of students admitted	Demand Ratio
UG 1.B.Tech	756	340	2.20
PG 1.M.Tech	545	218	2.50
2.MBA	65	55	0.84
3.MCA	45	32	1.40
Ph.D. The Ph.D. admissions are centrally conducted by University on the basis of Entrance Examination or by IITs for Q.I.P. centres.			

- 2.1.7 Was there an instance of the College discontinuing a programme during last four years?
If yes, indicate the reasons.
– No –

2.2 Catering to Student Diversity

- 2.2.1 Does the College organize orientation / induction programme for freshers? If yes, give details of the duration of programme, issues covered, experts involved and mechanism for using the feedback in subsequent years.

One-day induction programme is conducted on the first day of the start of the session for freshers. In addition to this, College has introduced the concept of advisors/mentors. An advisor is appointed for every twenty student and advisory/ mentoring classes of one hour duration are being held per week as a part of time table of every department.. The students discuss their problems and weaknesses, whether personal or educational with their Mentors. The mentors provide personal and professional guidance to the students and acts as a conduit between a student and department. Similarly, an antiragging committee at college level, department level and hostel level has been formed. The names and phone numbers of committee members are displayed on all prominent places of the college and hostel. CCTV cameras have been installed at all prominent places of college. All these measures have been taken to inculcate the sense of confidence to the freshers.

- 2.2.2 Does the College have a mechanism through which the “differential requirements of student population” are analyzed after admission and before the commencement of classes? If so, how are the key issues identified and addressed?

All the teachers are instructed to assess the knowledge and skill levels of the students and analyze the areas of weakness based on the results and suggest the corrective action before the commencement of regular curriculum teaching of next semester so that special attention to the areas of weakness of the students can be given due consideration.

- 2.2.3 Does the College provide bridge /Remedial /add - on courses? If yes, how are they structured into the time table? Give details of the courses offered, department-wise/faculty-wise?

On the basis of result analysis, the Remedial classes are arranged in the subjects for which the pass percentage is less than a specified limit as defined by the competent authority from time to time.

The following are the details of subjects for which the Remedial classes are being held in the current semester:

Department	Subjects
Civil	SOM, DCS-I, DCS-II, SA-I, SA-II, SA-III
Electronics	DSP, NADS, DCLD&DE
Electrical	BEEE,
Mechanical	EME, Drawing,
Computer Science	FCPIT
Applied Sciences	Math-I, Math-II, Chemistry, Physics

- 2.2.4 Has the College conducted a study on the incremental academic growth of different categories of students; - student from disadvantaged sections of society, economically disadvantaged, physically handicapped and slow learners etc.? If yes, give details on how the study has helped the College to improve the performance of these students.

At the end of every semester, the Result analysis is done by all the departments subject wise. The groups of weak students are given special classes to tackle their deficiencies in learning.

- 2.2.5 How does the institution identify and respond to the learning needs of advanced learners?

The Institution identifies advanced learners on the basis of (a) their merit in the previous examination (b) their participation and response in the class and the interaction with the teachers (c) their performance in the various tests and assignments (d) analyzing their weaknesses. The groups of advanced learners are given additional problems to tone-up their skills. They are also encouraged for other academic activities.

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

The Institution provides all the required facilities to differently-abled students. Their classes are held at easily accessible places. They are provided convenient furniture and location in the class-rooms; they are given necessary concessions, and the teachers pay special attention to these students. During examinations, a writer is provided, if required and requested.

2.3 Teaching-Learning Process

- 2.3.1 How does the College plan and organise the teaching, learning and evaluation

schedules? (Academic calendar, teaching plan and evaluation blue print, etc.)

Academic calendar is prepared by Dean Academic after discussion with Heads of different departments. In pursuit of the provisions of the academic calendar, the teachers prepare their teaching plans and submit the same to their respective Head of Department for discussion/approval. The college has started online attendance where a provision has been made to show the course contents covered during a lecture by the faculty. The Controller of Examination (COE) circulates the evaluation schedule & guidelines which are being followed by all examiners and Head examiners. Every effort is made to stick to the academic calendar as well as teaching plans.

- 2.3.2 Does the College provide course outlines and course schedules prior to the commencement of the academic session? If yes, how is the effectiveness of the process ensured?

Course outlines and course schedule are being displayed and informed in the concerned department by the concerned subject teacher prior to the commencement of the academic session to all the students in their classes.

- 2.3.3 What are the courses, which predominantly follow the lecture method? Apart from classroom interactions, what are the other methods of learning experiences provided to students?

The majority of the courses follow the lecture method. Besides the traditional lecture method, the teachers employ various methods of teaching aids using ICT besides the methods like Group discussion method, Experimental method, Tutorial method, Computer-assisted learning, Project based learning, Seminars and Assignments.

- 2.3.4 How is ‘learning’ made more student-centric? Give a list of participatory learning activities adopted by the faculty that contribute to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

In order to make learning student-centric, active involvement of the students in the learning process is ensured. They are given practical exposure by organizing industrial trainings to boost knowledge of management skills. They are taught life skills, and lifelong learning by imparting them value & moral based education by conducting Presentations, Group discussions & Expert interaction etc. They are encouraged to participate in competitive/technical programs organized by outside agencies/ institutes. Since industrial training is compulsory for all branches of engineering at undergraduate level, it gives all the students the real time exposure, which they are expected to face after

the graduation. The project based learning is a group activity in which the students learn to work in a group.

- 2.3.5 What is the College policy on inviting experts / people of eminence to provide lectures / seminars for students?

Special Lectures/Seminars by experts from academia and industry at regular intervals are being conducted by different departments. Generally a department conducts minimum one seminar, one expert lecture and one industrial tour in an academic year.

- 2.3.6 What are the latest technologies and facilities used by the faculty for effective teaching?
Ex: Virtual laboratories, e-learning, open educational resources, mobile education, etc.

The facilities have been provided to faculty to use EDUSAT, open educational resources and e-learning through NPTEL resources and presentations through ICT.

- 2.3.7 Is there a provision for the services of counsellors / mentors/ advisors for each class or group of students for academic, personal and psycho-socio guidance? If yes, give details of the process and the number of students who have benefitted.

The institution arranges the Mentoring/Advisory classes of one hour duration per week as per the time table where one faculty member is allotted 25-30 students. The students are free to discuss their problems and weaknesses, whether personal or educational with their Mentors. These classes have been inserted in the time table as a regular feature.

- 2.3.8 Are there any innovative teaching approaches/methods/practices adopted/put to use by the faculty during the last four years? If yes, did they improve the learning? What methods were used to evaluate the impact of such practices? What are the efforts made by the institution in giving the faculty due recognition for innovation in teaching?

The Faculty is covering most of their curriculum using LCD Projectors which have been provided in classrooms. Efforts are being made by the faculty to correlate the activities conducted in the theory class with those of practical laboratory class. Many faculty members are using active learning method. The faculty involved in innovations in teaching is sent to reputed institutes/organization for further training. The appreciation letters/certificates are issued by the competent authority from time to time for encouraging the faculty. It is also important to note that Indian Society of Technical Education (ISTE) has awarded “Best Teacher Award” to three faculty members in the last two academic years.

2.3.9 How does the College create a culture of instilling and nurturing creativity and scientific temper among the learners?

The students are encouraged to keep their knowledge and skills updated by

- (a) Visiting the library regularly and consulting relevant material
- (b) Attending workshops, seminars, conferences and lectures by experts
- (c) One Semester compulsory Industrial Training
- (d) Academia-industry interaction
- (e) Visit to Industry

2.3.10 Does the College consider student projects a mandatory part of the learning programme? If so, for how many programmes is it made mandatory?

Yes, student projects are a mandatory part of the learning programme of all the courses.

- * Number of projects executed within the College
 - All the projects are executed within the college
- * Names of external institutions associated with the College for student project work
 - The expertise of some local industries is taken in finalization of some projects at PG level.
- * Role of the faculty in facilitating such projects
 - The faculty members guide and coordinate the projects of students

2.3.11 What efforts are made to facilitate the faculty in learning / handling computer-aided teaching/ learning materials? What are the facilities available in the College for such efforts?

The campus of the institution is Wi-Fi and the faculty and students have free access to it. Computers/Laptops have been made available to the faculty. The faculty offices are provided internet connectivity. Some rooms have been provided with interactive classroom teaching. The PG and UG class-rooms are having the facility of LCD projectors and internet connectivity.

2.3.12 Does the College have a mechanism for evaluation of teachers by the students / alumni? If yes, how is the evaluation used in achieving qualitative improvement in the teaching-learning process?

The institution has introduced evaluation of the teachers by students on the basis of a Proforma specially designed for the purpose known as Feedbak Proforma. This Proforma is got filled by the students at the end of the each semester. This Feedbak Proforma

subjectwise is given to the concerned faculty for analysis and report. Based on the report, suggestions are given by HOD to the concerned faculty. The alumnus gives their feedback during Alumani meet about the general academics and other aspects of the institution.

- 2.3.13 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 official time of the college is 8:00 a.m. to 7:00 p.m. and generally the curriculum is easily completed within the planned time frame and calendar. However, there is the provision of extra classes on Saturdays/Sundays or after class hours if situation demands.

- 2.3.14 How are library resources used to augment the teaching-learning process?

The college library remains open from 8:00 a.m. – 8:00 p.m. The students are issued books on fortnightly basis and semester basis. The students can assess the e-Journals/Books of Library at any time within the campus.

- 2.3.15 How does the institution continuously monitor, evaluate and report on the quality of teaching, teaching methods used, classroom environments and the effect on student performance.

Head of the institution alongwith all HOD's and Dean (Academics) conduct regular meeting where Academic calendar, students performance, syllabus covered semester results are analysed. The same process is followed at the department level. Because of the online attendance system, Head of Institution and Dean (Academics) has the access of all the data of students. The feedback given by the students is analyzed. The suggestions/reports are analyzed at the department level and the necessary directions are issued by the competent authority. On the basis of the analysis of the end semester results, the remedial classes are conducted. The COE makes a detailed presentation regarding the examination and evaluation process after every semester and the necessary improvements , if required, are incorporated for future examinations.

2.4 Teacher Quality

- 2.4.1 What is the faculty strength of the College? How many positions are filled against the sanctioned strength? How many of them are from outside the state?

Sanctioned Faculty	238
Positions Filled	191
Positions Filled from outside the state	2

2.4.2 How are the members of the faculty selected?

The members of the Faculty are selected through properly constituted Selection panels, approved by management committee, which comprise of the Head of the Institute, HODs subject expert and selected/nominated members of the Governing Council of the College.

2.4.3 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.	13	—	6	1	4	3	27
M.Phil.	—	—	—	—	—	2	2
PG	—	—	17	2	50	38	107
Temporary teachers							
Ph.D.	—	—	—	—	1	0	1
M.Phil.	—	—	—	—	2	2	4
PG	—	—	—	—	19	20	39
Part-time teachers							
Ph.D.	—	—	—	—	—	—	—
M.Phil.	—	—	—	—	—	—	—
PG	—	—	—	—	—	—	—

2.4.4 What percentage of the teachers have completed UGC-CSIR-NET, UGC-NET, and SLET exams? In that what percentage of teachers are with PG as highest qualification?

Being an engineering college, UGC-CSIR-NET is applicable in the Applied Sciences Department where 50% faculty is NET qualified.

Percentage of faculty with PG as highest qualification = 85%

Percentage of faculty with Ph.D. as highest qualification = 15%

2.4.5 Does the College encourage diversity in its faculty recruitment? Provide the following departments-wise details.

Department	% of faculty who are product of the same College	% of faculty from other Colleges within the State	% of faculty from other States	% of faculty from abroad
Civil	78%	15%	7%	0%
Mechanical	34%	45%	18%	3%
Electrical	61%	16.5%	22%	0%
Electronics	75%	19%	6%	0%
Production	85%	15%	0%	0%
ComputerScience	35%	65%	0%	0%
Information Technology	44%	56%	0%	0%
Business Management	0%	100%	0%	0%
MCA	0%	100%	0%	0%
Applied Sciences	0%	100%	0%	0%
Workshops	100%	0%	0%	0%

2.4.6 Does the College have the required number of qualified and competent teachers to handle all the courses for all departments? If not, how do you cope with the requirements? How many faculty members were appointed during the last four years?
The college has the required number of qualified and competent teachers to handle all the courses.

2.4.7 How many visiting Professors are on the rolls of the College?

One

2.4.8 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, nomination to national/international conferences/Seminars, in-service training, organizing national/international conferences etc.)

The following facilities are being given to the faculty; the rules are well defined, transparent and are being followed in letter and spirit:

- Faculty is sponsored for qualification enhancement with pay under Q.I.P. at national level institutes like IITs
- Faculty is granted EOL (Extra ordinary leave) for qualification improvement or some prestigious assignment

- The faculty members who are pursuing part time Ph.D. are being given university related fee and some contingency grant
 - Faculty is being sponsored to attend the Conference abroad once in a year
 - Faculty is being sponsored for FDP/Seminar/Conference within the country
 - Faculty is being sponsored for short term management training at IIMs
 - Faculty is being reimbursed the fees for becoming the members of professional societies
 - Faculty is given funds for purchase of books related to their research area
 - Faculty is encouraged to apply for research grant of national agencies
 - Faculty is provided with seed money for research activities
 - Faculty members involved in consultancy projects are being paid extra remuneration as per the college rules.
 - Faculty members are provided requisite facilities for organizing seminars, conferences, workshops
- 2.4.9 Give the number of faculty who received awards / recognitions for excellence in teaching at the state, national and international level during the last four years.
Ten faculty members have awards for excellence in teaching and research during last four years.
- 2.4.10 Provide the number of faculty who have undergone staff development programmes during the last four years. (Add any other programme if necessary)

Academic Staff Development Programmes	Number of faculty
Refresher courses	5%
HRD programmes	10%
Orientation programmes	5%
Staff training conducted by the College	80%
Staff training conducted by University/other Colleges	50%
Summer / winter schools, workshops, etc.	85%
Any other (Management Training)	10%

- 2.4.11 What percentage of the faculty have
- * been invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies
10%

- * participated in external Workshops / Seminars / Conferences recognized by national/ international professional bodies
50%
- * presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies
60%
- * teaching experience in other universities / national institutions and others
2%
- * industrial engagement
20%
- * international experience in teaching
2%

2.4.12 How often does the College organize academic development programmes for its faculty, leading to enrichment of teaching-learning process?

- * Curricular Development
- * Teaching-learning methods
- * Examination reforms
- * Content / knowledge management
- * Any other (please specify)

The regular meetings of Academic Council and BOS are being held for discussing curriculum development and examination reforms. College organizes academic development programmes from time to time as per the decisions of Academic Council and BOS.

2.4.13 What are the teaching innovations made during the last five years? How are innovations rewarded?

The faculty covers most of their curriculum with slide shows as LCD Projectors have been provided in classrooms. Efforts are being made by the faculty to correlate the activities conducted in the theory class with those of practical laboratory class. The faculty involved in innovations in teaching is sent to reputed institutes/organization for further training. The appreciation letters/certificates are issued by the competent authority from time to time for encouraging the faculty. The two major innovations are (a) Involvement of student in assessment (b) Two way visibility of attendance

2.4.14 Does the College have a mechanism to encourage

- * Mobility of faculty between institutions for teaching?
- * Faculty exchange programmes with national and international bodies?

If yes, how have these schemes helped in enriching quality of the faculty?

Yes, The college provides the opportunities to the faculty to serve on deputation with other organizations.

2.5 Evaluation Process and Reforms

2.5.1 How does the College ensure that all the stakeholders are aware of the evaluation processes that are operative?

The evaluation methods are communicated to all the stakeholders at the very beginning of the session/semester by circulating various rules and guidelines of the college regarding the evaluation methods, which involves students in assessment apart from faculty and expert.

2.5.2 What are the major evaluation reforms initiated by the College and to what extent have they been implemented in the College? Cite a few examples which have positively impacted the evaluation management system?

After being granted the autonomy by UGC, the college conducts the end semester examination on its own. The end semester examination Date-sheet is prepared as per the suggestions of faculty and student representatives. After the examination, the provisional result is being uploaded on the college website as per specified date, already notified by COE. The students can see their result using a login ID/password. The schedule of display of answer sheets is being displayed by the department. Then, answer sheets are shown to the students as per schedule and if any discrepancy is pointed by the student, the appropriate remedial action, if required is taken by the concerned Head of Department on the spot. Then final result gazette notification is made by the examination branch, after the incorporation of necessary correction. Similar transparency is being maintained for internal assessment examination, which includes the combined credit of class tests, assignments/quiz and attendance.

2.5.3 What measures have been taken by the institution for continuous evaluation of students and ensuring their progress and improved performance?

For continuous evaluation, the college conducts three mid-term tests in addition to end-semester examination. Assignments are regularly given to students. Appropriate weightage is given to attendance. Marks are duly earmarked for duly performance of Lab work, preparation and presentation of lab record and viva voce.

2.5.4 What percentage of marks is earmarked for continuous internal assessment? Indicate the mechanisms strategized to ensure rigour of the internal assessment process?

Internal assessment For Theory Subjects: 40%

Internal assessment For Practical Subjects: 60%

2.5.5 Does the College adhere to the declared examination schedules? If not, what measures have been taken to address the delay?

Yes, the college strictly follows the declared examination schedule.

2.5.6 What is the average time taken by the College for declaration of examination results? Indicate the mode / media adopted by the College for the publication of examination results e.g., website, SMS, email, etc.

The result is declared within one month of the examination. Results are uploaded put on the college website and also being displayed on the notice boards of the departments.

2.5.7 Does the college have an integrated examination platform for the following processes?

- * Pre-examination processes – Time table generation, OMR, student list generation, invigilators, squads, attendance sheet, online payment gateway, etc.
- * Examination process – Examination material management, logistics.
- * Post examination process – attendance capture, OMR based exam result, auto processing, generic result processing and certification.

The college has a separate Examination wing headed by Controller of Examinations (COE). For the smooth conduct of examination process, different committees like Automation committee, Examination conduct committee, Evaluation committee, Decoding committee etc. also helps the COE office. COE office appoints examination superintendents, invigilators and flying squads for smooth conduct of examination. COE alongwith all these committees successfully handles Pre-exam process, Exam process and Post-exam process.

2.5.8 Has the College introduced any reforms in its Ph.D. evaluation process?

Ph.D. evaluation process is conducted by the university. It is mandatory for a Ph.D. student to have a minimum of two publications in journals, out of which at least one publication should be in a journal which is having Impact Factor more than one.

2.5.9 What efforts are made by the College to streamline the operations at the Office of the Controller of Examinations? Mention any significant efforts which have improved process and functioning of the examination division/section?

The Office of the Controller of Examinations has been provided sufficient facilities to smoothly conduct the examination related work in fair and transparent manner. College has a separate examination branch with dedicated staff and their offices are equipped

with computers, printer, internet connectivity. COE office has separate evaluation centre, decoding section, secrecy section and automation section.

2.5.10 What is the mechanism for redressal of grievances with reference to evaluation?

After the examination, the evaluated answer sheets are shown to the students. For redressal of students' grievances with reference to evaluation, Discrepancy Redressal Committee (DRC) is formed by the concerned department which looks into the complaint and suggests the remedial action on the spot.

2.6. Student Performance and Learning Outcomes

2.6.1 Does the College have clearly stated learning outcomes for its programmes? If yes, give details on how the students and staff are made aware of these?

The learning outcomes of all the programmes are clearly stated. It is being displayed on the college website, on prominent places in the departments, students' attendance registers, teachers' loginids, classrooms and labs of departments. The faculty is made aware of it in the departmental meetings by the respective Heads and Deans. The students are made aware of it at the start of the session by the concerned department.

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

The following procedure has been adopted by the college to monitor the learning outcome:

- Depending on the course content, every course has been defined with a course outcome
- Based on all the course outcome of a branch, programme outcome for that particular branch has been defined
- Based on the programme outcome, programme education objective of that programme has been defined
- At the department level, a certain percentage attainment has been defined based on the admission criteria and input of the students and the attainment is measured through direct and indirect measurements
- The methods of direct measurement of attainment level of all courses include (a) marks obtained in each subject, (b) assignment marks, (c) any other method
- Based on all the courses, an average attainment level of each student is measured
- Indirect method of measurement is through survey and includes End semester survey, end programme survey, alumnii survey
- Using direct and indirect method of attainment, attainment level of the programme is assessed
- Based on the attainment level, certain changes, if required are made for the next

academic session to improve the attainment level

- Similarly, alumini survey, employer survey are conducted after 3 to 5 years of graduation
- Based on all this data department is able to ensure the extent of achievement of learning outcome

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

For direct measurement, all the data is collected through inhouse developed ERP software. Similarly, the data for the indirect measurement is collected online.

2.6.4 Give Programme-wise details of the pass percentage and completion rate of students.

Programme	Pass Percentage	Completion Rate (within maximum time stipulated by university)
B.Tech.	80%	97%
M.Tech.	54%	95%
MBA	82%	98%
MCA	78%	98%

CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

3.1.1 Does the College have a research committee to monitor and address the issues of research? If yes, what is its composition? Mention a few recommendations which have been implemented and their impact.

The institute has a Research Committee under the chairmanship of Dean (Post Graduate Studies & Research). One faculty from each department generally the Officer-Incharges (M.Tech.) are the members of this committee. Heads of the departments and senior faculty members are invited as special invitee from time to time. This committee forms the rules and regulations of PG courses and research work. The committee has formed the following rules to enhance the PG and Research education :

- The faculty pursuing part time Ph.D. should be reimbursed university related fee and contingency money

- A policy of granting Scholarships in PG programmes under TEQIP-II
- Reimbursement of bills for purchase of books of research by faculty
- Reimbursement of membership of professional societies

After the implementation of these policies, the number of faculty members enrolling for Ph.D. has increased substantially. Similarly , there is a considerable improvement in membership of professional societies and M.tech. admission.

3.1.2 What is the policy of the College to promote research culture in the College?

- Faculty is entitled and availing the leave with pay under Q.I.P. for Ph.D. research
- Faculty is entitled and availing EOL for enhancing qualification through research
- Faculty pursuing part time Ph.D. is reimbursed university related fees
- Faculty is sponsored to present papers at national and international fora
- Faculty is sponsored to attend FDPs/training
- Reimbursement of purchase of books for research
- Faculty is encouraged and sponsored for organizing seminars/workshops / FDPs
- Reimbursement of membership fees of professional societies
- Facility of seed money for research
- The required infrastructural facilities are given to all the faculty members who are doing research on a project funded by national agencies

3.1.3 List details of prioritised research areas and the areas of expertise available with the College.

The following are the major prioritised research areas in which expertise is available in the college:

- Structural engineering
- Geotechnical engineering
- Environment Engineering
- Concrete technology
- CAD
- Metal Casting
- Rapid Manufacturing
- Machining
- Antenna Design
- VLSI Design

- Soft Computing
- Power system deregulation and restructuring
- Evolutionary approach in power system optimizations
- Reliability engineering
- Facts controllers and their applications
- Power system quality
- Mechanical design
- Manufacturing and production engineering
- Renewable energy
- Natural language processing
- Software engineering
- Image processing
- Bioinformatics
- Cloud computing

3.1.4 What are the proactive mechanisms adopted by the College to facilitate smooth implementation of research schemes/projects?

- * Advancing funds for sanctioned projects

The college advances the funds for sanctioned projects on case to case basis.

- * Providing seed money

The college provides financial aid (seed money) to the faculty undertaking research work as per the requirements of research/project work. College provides all the infrastructural facilities required for research.

- * Autonomy to the Principal Investigator/coordinator for utilizing overhead charges

The Principal Investigator/Coordinator is given complete autonomy for utilizing overhead charges as per the project guidelines.

- * Timely release of grants

The college ensures the timely release of grants.

- * Timely auditing

The college provides the necessary facilities for timely auditing.

- * Submission of utilization certificate to the funding authorities

The college provides the necessary support for the submission of utilization certificate to the funding authorities

3.1.5 How is interdisciplinary research promoted?

- * between/among different departments of the College and

- * collaboration with national/international institutes / industries.

The Departmental Research Committees (DRC) of the different departments explore the avenues for the interdisciplinary research. The collaboration with research institutes of national and international level in the new emerging fields, is encouraged.

- 3.1.6 Enumerate the efforts of the College in attracting researchers of eminence to visit the campus and interact with teachers and students?

The eminent researchers of India and abroad are regularly invited to interact with the faculty and students as resource person during national and international conferences and workshops for giving Expert lecture/ Special lecture on upcoming topics.

- 3.1.7 What percentage of faculty have utilized sabbatical leave for research activities? How has the provision contributed to the research quality and culture of the College?

About 10% of faculty have utilized sabbatical leave for research activities. The faculty members have got research grants from different national agencies such as DST, AICTE, UGC which has led to development of research facilities in the college.

- 3.1.8 Provide details of national and international conferences organized by the College highlighting the names of eminent scientists/scholars who participated in these events.

The following are the major national and international conferences organized by the College in the last two years:

- Geotechnical and Geoenvironmental Aspects of Wastes and Their Utilization in Infrastructure Projects, 15th - 16th February, 2013. Prof Unikrishnan Pillay, Ex-Principal, N.I.T., Calicut, Prof Manoj data, Ex-Director, PEC University, Chandigarh and Prof V.Savant, I.I.T., Roorke participated in the conference.
- International Conference on Power System Operation and Control, 20th – 22nd Dec, 2010, Prof. Akhtar Kalam, Victoria University, Australia participated in the conference.
- International Conference on Research and Innovations in Mechanical Engineering 24-26, Oct, 2013. Dr S. GopiNath, Professor, I.I.M., Calicut participated in the conference.
- International Conference on latest development of concrete technology, Feb, 2010, in collaboration with University of Dundee , UK, under UKIERI project. The delegates from India and UK participated in the conference.
- International Workshop on Reinforced soil and geosynthetic engineering, Dec, 2012, Dr S K Shukla, Professor, Edith Cowan University, Australia, was the resource person.
- National Conference on Recent advances in Electronics and communication Engineering, 21-22 March 2013. Dr rajeevan Chandel, Professor, N.I.T.,

Hamirpur, Dr Surinder Singh, SLIET, Longowal, Punjab, Dr M S Patar, Punjabi University, Patiala, Punjab participated in the conference.

- National Conference on Recent advances in Electronics and communication Engineering, March 2011, Dr Arvind, Professor, Indian Institute of Science Educational and Research, Mohali, Punjab, participated in the event.
- National Conference on “Futuristic Trends In Mechanical Engineering” 29-30th Oct. 2010
- National Symposium on “Challenges and Opportunities in Medical image Processing Analysis and Applications”, Dec, 2011
- National Conference on Emerging Principles and Practices in Computer Science and Information Technology, Dec 2009
- National Seminar on Challenges and Opportunities in Medical Image Processing, Jan, 2012

3.1.9 Details on the College initiative in transferring/advocating the relative findings of research of the College and elsewhere to the students and the community (lab to land).

Part-time post-graduate courses in Engineering are offered by the college on weekends to in-service people for which the services of the expert faculty of college are utilized so that latest knowledge based on latest research can be applied in field problems. Training programmes are organized by college for field engineers from time to time to make them aware about the latest equipment and research which can be applied in the field problems. Consultancy jobs are carried out by the expert faculty in the different areas.

3.1.10 Give details on the faculty actively involved in research (Guiding student research, leading research projects, engaged in individual or collaborative research activity etc.)

Most of the faculty is involved in research, guiding students for their M.Tech. and Ph.D. research work. The Faculty members have got research projects funded by various national funding agencies such as DST, UGC, AICTE. Faculty publishes their research work in the peer reviewed journals of national and international repute.

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 for last four years.

From college resources, some funds are kept for purchase of research equipments to be purchased by different departments as per their requirements. Students' thesis for Ph.D. and M.Tech. are funded by college. The expenditure incurred by faculty for presenting research papers in conferences is reimbursed by the college. In the case of faculty, who

enhance their educational qualification through Part-time courses while in service, their university course fee is reimbursed by the college. Computing facilities, Laptops are provided to faculty for research work.

- 3.2.2 What are the financial provisions made in the College budget for supporting student research projects?

Every department has a budget which is fixed as per the requirements of the department. The Ph.D. and M.Tech. students submit the proposal of their research work and the selected projects are fully funded by the college in the form of purchase equipment equipment and other requirements.

- 3.2.3 Is there a provision in the institution to provide seed money to faculty for research? If so, what percentage of the faculty has received seed money in the last four years?

Yes, seed money is given to the faculty for research work. As per the requirement of different departments, a fixed sum is allocated in the budget for the purchase of the research equipment and other consumable items.

- 3.2.4 Are there any special efforts made by the College to encourage faculty to file for patents? If so, provide details of patents filed and enumerate the sanctioned patents.

Yes, college provides all the necessary support to encourage the faculty to file for patents.
The following are the filed patents:

Faculty	Title of Patent	Patent/ Application No.	Remarks
Dr Harvinder Singh	Shallow-Beam Supported Rectangular Reinforced Concrete Slabs	18/DEL/2009	National
Dr Harvinder Singh	Multipurpose Reaction Frame	543/DEL/2011	National
Dr Rupinder Singh	Development of metal matrix composite by two stage hybridization of fused deposition modeling and investment casting	2847/DEL/2013	National

Faculty	Title of Patent	Patent/ Application No.	Remarks
Dr Rupinder Singh	Development of metal matrix composite by two stage hybridization of fused Silicon modeling and investment casting	2847/DEL/2013	National
Dr Jatinder Kapoor	Cryogenic treatment of brass wire for improved machining characteristics	2177/DEL/2009	National

3.2.5 Provide the following details of ongoing research projects:

	Year wise	Number	Name of the project	Name of the funding agency/Industry	Total grant received (Rs)
A. College funded (2008) Flexural behavior of RC-stiffened plates: Experimental Investigations (Rs 3,00,000)					
B. Other agencies - national and international (specify)					
Minor projects	2011	—	—	—	—
	2012	2	FDP	AICTE	4,50,679
	2013	1	Conference	AICTE	75,000
Major projects	2011	3	TEQIP, RPS, SERB	NPIU, DST	10, 17,39,000
	2012	6	FIST, MODROB, RPS	DST, NCP & CSIR	1,80, 09,000
	2013	5	MODROB, R&D, FDP	DST, AICTE	45,26,667
C. Industry sponsored 1) Year 2008 Title: Experimental study of Behavior of RC-stiffened slabs Amount: Rs 0.5 lac 2) Year 2010 Title: Behavior of Retrofitted RC slabs: Experimental Study Amount: Rs 0.3 lac					

- 3.2.6 How many departments of the College have been recognized for their research activities by national / international agencies (UGC-SAP, CAS, DST-FIST; DBT, ICSSR, ICHR, ICPR, etc.) and what is the quantum of assistance received? Mention any two significant outcomes or breakthrough due to such recognition.

The college has received a grant of Rs 1 crore under DST-FIST for all the departments. The funds are being utilised for the purchase of the state-of-the-art equipment for different laboratories.

- 3.2.7 List details of completed research projects undertaken by the College faculty in the last four years and mention the details of grants received for such projects (funded by Industry/National/International agencies).

Year	Name of Project/ Subject	Name of Funding agency	Grant received (Rs)
2007-2008	MODROB, R&D, RPS	AICTE, DST	40,16,000-00
2008-2009	MODROB, R&D, RPS	AICTE, DST	16,76,584-00
2009-2010	MODROB, R&D, RPS	AICTE, DST	6,51,631-00
2010-2011	MODROB, R&D, RPS	AICTE, DST	11,83,789-00

3.3 Research Facilities

- 3.3.1 What efforts are made by the College to keep pace with the infrastructure requirements to facilitate Research? How and what strategies are evolved to meet the needs of researchers?

The college has well equipped state of the art laboratories. The new equipment is purchased from time to time as per the budget requirements of the department. The latest updated equipment is procured for research in the new emerging fields.

The infrastructure of the college has been further augmented due to the 10 crore grant received under TEQIP-II and Rs 1 Crore grant from DST-FIST. The obsolete equipment of different laboratories is also being replaced from the AICTE grant under MODROB scheme. Many of the new equipments has been purchased out of AICTE/DST grant under Research projects scheme.

- 3.3.2 Does the College have an information resource centre to cater to the needs of

researchers? If yes, provide details on the facility.

The college has subscribed a large number of online journals and books. The facilities like Electronic Resource Management package for e-journals and In-house/remote access to e-publications are available in the college.

- 3.3.3 Does the College provide residential facilities (with computer and internet facilities) for research scholars and faculty?

Yes.

- 3.3.4 Does the College have a specialized research centre/ workstation to address challenges of research programmes? If yes, give details.

Yes. The college is a notified Research centre of Punjab technical University, Kapurthala and a Q.I.P. centre under AICTE, New Delhi for Doctorate level research. All the departments have a specified computational facility with the access of all relevant softwares, which addresses the challenges of research programme. Now the facilities are being further augmented based on the need of the department specific research programme from TEQIP-II grant and DST-FIST grants received by the college.

- 3.3.5 Does the College have research facilities (centre, etc.) of regional, national and international recognition/repute? Give a brief description of how these facilities are made use of by researchers from other laboratories.

The college is a Q.I.P. centre for Doctorate level research in Civil Engineering, Mechanical Engineering and Electrical Engineering under AICTE and notified research centre of Punjab Technical University. Different departments have created some specified research labs and procured specified equipment/software/hardware in the existing labs to augment the research facilities. Some of the labs are NABL accredited and for the remaining labs process has been initiated. One of the Lab in production engineering department viz. Manufacturing research Lab got international recognition in Wohler's Report published in USA. These research facilities are being used by researchers of nearby institutions including IITs and NITs. The faculty guides the research students for carrying out their projects.

3.4 Research Publications and Awards

- 3.4.1 Highlight the major research achievements of the College through the following:

* major papers presented in regional, national and international conferences

The faculty members have presented more than 500 research papers in the

regional, national and international conferences. The details are given in the profile of the different departments in this report.

- * publication per faculty

The faculty members involved in guiding Ph.D./M.Tech. students publish two papers on the average annually in different journals.

- * faculty serving on the editorial boards of national and international journals

Many of the faculty members of the rank of Professor are on the editorial boards of the national and international journals.

- * faculty members on the organisation committees of international conferences, recognized by reputed organizations / societies.

The faculty members of the rank of Associate Professor, Professor, Head and Dean have been nominated as members of organizing committee of international conferences, recognized by reputed organizations from time to time.

3.4.2 Does the College publish research journal(s)? If yes, indicate the composition of the editorial board, publication policies and whether it is listed in international database?

At present no, but the process has been initiated for starting online journal.

3.4.3 Give details of publications by the faculty:

The faculty has published over 250 research papers in the national and international peer reviewed journals. 60 Books, 20 Monographs, 10 Books (Edited). The details are presented in the profile of the individual departments.

3.4.4 Indicate the average number of successful M.Phil. and Ph.D. scholars guided per faculty.

M.Phil.- Not Applicable

Ph.D- 0.1

3.4.5 What is the stated policy of the College to check malpractices and misconduct in research?

The college has made it mandatory for all the research scholars doing Ph.D. to publish at least two research papers in journals out of which one paper should be published in a journal having impact factor more than one to become eligible for the submission of Ph.D. thesis. It is also ensured that one of the thesis evaluator is from foreign country. Plagiarism check is compulsory before the submission of thesis.

3.4.6 Does the College promote interdisciplinary research? If yes, how many inter

departmental / inter disciplinary research projects have been undertaken and mention the number of departments involved in such an endeavour.

Yes. Civil Engineering Department along with Mechanical Engineering Department and Computer Science and Engineering Department is involved in joint research project. The Mechanical Engineering Department and Production Engineering Department works in close collaboration for successful implementation of projects. The Computer Science& Engineering Department and Information Technology Department conducts many of their projects jointly. The Electronics Engineering Department and Electrical Engineering Department has collaborations in different projects.

3.4.7 Mention the research awards instituted by the College.

No.

3.4.8 Provide details of

* Research awards received by the faculty

Career award for Young teachers by AICTE 2007-08.

IGS-B.N. Gupta Biennial Award for best paper by India Geotechnical Society 2007-08.

IEI Young Engineers Award 2009.

Young Scientist Award by Punjab Academy of Sciences 2009.

* Recognition received by the faculty from reputed professional bodies and agencies

Rajiv Gandhi Education Excellence Award, 2012.

Rajiv Gandhi Vidya Gold Award 2013.

Best Education Award by International Institute of Education and Management, New Delhi, 2014.

ISTE Best Teacher Award 2013.

3.4.9 State the incentives given to faculty for receiving state, national and international recognitions for research contributions.

The faculty is given all the financial support for attending national and international conferences, seminars and workshops. The faculty members acquiring higher degree such as Ph.D. , M.Tech. are given the increments as per rules.

3.5 Consultancy

3.5.1 What is the stated policy of the College for structured consultancy? List a few important consultancy services undertaken by the College.

The Director and members of the academic staff are permitted to engage themselves in consultancy practice to such extent as will not interfere with the discharge of their duties and within such limits as the management may lay down from time to time.

The college has set up a single window system Consultancy Cell, headed by a senior faculty as Dean (Testing & Consultancy). A well defined rule laid down by the management committee defining the consultancy job category and the rate of remuneration to be paid to the faculty undertaking consultancy jobs has been kept in the public domain.

Attempts are being made to involve the research/post-graduate students in such work.

- 3.5.2 Does the College have College-industry cell? If yes, what is its scope and range of activities?

Yes. College has a Science & Technology Enterpreures Park (STEP), where th following activities in collaboration with industries are conducted:

Design of Engineering System
Testing of Engineering Materials
Technical Survey
Technical Reports
Technical Skill Upgradation

- 3.5.3 What is the mode of publicizing the expertise of the College for consultancy services?
Mention the departments from whom consultancy was sought.

- (a) Brochure
(b) College website
(c) Website of testing & Consultancy Cell
(d) Through different departments
(e) By Testing & Consultancy cell sponsored Seminars/Workshops

- 3.5.4 How does the College encourage the faculty to utilise the expertise for consultancy services?

- Weightage is given to the consultancy services provided by faculty members in their Annual Confidential Report.
- Some percentage of renumeration earned from consultancy services is given to the faculty members as per rule.
- Some equipment in the Labs can be purchased through Testing & Consultancy cell
- Testing & Consultancy cell sponsors Seminars/ Workshops organized by faculty

- 3.5.5 List the broad areas of consultancy services provided by the College and the revenue generated during the last four years.

Broad areas of Consultancy Services provided by College are as under:

- (a) Structural Design/Vetting of Structural Design
- (b) Geotechnical Investigation
- (c) Material Testing
- (d) Technical Skill Enhancement
- (e) Testing of transformers
- (f) Water testing

Revenue generated during the last four years is as under:

Sr. No.	Year	Amount
1.	2009-2010	1,02,65,702
2.	2010-2011	1,26,11,355
3.	2011-2012	1,35,45,886
4.	2012-2013	1,31,78,989

3.6 Extension Activities and Institutional Social Responsibility (ISR)

- 3.6.1 How does the College sensitize the faculty and students on Institutional Social Responsibilities? List the social outreach programmes which have created an impact on students' campus experience.

The college organizes programmes regarding social issues. Days marking social issues like World Water Day, Environment Day etc are celebrated wherein students and faculty members take part. Tree plantation drive, cleanliness drive under environmental awareness programme and blood donation camps are being organized regularly by NSS/NCC volunteers, thus making them aware about their social responsibility about self, surroundings, society & country as a whole.

Such drives have created awareness among the students and one of the student participated as student volunteer in UNO's environmental awareness drive. Tree plantation drive carried by the volunteers created an awareness of ecological balance among the students.

- 3.6.2 How does the College promote College-neighborhood network and student engagement, contributing to holistic development of students and sustained community development?

The college neighbourhood network is promoted through NSS. The college adopted village Gill (Ludhiana) and it is looked after by NSS volunteers. They organize

awareness camps, de-addiction rallies & literacy promotion campaigns. One of the typical first features created by the students was digital mapping of village Gill, and it gave this village a distinction as First digital mapped village of the country.

Students are also making sustained efforts to make aware of surrounding population of college aware about the drug menace. More and more people are participating in this programme.

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

The institution encourages students to actively participate in NSS/NCC. The college has been allotted 3½ units of NSS and 150 students for NCC. The college has 2 program officers for NSS. The NCC boys' wing is managed by faculty member of rank of major and the women wing is managed by female faculty member. Regular programs for NSS and regular parade for NCC are essential features in college curriculum. Different technical societies have been formed, where students participate for debate, group discussion on contemporary technical and non-technical issues. Every year these societies organize technical event where students of different institutions participate and compete. For cultural activities, different societies have been formed and annual cultural festival is being organized. Students also participate in activities organized by other institutions from time to time.

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

The vision of the college is to serve the disadvantaged section of the society, and accordingly 70% seats are reserved for rural population. All the underprivileged are given admission as per the government norms. The college is striving very hard for this aspect right from its inception. The college NSS unit has adopted village Gill (Ludhiana) for promoting social welfare causes. Camps promoting cleanliness, environment sensitivity, drug abuse have been successfully organized and as mentioned earlier a digital map was prepared which made village-Gill, a first digitally mapped village in the country.

- 3.6.5 Give details of awards / recognition received by the College for extension activities / community development work.

- Award of recognition by Salam Zindgi (N.G.O.) for organising Blood Donation camps annually.
- Award of recognition by Rotary Club for social service activities
- Award of recognition by Guru Gobind Singh Study Circle for social service activities

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

Besides their academic curricula, involvement of students in extension activities organised by the college train them to meet the desired goals (expected outcomes) within realistic constraints such as economic, environment, social, political, ethical, health and safety, manufacturability and sustainability.

3.6.7 How does the College ensure the involvement of the community in its outreach activities and contribute to the community development? Detail the initiatives of the College which have encouraged community participation in its activities.

The college students have been participating and encouraging the community in Karsewa for Gudwara Alamgir Sahib, Community Langar Sewa on social/religious occasions. College students as NSS volunteers have taken a big lead in making the surrounding population aware about the drug menace. NSS volunteers have made the people aware about the role and advantage of IT in daily life. In this process, they prepared a digital map of Village-Gill, making this village as the first village on digital map.

3.6.8 Does the College have a mechanism to track the students' involvement in various social movements / activities which promote citizenship roles?

The college maintains a record of students' activities and the students' efforts are evaluated in the General Fitness criteria of curriculum.

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

The college is regularly interacting with the Centre for Development of Rural Technology, Ludhiana, for the imparting technical knowledge and knowhow to the different sections of the society who undergo different types of vocational training.

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.

- Rajiv Gandhi Education Excellence Award
- Award of recognition by Salam Zindgi (N.G.O.) for organising Blood Donation camps annually.
- Award of recognition by Rotary Club for social service activities
- Award of recognition by Guru Gobind Singh Study Circle for social service activities

3.7 Collaboration

3.7.1 How has the College's collaboration with other agencies impacted the visibility, identity and diversity of activities on the campus? To what extent has the College benefitted academically and financially because of collaborations?

The college has collaboration with educational institutions of international repute. This has contributed in faculty exchange as resource person for seminars/workshops, collaborated Ph.D. research projects and joint research publications; and curriculum development. The collaboration with the Industries has resulted in students' industrial training and better placement. This has also resulted in increased consultancy activities of the faculty. The MoUs with the major Hospitals of the region have resulted in better medical facilities to faculty, staff and students.

3.7.2 Mention specific examples of, how these linkages promote

- * Curriculum development

The experts from Industries who are members of BOS give their valuable suggestions about curriculum revision. The experts from Punjab Energy Development Agency and G.S. Auto International Limited, Ludhiana have given their expert opinion on the revision of syllabus of Electronics Engineering and Mechanical Engineering.

- * Internship, On-the-job training

The students join their Internship training with Punjab Micro Circuits Research Lab, Ludhiana, Institute for Auto parts Hand Tools technology, Ludhiana, G.S. Auto International Limited, Ludhiana. College has MoUs with all these organizations.

- * Faculty exchange and development

The college has faculty exchange and development programs with NITTTR, Chandigarh, N.I.T., Jalandhar, Institute of Civil Engineers , Ludhiana. Faculty members are doing joint research leading to M.Tech./Ph.D. degree and joint publications.

- * Research, Publication

Some faculty members are involved in Research projects which are planned with collaborations with industry and other institutions. The research findings are published in reputed journals.

- * Consultancy, Extension

The Faculty regularly gets consultancy assignment from Industry, Government and Private organizations. Faculty is also involved in extension activities as

mentioned in earlier part of the report.

* Student placement

The collaborations and MoUs with Industries have resulted in better placement of students in industries such as Deepak Builders, Ludhiana, Jindal Electricals, Ludhiana.

* Any other, please specify

The MoUs with the major Hospitals of the region have resulted in better medical facilities to faculty, staff and students. The college has MoUs with Fortis Hospital Ludhiana, D.M.C., Ludhiana, SPS Apollo Hospital Ludhiana, Life Line Hospital, Ludhiana.

- 3.7.3 Does the College have MoUs nationally / internationally and with institutions of national importance/other universities/ industries/corporate houses etc.? If yes, explain how the MoUs have contributed in enhancing the quality and output of teaching-learning, research and development activities of the College?

The following is the list of major MoUs with Universities and other organizations:

- University of Dundee, UK
- Wayne State University, USA
- San Jose State University, USA
- WINTEC, New Zealand
- AAA Auto Collision Inc., Burnbay, BC
- Canada Placement Inc., Ontario, Canada
- N.I.T., Jalandhar, Punjab
- NITTTR, Chandigarh
- Department of Information Technology, Govt. of India, New Delhi

These MoUs have contributed in curriculum development and enhancement of research, consultancy and placement.

- 3.7.4 Have the College industry interactions resulted in the establishment / creation of highly specialized laboratories / facilities?

The college has a separate Industry Institute Interaction Cell which continuously interacts with the reputed industries in the region. The industry sponsored projects are implemented by the faculty. The necessary and infrastructure is arranged by the college from different resources. College has a Science & Technology Entrepreneurs' Park (STEP), which collaborates with the industry for the Entrepreneurship skill development of students.

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

4.1.1 How does the College plan and ensure adequate availability of physical infrastructure and ensure its optimal utilization?

The institution has state of the art infrastructure with well furnished and fully air-conditioned lecture theatres with the facility of LCD Projectors/Overhead Projectors, conference rooms, seminar halls, digital library, Wi-Fi campus and free internet access to cater to the needs of the students and Faculty.

4.1.2 Does the College have a policy for creation and enhancement of infrastructure in order to promote a good teaching-learning environment? If yes, mention a few recent initiatives.

The institution has been augmenting its infrastructure from time to time as per its growing needs. During the last five years, the following additions have been made to the existing infrastructure:

- New Labs in Computer Science Department, Electrical Department, Mechanical Department
- New class rooms in Mechanical Department, Production Department
- Hostel No. 5 (Boys)
- Hostel No. 6 (under-construction)
- Open air theatre (Underconstruction)

4.1.3 Does the College provide all departments with facilities like office room, common room, separate rest rooms for women students and staff?

Yes, The college provides all the departments with the required facilities.

4.1.4 How does the College ensure that the infrastructure facilities meet the requirements of students/staff with disabilities?

Suitable arrangements/additions/changes are made whenever the need arises, to meet the requirements of the differently-abled students/staff. The institution makes sure that the students with disabilities do not find any difficulty in pursuing their studies. College fulfills all the infrastructural requirements of all Statutory bodies. College has also signed MOU with leading hospitals of the city. All the students are insured upto 2.0Lac for health insurance.

- 4.1.5 How does the College cater to the residential requirements of students? Mention
- * Capacity of the hostels and occupancy (to be given separately for men and women)

Hostel No.	Men/Women	Capacity	Occupancy
I	Men	256 rooms (single seater) 41 rooms (four seater)	412 students
II	Men	75 rooms (four seater)	300 students
III	Women	65 (single seater) 50 (three seater)	210 students
V	Men	30 rooms (four seater) 28 rooms (three seater)	204 students
VI	Men	30 rooms (four seater) 28 rooms (three seater)	Underconstruction

- * Recreational facilities in hostel/s like gymnasium, yoga center, etc.
Indoor games, TV room, magazines, newspapers facility is available in hostels.
- * Broadband connectivity / wi-fi facility in hostel/s.
Wi-fi facility is available in all the Hostels.

- 4.1.6 How does the College cope with the health related support services for its students, faculty and non-teaching staff on the campus and beyond?

A qualified doctor and his staff remain available in the college dispensary round the clock. College has its own Ambulance to take emergency cases to nearby hospitals.

- 4.1.7 What special facilities are made available on the campus to promote interest in sports and cultural events?

For promotion of sports, the college has playgrounds for hockey, football, cricket, tennis courts, 400 meters track, swimming pool and well equipped gymnasium hall where sports competitions are regularly held. College is overall University champion in Men & Women since 1997.

The college has an auditorium and open air theatre where cultural events are conducted. The students are provided all the necessary facilities and support to participate in the inter-university level competitions in sports and cultural events.

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, initiatives are made by advisory committee to automate the library, to get new e-resources for library and use full and energetic services to students. All are implemented.

4.2.2 Provide details of the following:

* Total area of the library (in Sq. Mts.) 1603 sq.mtrs.

* Total seating capacity 300

* Working hours (on working days, on holidays, before examination days, during examination days, during vacation) –

8.00am to 8.00pm on working days
9.00am to 4.00pm on Saturday

* Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)

Yes

* Access to the premises through prominent display of clearly laid out floor plan: adequate signage; fire alarm; access to differently abled users and mode of access to collection)

Yes

4.2.3. Give details on the library holdings

a) Print

(Books, back volumes and thesis) - Books- 40700, Back vol. - 2780, Theses-1050

b) Non Print (Microfiche, AV) - No

c) Electronic (e-books, e-Journals) - E-books-2063, E-journals- 6000

d) Special collection

(E.g. Text book, Reference books, standards, patents)- Text Books-36215, Ref. Books-4989, S&P-1500

4.2.4 What tools does the library deploy to provide access to the collection?

* OPAC – Yes

* Electronic Resource Management package for e-journals – Yes

* Federated searching tools to search articles in multiple databases – Yes

- * Library Website – Yes
- * In-house/remote access to e-publications –Yes

4.2.5 To what extent is the ICT deployed in the library?

- * Library automaton – Yes
- * Total number of computers for public access – 10
- * Total number of printer for public access - No
- * Internet band width speed:- *40mbps
- * Institutional Repository - No
- * Content management system for e-learning – No
- * Participation in Resource sharing network/consortia (like INFLIBNET) - DELNET

4.2.6 Provide Details

- * Average number of walk-ins - 300
- * Average number of books issued/returned - 320
- * Ratio of library books to students enrolled – 15:1
- * Average number of books added during last three years – 26,000
- * Average number of login to OPAC – 15
- * Average number of login to e-resources – 15
- * Average number of e-resources downloaded/printed – No
- * Number of information literacy trainings organization – No

4.2.7 Give details of the specialized services provided by the library

- * Manuscripts – No
- * Reference – Yes
- * Reprography – Yes

- * ILL (Inter Library Loan Service) – Yes
- * Information Deployment and Notification – Yes
- * OPAC – Yes
- * Internet Access – Yes
- * Downloads – Yes
- * Printouts – No
- * Reading list/Bibliography compilation – Yes
- * In house/remote access to e-resources – Yes
- * User Orientation – Yes
- * Assistance in searching Database – Yes
- * INFLIBNET/IUC facilities - No

4.2.8 Provide details on the annual library, budget and the amount spent for purchasing new books and journals.

Books & CD's	500000
Journals, Magazine, Newspaper	600000
E-journals	1600000
Web Dewey	35000
DELNET	12000
Binding	100000
Total	2847000

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.

Yes, the students give their feedback on the proforma available in the library. The feedback of students is analyzed by the Library Advisory Committee and the appropriate action is taken.

4.2.10 List the infrastructural development of the library over the last four years.

Name of Items	Quantity
Racks	190
AC's	06
Stabilizers	06
AC Stand	06
Fire Extinguisher	04
Office Table	01
Revolving Chair	01
Computer Table	02
Computer Chair Rev.	02
Visitor Chairs	03
Student Chairs	125
Cooler with stand	02
Book Stands	1000
Books Trolley	03
Steel Rack Strips	360
Periodical Racks	06
Scanner TSC	02
Computer Dell Vostro	06
UPS	06
Bar Code Printer	02
Dell Server Power	01

APC UPS	01
Almirah	10
Display Rack	02
OPAC Table	01
Thermal Printer	01

4.2.11 Did the library organize workshop/s for students, teachers, non-teaching staff of the College to facilitate better Library usage?

Library Advisory Committee conducts interactive sessions with students and faculty for better Library usage. It regularly organizes Book exhibitions of the reputed publishers.

4.3 IT Infrastructure

4.3.1 Does the College have a comprehensive IT policy addressing standards on IT Service Management, Information Security, Network Security, Risk Management and Software Asset Management?

College has a comprehensive policy to address various issues related to IT infrastructure. College utilizes Cyberom software device embedded with Firewall for information security and network security. College has a wide range of licensed softwares. Faculty, staff and students are given individual login Id/Password to use internet facility.

4.3.2 Give details of the College's computing facilities (hardware and software).

- Number of systems with configuration

In college, there are total 1250 systems in all the departments, having the configurations of HP DX7380 Core2Duo E4500@2.20GHz/945Gz Chipset/1GB DDR2/160GB,17'TFT; DellOptiplex9010 Core TM-i5-3470 CPU@3.2GHz,2GB DDR3, 500GB HDD, 17'TFT; HP DX2480 Core2DuoE4600@2.4GHz/944GZ Chipset/2GB DDR2/160GB, 17'TFT.

- Computer-student ratio = 0.3
- Dedicated computing facility

The dedicated computing facility is available in the Computer Centre.

- LAN facility - Yes
- Wifi facility - Yes
- Proprietary software / Open source softwares

The college has a wide range of Licensed softwares. The major softwares are MSDN Academic Alliance (Designer AA) (Dream Spark Premium), MS Windows Vista Business, Windows Server 2008, Windows XP OEM, MS Office Pro Plus 2010, Windows PRO 7, Windows PRO 8, Qual Net 6.1 Network Simulator, Oracle 11 g Processor, NISS, L-SIM, MATLAB R 2013A.

In addition to it, the different departments have softwares specific to their research/project work

- Number of nodes/ computers with internet facility

All the computers are provided with the internet connections

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

The college has constituted an Automation committee being headed by the Head of Information Technology Department. All the activities related with the examinations has been computerized and can be accessed online. The record of students' attendance, assignments, registration for placement is being done online. The automation committee decides the strategies for upgrading the IT infrastructure depending on the requirements.

4.3.4 Give details on access to online teaching and learning resources and other knowledge, and information provided to the staff and students for quality teaching, learning and research.

The computational and internet facility is available in all the departments of the college. All the faculty members are given desktops/laptops with internet facility in their offices. Wifi facility is available in the college, in the hostels, and in the staff quarters in the campus. Around 30 classrooms are having internet and LCD Projector facility. 6 rooms are ICT enabled class rooms.

4.3.5 Give details on the ICT enabled classrooms/learning spaces available within the College and how they are utilized for enhancing the quality of teaching and learning.

College has 10 ICT enabled class rooms/Labs for promoting the interactive classroom teaching. These classrooms have internet connectivity. The education material is received from EDUSAT and NPTEL. Facility is available for videoconferencing.

4.3.6 How are the faculty facilitated to prepare computer aided teaching-learning materials? What are the facilities available in the College or affiliating University for such initiatives?

The college provides the computational facilities, internet and required software to the faculty for preparing computer aided teaching-learning materials.

4.3.7 How are the computers and their accessories maintained? (AMC, etc.)

The expert technicians of the college look after the computer systems of different departments. The malfunctioning of the computers and their accessories is rectified by the technicians. The expertise help of the external technicians is taken on the case to case basis.

- 4.3.8 Does the College avail of the National Knowledge Network connectivity directly or through the affiliating University? If so, what are the services availed of?

College avails the National Knowledge Network connectivity directly. EDUSAT, NPTEL services are available.

- 4.3.9 Provide details on the provision made in the annual budget for update, deployment and maintenance of the computers in the College?

The specific funds are allocated in the annual budget for the maintenance and update of computing facilities as per the requirements of the different departments. The new computers are purchased and allocated to different departments/sections as per their requirements.

4.4 Maintenance of Campus Facilities

- 4.4.1 Does the College have an Estate Office / designated officer for overseeing maintenance of buildings, class-rooms and laboratories? If yes, mention a few campus specific initiatives undertaken to improve the physical ambience.

The college has a full-fledged separate cell headed by a designated officer for overseeing maintenance of buildings, class-rooms and laboratories. All the infrastructure development and maintenance is done through this cell only. Depending on the job, the specialized contractor is hired to complete the job in time.

- 4.4.2 Does the College appoint staff for maintenance and repair? If not, how are the infrastructure facilities, services and equipment maintained? Give details.

The Institution has its own Technicians in different departments, who maintain and repairs the equipments of their respective department. Besides the College has also a Maintenance Cell, which maintains and repairs the buildings etc. In case of expertise help, outside agencies are hired time to time.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

- 5.1.1 Does the College have an independent system for student support and mentoring? If yes, what are its structural and functional characteristics?

The students of all the courses in college are allotted one hour in a week for mentoring class. The faculty members act as mentors. One mentor is allotted for a group of 25

students. The students discuss with the mentor their issues on academics, extracurricular activities, hostels and personal life. The mentors suggest them the possible solutions or forward their issues to the concerned official for the necessary remedial action. Apart from mentoring, a student grievance cell headed by a senior faculty is also existing, who interacts with administration on behalf of students.

5.1.2 What provisions exist for academic mentoring apart from class room work?

A group of 25 students is allotted to one mentor. The mentor gives suggestions/tips on the problems faced by the students in academic related activities. The interactive sessions on the topics of Personality development, Communication skills and entrepreneurship skills are regularly conducted. Apart from this, regular interaction with industry is also organized.

5.1.3 Does the College provide personal enhancement and development schemes for students?

If yes, describe techniques employed e.g., career counselling, soft skill development, etc.

Yes. The different technical societies and Placement Cell conduct grooming sessions, soft skill development sessions and career counseling sessions from time to time.

5.1.4 Does the College publish its updated prospectus and handbook annually? If yes, what are the activities / information included / provided to students through these documents? Is there a provision for online access?

Yes, the institution publishes its updated prospectus and other student information material annually. The information that is disseminated to students through these publications is about the institute, academic programs, laboratories of different departments, library, computer center, scholarships schemes placement, guidance and counseling cell, transportation and hostel facility as well as criterion for admission. All this information is available on college website and students are encouraged to visit the college website regularly.

5.1.5 Specify the type and number of scholarships / freeships given to students (UG/PG/M.Phil/Ph.D./Diploma/others in tabular form) by the College Management during the last four years. Indicate whether the financial aid was available on time.

The following are Merit cum Means Scholarships given to students:

SC Scholarship of Punjab Govt
SC/OBC Scholarships of state governments
Minority Scholarship by GOI
GATE Scholarships by GOI

TEQIP-II Scholarships for PG students
Dr I.S.Rai Memorial Scholarship
Bhulla Anand Utsav Scholarship
GENCO Scholarship
Bibi Shivdev Kaur Scholarship
Raghbir Singh Thind Memorial Scholarship
S.S. Kahlon Memorial Scholarship
Harkrishan Singh Scholarship
Amarjit Singh Pabla Scholarship

It is ensured by the college that the financial grant is made available in time.

- 5.1.6 What percentage of students receives financial assistance from state government, central government and other national agencies? (e.g., Kishore Vaigyanik Protsahan Yojana (KVPY), SN Bose Fellow, etc.)
 About 35% of students get financial assistance from state government, central government and other national agencies
- 5.1.7 Does the College have an International Student Cell to cater to the needs of foreign students? If so, what measures have been taken to attract foreign students?
 Foreign students whenever admitted are given special care and counselling. All concerned are issued necessary instructions to listen to the needs and grievances of foreign students with due attention and speedy redressel. The foreign students are given special guidance of local values, culture and language.
- 5.1.8 What types of support services are available for
 - * overseas students
 Overseas students whenever admitted are given special care and separate accomodation. They are given special guidance of local values, culture and language.
 - * physically challenged / differently abled students
 They are given special care and attention like ‘writer’ in the examination and additional time. All concerned are issued necessary directions to listen to the needs and grievances. Lift is being installed for such physically challenged students.

- * SC/ST, OBC and economically weaker sections

These students are given fee concession/scholarships as per the rules framed by the competent authorities from time to time.

- * students to participate in various competitions/conferences in India and abroad

The students willing to participate in various competitions/conferences in India and abroad are provided the necessary financial and infrastructure support.

- * health centre, health insurance etc.

In the college Health Centre (Dispensary), two doctors and one pharmacist is put on duty.

Health insurance cover upto 2.0 Lac for all the students of the college.

- * skill development (spoken English, computer literacy, etc.,)

College has a well furnished Communicative English Lab where regular sessions are conducted for soft skill development of students.

Computer centre has all the computational facilities for the students. The necessary guidance is regularly given to improve the computer literacy of students.

- * performance enhancement for slow learners / students who are at risk of failure and dropouts

Special remedial classes are arranged for the slow learners.

- * exposure of students to other institutions of higher learning/ corporates/business houses, etc.

The students' educational visits/tours to reputed organizations/institutes are regularly organized.

- * publication of student magazines

The student magazine "GENESIS" is published annually.

5.1.9 Does the College provide guidance / coaching classes for Civil Services, Defense Services, NET/SLET and any other competitive examinations? If yes, what is the outcome?

Though no formal coaching is done, but each department ensures that students are given time during the class or some special classes be arranged for GATE preparation.

5.1.10 Mention the policies of the College for enhancing student participation in sports and extracurricular activities through strategies such as

- * additional academic support, flexibility in examinations

- * special dietary requirements, sports uniform and materials

- * any other

The position holders/winners in different activities are awarded with 'College Colour' and scholarships. The due weightage is given to the students in the marks allotted for General fitness. Special make-up tests are conducted for those students whose competition/sports dates clash with the class tests. The students participating in the sports are given free diet, sports uniform and sports kit as per the rules framed by the competent authority from time to time.

- 5.1.11 Does the College have an institutionalized mechanism for placement of its students? What services are provided to help students identify job opportunities, prepare themselves for interview, and develop entrepreneurship skills?

The college has a separate Training and Placement Cell. It is headed by Training and Placement Officer, who is ably supported by Departmental Placement In-charges of the different departments. Training and Placement Cell coordinates with the reputed organizations and arranges their visits to college for placement of students.

Placement Cell conduct grooming sessions, soft skill development sessions and career counseling sessions from time to time to help students identify job opportunities, prepare themselves for interview.

Another Cell of the college, namely Science & Technology Entrepreneurship Park (STEP) conducts sessions from time to time to develop entrepreneurship skills of students.

- 5.1.12 Give the number of students selected during campus interviews by different employers (list the employers and the number of companies who visited the campus annually for the last four years).

Number of students selected during campus interviews — 240
by different employers in 2012-13

List the employers: The following companies have visited college annually during the last four years:

1. ACC Concrete Ltd.
2. Accenture
3. Ahluwalia Contracts (India) Ltd, New Delhi
4. Ambuja Cements
5. Angelique International Ltd, New Delhi
6. Ansal Township and Projects, New Delhi
7. Apollo Tyres Ltd, Gurgaon
8. Areva T & D, Chennai
9. Baja Capitals
10. Birlasoft

11. Compare Infobase, New Delhi
12. Convergys
13. Cummins India Ltd, Pune
14. Cushman and Wakefield
15. DELL
16. Denso, Haryana
17. DLF, New Delhi
18. Eastman Impex
19. Emson Gears Ltd, Ludhiana
20. ERA Constructions, Noida
21. Escorts, Faridabad
22. Flextronics
23. Gammon India Ltd, Mumbai
24. Global Logic, Noida
25. Godrej & Boyce Mfg Co Ltd
26. Halcrow, New Delhi
27. Havell's
28. HCL Technologies Noida
29. Honda Siel Cars Ltd. Noida
30. Hutch
31. I-flex Banglore
32. Infosys
33. Infosys Technologies Ltd, Pune
34. International Tractors Ltd, Hoshiarpur
35. ISGEC Yamunanagar
36. ITC Foods Ltd, Bangalore
37. Kapur Vyasa Bank, Chennai
38. Keane India
39. Kirloskar Oil Engines Ltd. Pune
40. KLA COnstructions Ltd.
41. L & T ECC Div. Chennai
42. L & T Infotech
43. L & T Limited, Mumbai
44. Mahindra & Mahindra, Mumbai
45. Mobera System Ltd, Chandigarh
46. Mphasis
47. NR Switches and Radio Services Pvt. Ltd.
48. Perot Systems
49. Persistent Systems,Pune
50. Punjab Communications Ltd. Mohali
51. Punj Lloyd Ltd, New Delhi
52. Punjab Tractors Ltd. Mohali

- 53. Quarks Mohali
- 54. Raja Trailors, Canada
- 55. Reliance Engg., Jamnagar
- 56. Reliance, New Delhi
- 57. Religare, IBL
- 58. Satyam Computer Services Ltd, Hyderabad
- 59. Shapoorji Pallonji & Co. Ltd. Mumbai
- 60. Sierra Atlantic Hyderabad
- 61. Soma Enterprises
- 62. Spice Telecom, Mohali
- 63. Swaraj Mazda Ltd.
- 64. Syntel Pune
- 65. Tag Technical Services
- 66. Tata Chemicals Limited
- 67. Tata Consultancy Services
- 68. Tata Elxsi, Bangalore
- 69. Tata Motors, Jamshedpur
- 70. TCE Consulting Engineers Ltd.
- 71. Tech Mahindra, Pune
- 72. Topline BuildTech New Delhi
- 73. U.S. Technologies
- 74. Vardhman Textiles Ltd.
- 75. Vatika Group, New Delhi
- 76. Whirlpool, Pune
- 77. WIPRO Technologies
- 78. WIPRO Infotech

The number of companies who visited the campus = 78

annually for the last four years

- 5.1.13 Does the College have a registered Alumni association? If yes, what are its activities and contributions to the development of the College?

Yes. The Alumni association is very active and it conducts Annual Alumni Meet every year. Besides every year Alumni association conducts Golden Jubilee Meet and Silver Jubilee Meet of the respective passout batches. The Alumni have maintained close interaction with their alma mater. They have been guiding force for developmental works. The Alumni have contributed to building of Alumni Home in college. Alumni chapters abroad in USA, Canada & Australia are helping hoardes of new comers with professional help. Alumni in USA are also instrumental in signing MOU with SAN JOSE university California, for Electrical Engineering and Computer science students of college. Alumni help the students in placement, internship and industrial training.

- 5.1.14 Does the College have a student grievance redressal cell? Give details of the nature of grievances reported and how they were redressed.

The institution has two separate Grievance Redressal Cells approved by the management of college (for students as well as for staff) to deal with their problems. Apart from this, within the department, the class in-charges and heads of the department look after the students' grievance. In case of any problem or grievances, the students are provided the names and contact numbers of the members of the staff. The members of the cell ensure speedy redressal.

- 5.1.15 Does the College have a cell and mechanism to resolve issues of sexual harassment?

The Institute has a very active Women Grievances Redressal Cell to tackle sexual harassment issues of women staff and students. The Redressal Cell comprises senior female faculty members. This cell is ably assisted by faculty/staff members of different departments.

- 5.1.16 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?

There are following anti-ragging committees in the college:

- (a) Institute anti-ragging committee
- (b) Departmental anti-ragging committee
- (c) Hostel anti-ragging committee

These committees maintain a strong vigil in the college campus and hostels. Due to the dedicated efforts of these committees, no major instance of ragging has been reported in the college.

- 5.1.17 How does the College elicit the cooperation from all stakeholders to ensure overall development of the students considering the curricular and co - curricular activities, research, community orientation, etc. ?

At the department level, there are formal and informal interaction with students and their parents. Similarly, the views of the students are also collected through feedback. The views of the faculty are also being taken at the department and institute level.

The different committees of Faculty and students exist for organizing different type of activities. It is ensured that under the guidance of faculty, the students participate in the maximum number of activities. The sportsman spirit is inculcated amongst the students by conducting a large number of curricular and co - curricular activities.

- 5.1.18 What special schemes/mechanisms are in place to motivate students for participation in extracurricular activities such as sports, cultural events, etc?

College provides all the necessary logistic, financial and infrastructural support for students' participation in extracurricular activities. Students are provided with all the

required infrastructure for preparing for these activities. The position holders in different activities are awarded with the titles of ‘College colour’, scholarships. The due weightage is given to the students in the marks allotted for General fitness.

- 5.1.19 How does the College ensure participation of women in ‘intra’ and ‘inter’ institutional sports competitions and cultural activities? Provides details of sports and cultural activities in which such efforts were made?

The institution strongly believes in sense of equality in letter and spirit. The faculty helps the female students in participating in extra-curricular activities and in sports etc. The women teams have participated and won university level competitions in the fields of hockey, basketball, athletics, handball, cycling, volleyball. In the case of cultural activities, the women teams regularly participate in university level competitions in folk dances, classical dances, western dances, skits, drama, mono-acting, singing and rangoli. The college is overall University champion in men & women section since 1997.

5.2 Student Progression

- 5.2.1 Provide details of programme-wise success rate of the College for the last four years.
How does the College compare itself with the performance of other autonomous Colleges / universities (if available)

The following is the average pass percentage of the college for the last four years

Programme	Pass Percentage
B.Tech.	80%
M.Tech.	54%
MBA	82%
MCA	78%

In terms of success rate, the college is on par with the other autonomous colleges and universities of the region.

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

The following is the average percentage progress of the students for the last four batches:

Student progression	%
UG to PG	15%
PG to M.Phil.	N.A.
PG to Ph.D.	0.5%
Employed	
• Campus selection	60%
• Other than campus recruitment	15%

- 5.2.3 What is the Programme-wise completion rate/dropout rate within the time span as stipulated by the College/University?

Dropout rate in UG and PG (average for the last two batches)

UG	0.7%	PG	2%
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Programme	Completion Rate (within maximum time stipulated by university)
B.Tech.	97%
M.Tech.	95%
MBA	98%
MCA	98%

- 5.2.4 What is the number and percentage of students who appeared/qualified in examinations like UGC-CSIR-NET, UGC-NET, SLET, ATE / CAT / GRE / TOEFL / GMAT / Central / State services, Defense, Civil Services, etc.

85 students (3% of total students) have qualified the GATE/TOEFL/IELTS and other Central and State Services examination.

- 5.2.5 Provide details regarding the number of Ph.D/D.Sc./D.Litt. theses submitted, accepted, resubmitted and rejected in the last four years.

Year	No. of Ph.D. Thesis			
	Submitted	Accepted	Resubmitted	Rejected
2009-2010	1	1	NIL	NIL
2010-2011	1	1	NIL	NIL
2011-2012	1	1	NIL	NIL
2012-1013	2	2	NIL	NIL

5.3 Student Participation and Activities

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

In College, facilities are available for sports and games like football, hockey, basketball, handball, tennis, cricket, badminton, volleyball. College has an 8 lane 400 metre track for athletics events. All the swimming competitions are conducted in the well maintained swimming pool. Indoor gymnasium and facilities for indoor games such as weight lifting, power lifting and chess are also available. The cultural and technical events of different types are conducted regularly as per the program calendar prepared under the supervision of Dean (Students and Welfare) & is available on college website.

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

The following are the major achievements of students in co-curricular, extracurricular activities and cultural activities:

- Winner of Punjab Technical University Overall Champions Trophy
- Winners in Punjab Technical University Football, Handball, Volleyball, Cycling, Chess, Cross-country and Best-Physique Championships
- Runners up in Punjab Technical University Lawn Tennis, Swimming, Cricket, Athletics and Kabaddi Championships
- Participation in Zonal/All India Inter-Varsity Tournaments in Hand ball, Basketball, Cricket, Waterpolo, Cycling, Chess, Lawn tennis and Cross-country races
- Runners up in SAE-BAJA International, Washington, (U.S.A.), 2013
- First Position in ISTE-SRMC National Mathematics Contest held at I.I.T., New Delhi, 2012 and 2013.
- Thirid position in 'KSHITIJ' held at I.I.T., Kharagpur, 2012 and 2013

- 5.3.3 How often does the College collect feedback from students for improving the support services? How is the feedback used?

The feedback is collected from the students once in every semester. All feedback is being given to subject incharges to get their view and comments. After that HOD, or a committee constituted by HOD go through the student and teacher's comments. Accordingly the necessary instruction is being passed by HODs. The feedback given by the students is used in improving the facilities and removing the limitations.

- 5.3.4 Does the College have a mechanism to seek and use data and feedback from its graduates and employers, to improve the growth and development of the College?

The graduates are formally called to participate in the Annual Alumni Meet, where they share their experiences and give feedback regarding the performance of college. The employers are contacted from time to time to get their feedback. The employers also give feedback through college website.

- 5.3.5 How does the College involve and encourage students to publish materials like catalogues, wall magazines, College magazine, and other material? List the major publications/ materials brought out by the students during the previous academic session.

The annual magazine, GENESIS is published by the college with the participation of students. The college encourages the students to participate in the competitions and workshops.

- 5.3.6 Does the College have a Student Council or any similar body? Give details on its constitution, major activities and funding.

In the college, there is a Student grievance committee to look after different demands of students, sports council to look after sports activities. The Association of Civil Engineers, SAE, ISTE, STC are the student bodies which conduct different activities in the college.

- 5.3.7 Give details of various academic and administrative bodies that have student representatives on them. Provide details of their activities.

The Student Mess Council looks after the mess affairs in the hostel. The students Sports committees and Student grievance committees are bodies having student members in it for coordination between students and management.

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

- 6.1.1 State the vision and mission of the College.

Vision

Realization of Glimpses of a Golden India in the real(rural) India which lives and abounds in its villages. GNDEC will excel nationally and distinguish itself as a recognized pre-eminent leader to serve this 70% Brotherhood through its socioeconomic upliftment by exposure of the havenots to Engg. & Technology thereby grooming them as technically competent and intellectually-vital Graduates through practically focused quality learning experiences, and thus assuring productive Careers for them

Mission

To provide facilities for Civil, Mechanical, Electrical, Technical, Agricultural, Industrial and all other types of Engineering and Scientific education and training to the weaker or backward and poor section of people in general and to such people of such areas in particular, and with this end in view, to establish, maintain, and manage an Engineering College at Ludhiana, or in its suburbs and other Civil, Mechanical, Technical, Electrical, Agricultural, Industrial and Scientific Schools and Institutions at suitable places in the State of Punjab, and with the same end in view to set up plants, works shops and other machinery for the production and manufacture of Mechanical, Electrical, Agricultural and Industrial tools, plants, machinery and goods.

To provide facilities and make special arrangements for poor, backward and other deserving students for preparation for competitive examinations and tests for recruitment to the Civil and Military Services and all other services of every description and for admission to the Professional colleges, schools and institutions in India. To supply necessary information for the said purposes to people through Books, Magazine, papers and otherwise.

- 6.1.2 Does the mission statement define the College's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, College's traditions and value orientations, vision for the future, etc.?

Yes. The mission statement reflects the institute's distinctive characteristics as it aims at effective contribution to social development by producing professional engineers for most disadvantaged section of society. Our mission is to render solemn service to society as well as to impart world class quality education to produce morally uprighteous, socially useful and competent technocrats who can face every challenge and can succeed in the modern cut throat competitive scenario.

- 6.1.3 How is the leadership involved in

- * ensuring the organization's management system development, implementation and continuous improvement

The Chairman & the members of the managing committee are highly enlightened, educated and socially awakened personalities. Under their inspiring leadership, the management is committed and dedicated to effective and efficient transaction of teaching-learning processes. The management of the institution is caring and highly responsive towards the needs, requirements and aspirations of the faculty, staff and students.

* interaction with stakeholders

The policies and the role of the management are clearly communicated to the different stakeholders from time to time. The academic and administrative head of the institution adheres to the rules and regulations of the university, and through his farsighted vision, leaves no scope for any misunderstanding or controversy. The staff is made aware of the sense of responsibility towards the institution.

* reinforcing culture of excellence

The college management always encourages and supports to apply for accreditation by different agencies. In order to ensure the improvement of effectiveness and efficiency of the institutional processes the management and acknowledges their services through letters/awards for appreciation on Teacher's Day and other occasions. It holds meetings to get the feedback from the staff and works on the suggestions given by the staff members.

* identifying needs and championing organizational development (OD)?

The management engages itself in frequent and regular meetings with the head of the institution who in turn, also holds meeting with the staff to review the progress and activities of the institution and conveys the proceedings/adequate information to the management board for review at their end.

6.1.4 Were any of the senior leadership positions of the College vacant for more than a year?
If so, indicate the reasons.

Yes, sometimes due to unavailability of candidates as per the norms.

6.1.5 Does the College ensure that all positions in its various statutory bodies are filled and conduct of meetings at the stipulated intervals?

Yes.

6.1.6 Does the College promote a culture of participative management? If yes, indicate the levels of participative management.

The organizational structure of the institution comprises Management Committee, Director, Deans and Heads of the Departments. The Management in the light of its policies and plans, takes important administrative decisions by holding the meetings with the head of the institution. These decisions are then communicated and implemented by the Deans, Heads and the administrative staff of the institution. Research programs, extension activities, examinations etc are taken care of by the Director and Heads of the Departments. Financial and administrative powers have been defined for HODs and Deans.

6.1.7 Give details of the academic and administrative leadership provided by the University to the College?

The nominees of the University are members of Board of Governors, Academic Council and Board of Studies and they guide during the meetings. The university also sponsors faculty development programmes in the college from time to time. University also sponsors the faculty for international conferences.

6.1.8 How does the College groom the leadership at various levels?

The administration is decentralized to a large extent. The Director runs the day to day administration of the institution with inputs from the Deans and various Heads of the Departments in respect of Academic, Co-curricular, Training & Placement, Sports, Social Service Industrial Visits and Publication. The Heads of the Departments regularly interact to monitor the activities /progress of faculty/staff. The faculty members have been nominated as members of BOS, Academic council and Management committee of college.

6.1.9 Has the College evolved any strategy for knowledge management? If yes, give details.

Yes. (a) NPTEL (b) EDUSAT (c) ICT (d) Online through College website

6.1.10 How are the following values reflected in various functions of the College?

* Contributing to national development

In the form of academic research by publishing papers in journals, Patents, Ph.D. thesis, organizing Seminar/Workshops/FDP. Students participate in NSS, NCC and other social activities regularly.

* Fostering global competencies among students

Students are encouraged to participate in various national and international level competitions. Recently students of Mechanical Engineering participated in ‘SAE BAJA International 2013’ held at Washington , USA and got second position.

- * Inculcating a value system among students

A course on Human Values and Professional Ethics and Environment Science have been made mandatory for all the students during first year of their graduation.

- * Promoting use of technology

Students are being shown online attendance and online result. ICT enabled class rooms are being used. Faculty and students are being encouraged to use NPTEL course material.

- * Quest for excellence

Expert lectures, seminars, workshops on advanced topics are conducted regularly and students and faculty members are encouraged for participation in these activities.

- 6.1.11 Give details of the UGC autonomous review committee’s recommendations and its compliance.

Attached. All the suggestions are either complied or being complied.

6.2 Strategy Development and Deployment

- 6.2.1 Does the College have a Perspective Plan for development? If so, give the aspects considered in development of policy and strategy.

- * **Teaching and learning**

- * Tracking of performance of individual student
- *100% academic performance (pass)
- *Improving students’ score
- *Improving presentation skill
- *Improving students participation in class
- *Improving teacher’s effectiveness in class
- *Improvement in sequence and content of course curriculum
- *participating in peer teaching
- *To make 50% department as centre of excellence
- * Availability of e-enabling course on college website
- * Proper focus on PG teaching in engineering
- *Proper disemission performance counseling
- *Proper scheduling of timing of repeat examination and remedial classes

*** Research and development**

- *Encouraging faculty for book writing.
 - *Paper publication by faculty in reputed journal only
 - *Patents and invention by Faculty
 - *Membership in Regional and national committees by the faculty
 - *Faculty participation as resource person in continuing education
 - *Linking of research incentive with Awards/Prizes/ Honors
 - *Thesis evaluation by industry experts
 - *Joint Research Programme with industry
- *Technical exhibition

*** Community engagement**

- *Dissimilation of technical knowledge and information by setting a radio station in the campus
- *Parent teacher association
- *Open house and exhibition
- *Alumni association
- *Rapport with local public and support to community through NSS/NCC/ student's chapter

*** Industry interaction**

- *Setting up a chair for industrial R & D
- *Periodic exchange/ visit of faculty and industry professional
- *Appointment of adjacent faculty from industry
- *Development of sandwich programme for industry professional
- *Organising joint seminar/ workshop/ special lectures
- *Sharing of expensive and sophisticated test and analytical facilities
- *Industry sponsored post graduate research fellowship
- *Joint R & D projects
- *Participation in evaluation of thesis and research topics
- *participation of industry in development of curricula and new topic of learnings

*** Internationalisation**

- *Strengthening knowledge infrastructure by working alliance and collaboration with international institution
- *Transforming some lab as world class test houses and industry sponsored trainings centre
- *Initiating systematic mentoring by international institution for postgraduate and doctoral programme
- *Institutional mechanism for peer review of R & D projects by international experts

6.2.2 Enunciate the internal organizational structure of the College for decision making processes and their effectiveness.

The organizational structure of the institution comprises Management Committee, Director, Deans and Heads of the Departments. The Management in the light of its policies and plans takes important administrative decisions by holding the meetings with the head of the institution. These decisions are then communicated and implemented by the Deans, Heads and the administrative staff of the institution. Research programs, extension activities, examinations etc are taken care of by the Director and Heads of the Departments. Financial powers of HODs/Deans are being enhanced.

6.2.3 Specify how many planned proposals were initiated/implemented, during the last four years. Give details.

- Autonomous status by UGC
- Accreditation by NBA
- TEQIP-II granted
- QIP Doctorate programme started
- Accreditation by TCS
- Seven storey hostel constructed
- New hostel for SC/ST students (underconstruction)
- Open air theatre (underconstruction)

6.2.4 Does the College have a formally stated **quality policy**? How is it designed, driven, deployed and reviewed?

Yes, the college has a formally stated quality policy. We are committed to achieve, maintain and continuously improve technical excellence, ethical values, and overall development of students, to global standards, with our ever enhancing competence in teaching and research. We are also committed to support and improve regional rural development through technology.

The quality policy is displayed at different notice boards in college and on college website. It has been designed based on vision and mission of the institute and is being reviewed by the competent authority from time to time after giving the due consideration of the view expressed by different stake holders.

6.2.5 How does the College ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyse the nature of grievances for promoting better stakeholder-relationship?

For addressing the grievances of student and staff, college management has constituted a student grievance cell (headed by a senior teacher) and a staff grievance cell. Two faculty members are also member of management committee of the college. The institution has an in-house grievance redressal cell, headed by the Director and Heads of the Departments. This cell listens to all the grievances / complaints. If the matter is not resolved at this stage then the case is sent to the Managing Committee or the Chairman of the managing committee for its immediate redressal.

- 6.2.6 Does the College have a mechanism for analyzing student feedback on institutional performance? If yes, what was the institutional response?

The feedback is collected from the students once in a semester. The feedback is analyzed and appropriate actions are taken on its basis to improve the performance of the institution.

- 6.2.7 In what way the affiliating University helped the College to identify the developmental needs of the College?

The highest level officials of affiliating University are in the panel of Academic Council and Board of Studies (BOS) and Selection committees for recruitment of faculty. Their suggestions on different aspects are implemented by the college.

- 6.2.8 Does the affiliating university have a functional College Development Council (CDC) or Board of College and University Development (BCUD)? If yes, In what way College is benefitted.

Yes, the College Development Council of university issues necessary guidelines/suggestions which are discussed in academic council/BOS of college and implemented accordingly for the benefit of college.

- 6.2.9 How does the College get feedback from non-teaching, teaching, parents and alumni on its functioning and how it is utilized.

The respective Deans and Heads of departments conduct regular meetings with their teaching and non-teaching staff to know their viewpoints on the various issues. The Alumni give their feedback during annual alumni meet or through college website. Parents give their feedback directly to the concerned Heads of department. All these views are communicated to the competent authority for due consideration.

- 6.2.10 Does the College encourage autonomy to its academic departments and how does it ensure accountability?

Different Departments enjoy full academic autonomy as per the rules framed by Academic Council and Board of Studies (BOS). The Head of Department is accountable for different activities of the department.

- 6.2.11 Does the College conduct performance auditing of its various departments?

The performance auditing of different departments is conducted annually and based on it, the necessary directions are issued by the competent authority for the improvements.

6.3 Faculty Empowerment Strategies

6.3.1 What efforts are made by the College to enhance the professional development of teaching and non teaching staff?

The college regularly conducts training programmes/Seminars/Grooming sessions to enhance the professional development of teaching and non teaching staff. Faculty and non teaching staff are being sponsored for management training programme organized by governmental /non governmental organization. All faculty members are encouraged for R & D project, higher qualification, publication of paper in leading journal. Faculty members are being given all logistic support for patent and presenting paper in national and international form, receiving awards and recognition. Faculties are also being given all the facilities for carrying out research project sponsored by national agencies.

6.3.2 What is the outcome of the review of the Performance Appraisal Reports? List the major decisions.

Firstly, the faculty/staff member does self appraisal and submits to Reporting Officer, who then gives his report to the Reviewing Officer. Based on it, the concerned faculty/staff is advised accordingly. Any disciplinary action, if needed, is taken. In the cases of promotions, increments, the decision is taken on the basis of Performance Appraisal Reports.

6.3.3 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?

- Staff Medical Loan Scheme
- Staff Insurance Scheme
- Study Leave
- Grants for Books
- Laptops for faculty
- Leave Encashment and Gratuity
- Provident Fund
- CCA

100% of staff avails the benefit of such schemes every year.

6.3.4 What are the measures taken by the College for attracting and retaining eminent faculty?

For attracting and retaining eminent faculty, the college has all the major incentives/schemes in place such as Career Advancement Scheme (CAS), Sixth Commission pay scales, CPF, campus accommodation etc.

- 6.3.5 Has the College conducted a gender audit during the last four years? If yes, mention a few salient findings.

Though no formal gender auditing has been conducted but the college analyses the number of the male and female faculty, staff and students annually. The number of female faculty, staff and students has increased in the last few years.

- 6.3.6 Does the College conduct any gender sensitization programs for its staff?

The College has a Cell headed by a senior female faculty on the sexual harassment at workplaces. This cell conducts programme on social and moral issues for gender sensitization.

- 6.3.7 What is the impact of the University's UGC-Academic Staff College Programmes in enhancing competencies of the College faculty?

The eligible faculty participates in the Academic Staff College Programmes regularly.

The faculty utilizes the acquired knowledge/skills for the enhancement of the teaching learning process.

6.4 Financial Management and Resource Mobilization

- 6.4.1 What is the institutional mechanism to monitor effective and efficient use of financial resources?

For effective monitoring of financial resources, the college has a separate Accounts Branch, where Superintendent Accounts and his staff of Accounts Branch deal with the day to day financial activities. Accounts Branch is supervised by Administrative Officer (AO) and Dean (Administration) under the directions of Director. All the funds are being audited annually and audit report is open to public scrutiny.

- 6.4.2 Does the College have a mechanism for internal and external audit? Give details.

Yes. The internal and external audit of college is conducted by the competent authority annually.

- 6.4.3 Provide audited income and expenditure statement of academic and administrative activities of the previous four years.

2009-2010		
Head	Income	Expenditure
M.Tech.	10363935	4998610
M.C.	99614679	100180633
A.F.	28799880	13999136
D.F.	16417028	7981057
Total	155195522	127159436

2010-2011		
Head	Income	Expenditure
M.Tech.	12605321	7718926
M.C.	117731721	119074206
A.F.	31408044	15337479
D.F.	17904260	10396622
Total	179649346	152527233

2011-2012		
Head	Income	Expenditure
M.Tech.	25811299	3725546
M.C.	159022550	152826960
A.F.	45549436	26224170
D.F.	23276167	4329912
Total	253659452	187106588

2012-2013		
Head	Income	Expenditure
M.Tech.	20964473	4055818
M.C.	189952212	165314752
A.F.	58400829	25914891
D.F.	32179678	4167692
Total	301497192	199453153

6.4.4 Have the accounts been audited regularly? What are the major audit objections and how are they complied with?

Yes, the accounts are audited regularly. Normally, there are no major audit objections and in most of the cases objections are minor in nature. In the case of an audit objection, these are complied with and the necessary corrective measures are taken.

6.4.5 Narrate the efforts taken by the College for resource mobilization.

College has a Resource Mobilization Committee which collects data and informs the faculty about the various schemes of state/centre government/or other funding agencies. Faculty gets grants from different organizations. Faculty is involved in Consultancy projects. Because of these efforts College has got grants under TEQIP (10 crore), DST-FIST (1 crore) SC/ST Hostel Grant (2 Crore).

6.4.6 Is there any provision for the College to maintain the ‘corpus fund’? If yes, give details.

Yes, college maintains the corpus fund under the following heads:

- General Corpse Fund
- Equipment Replacement Fund
- Maintenance Fund

6.5 Internal Quality Assurance System

6.5.1 Does the College conduct an academic audit of its departments? If yes, give details.

Yes, each department conducts the academic audit at the end of every semester which includes the result analysis classwise, subjectwise and facultywise. These findings are analyzed at the college level and the competent authority issues the necessary guidelines for improvements.

6.5.2 Based on the recommendations of academic audit what specific measures have been taken by the College to improve teaching, learning and evaluation?

- LCD Projectors in class rooms
- Remedial classes for academically weaker students
- Mentoring classes
- Educational visits to allied industries

6.5.3 Is there a central body within the College to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

The central committee to continuously review the teaching learning process, is headed by Dean (Academics) and it consists of Heads of all the departments. The committee holds its meetings regularly to brainstorm the various issues of teaching learning

process and suggests the improvements. Apart from this, performance auditor under TEQIP-II scheme audits the performance twice in a year.

- 6.5.4 How has IQAC contributed to institutionalizing quality assurance strategies and processes?

The annual internal audit has resulted in streamlining of academic and administrative processes and enhanced the quality assurance, leading to accreditation twice by NBA and the college has been selected under TEQIP-II for major funding.

- 6.5.5 Does the IQAC have external members on its committees? If so, mention any significant contribution made by such members.

The external experts who are on the panel of different committees lend their expertise on the quality assurance strategies. The performance auditor under TEQIP-II scheme audits the performance twice in a year. It is an external audit.

- 6.5.6 Has the IQAC conducted any study on the incremental academic growth of students from disadvantaged sections of society?

The incremental academic growth of students from disadvantaged sections of society is being analyzed regularly under TEQIP-II scheme and the necessary remedial actions are expeditiously taken.

- 6.5.7 What policies are in place for the periodic review of administrative and academic departments, subject areas, research centres, etc.?

The activities of administrative and academic departments are bi-annually reviewed by an external performance auditor under TEQIP-II at the institute level and the necessary guidelines/directions are issued accordingly.

CRITERIA VII: INNOVATION AND BEST PRACTICES

7.1 Environment Consciousness

- 7.1.1 Does the College conduct a Green Audit of its campus?

Yes, the college regularly monitors the green cover of the campus. Tree plantation drives are conducted regularly by NSS volunteers. One of the faculty member is a certified energy auditor. The energy auditing of campus is on.

- 7.1.2 What are the initiatives taken by the College to make the campus eco-friendly?

* Energy conservation

The staff and students are continuously made aware about the energy conservation through awareness camps, posters and notices on various issues related to energy conservation.

- * Use of renewable energy

Solar lights are installed at different places on the campus.

- * Water harvesting

Water harvesting is monitored by the experts from the Civil Engineering department of the college.

- * Check dam construction

No.

- * Efforts for Carbon neutrality

The traditional lights have been replaced with CFL lights. The energy auditing of the campus is going on.

- * Plantation

The plantation drives are conducted regularly.

- * Hazardous waste management

The hazardous waste is disposed off as per the standard procedure.

- * e-waste management

The e-waste management is carried out as per the standard policy of the college.

- * any other

The playgrounds are watered by reusing the water of swimming pool through water-gun technology.

7.2 Innovations

7.2.1 Provide details of innovations introduced during the last four years which have created a positive impact on the functioning of the College.

The college is gradually moving from the traditional chalk-board teaching methodology to the advanced teaching methodologies. In most of the class rooms the LCD Projector facility has been installed. The expert lectures are available under EDUSAT facility in the college. The remedial classes for the academically weaker students are conducted. The educational/industrial tours are conducted regularly for the personality growth of the students. Major automation of the administrative and academic activity is being carried out through in house developed ERP programmes.

7.3 Best Practices

7.3.1 Give details of any two best practices which have contributed to better academic and administrative functioning of the College.

1. Inclusion of students in assessment

The college conducts the End-Semester Examinations in the month of May and December every year. After the evaluation of the answer sheets by the faculty, the answer sheets are shown to the students before the declaration of the final result. If the student points out any mistake in total or some unchecked question, the same is rectified on the spot by the concerned faculty. If a student is not satisfied with the marking of some questions, then he can discuss that with the concerned faculty on the spot. If still he is not satisfied, he fills a discrepancy removal form by paying a nominal fee. The concerned Head of the Department then constitutes a Discrepancy Removal Committee (DRC). The DRC re-evaluates the entire answer sheet of the student in his/her presence. The Head of the Department sends the report of DRC to Controller of examination and the necessary correction in the marks is made. Then final result is declared.

2. Inhouse developed ERP Software/Programme

The automation committee of college has developed the in-house software for Online Attendance of students. The faculty members upload the attendance of students daily. The details of course covered are also uploaded by the faculty. The students can view their attendance record anytime by using their login Id. The software calculates the percentage attendance. The Heads of different departments can view the attendance record of the students of their respective branches. The internal assessment record, assignments credit etc. is also uploaded by the faculty. All the examination related information is available online and is being uploaded in students' loginid. The information regarding college fees and hostel fees is also being generated through ERP system.

Evaluative Report of Mechanical Engineering Department

1. Name of the Department : **MECHANICAL ENGG.**
- Year of establishment : **1956**
2. Names of Programmes/ courses offered : **B. Tech. Mech. Regular**
3. Interdisciplinary courses and departments involved :

Maths	:	Applied science
Environmental Science	:	Civil
4. Examination system : Semester system
5. Participation of the department in the courses offered by other departments

Elements of Mechanical Engineering	:	Applied Science
TQM	:	Production Engg.
Computer Graphic Lab.	:	Applied Science
Engineering Drawing	:	Applied Science
Power Plant Engineering	:	Electrical Engg.
6. Number of teaching posts sanctioned and filled:

	Sanctioned	Filled
Professor	3	3
Associate Professors	6	5
Assistant Professors	19	19

7. Faculty Profile :

S.No.	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
1.	Dr. Sehijpal Singh	Ph.D	Professor	Manufacturing Processes, Notradition machining	22	04
2.	Dr. P.S Bilga	Ph.D.	Associate Professor	Refrigeration and air conditioning,	24	NIL

S.No.	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
				Energy		
3.	Dr. Harwinder Singh	Ph.D	Associate Professor	IndustrialEngineering	15	NIL
4.	Er. Deepinder Singh	M.tech	Associate Professor	IndustrialEngineering	17	NIL
5.	Dr. Harmeet Singh	M.Tech.	Associate Professor	Renewable Energy	14	NIL
6.	Er. BalwinderSingh	B.Tech.	Associate Professor	Automobile Engineering	24	NIL
7.	Dr.JatinderKapoor	M.Tech	Associate Professor	Non-conventional Machining	22	NIL
8.	Dr. Gurinder Singh Brar	Ph.D	Assistant Professor	Machine Design	13	NIL
9.	Dr. Ravi Inder Singh	Ph.D	Assistant Professor	Computational fluid dynamics and thermal Engineering	10	NIL
10.	Er. Davinder Singh Bhogal	M.Tech	Assistant Professor	Fluid mech	10	NIL
11.	Er. GurmeetKaur	M..Tech	Assistant Professor	Welding	10	NIL
12.	Er.Prem Singh	M.Tech	Assistant Professor	Thermal Engineering	12	NIL
13.	Er.Aprinder Singh	M.Tech	Assistant Professor	Industrial Engineering, CAD/CAM	8	NIL
14.	Er. Parminder Singh	M.tech	Assistant	Welding	4	

S.No.	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
			Professor			NIL
15.	Er. Satjot Singh	M.tech(persuing)	Assistant Professor	Production Engineering	3	NIL
16.	Er. Chatwant Singh	Mtech	Assistant Professor	Production Engineering	4	NIL
17.	Er. Sehbaazsingh	Mtech	Assistant Professor	Production Engineering	2.5	NIL
18.	Er. Bhupinder Singh	M.tech	Assistant Professor	Welding	10	NIL
19.	Er. Iqbal Singh	M.E	Assistant Professor	Machining	4	NIL
20.	Er.Chanbir Singh	M.Tech(persuing)	Assistant Professor	Production Engineering	1.5	NIL
21.	Er.Jasvir Singh	M.Tech.	Assistant Professor	Refrigeration and air conditioning	3	NIL
22.	Er. PoojaKhanna	B.tech	Assistant Professor	Materials	1.5	NIL
23.	Er. Gurwant Singh	M.Tech.	Assistant Professor	Industrial Engineering Machine Drawing	4	NIL
24.	Er. Mandeep Kaur	M.Tech.	Assistant Professor	CAD/CAM	1	NIL
25.	Er. Simranpreet Singh	M.Tech.	Assistant Professor	CAD/CAM	1	NIL
26.	Er. Jatinderpal	M.Tech.	Assistant Professor	Industrial Engineering	8	NIL

S.No.	Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
27.	Er. Rupinder Singh	M.Tech.	Assistant Professor	Production Engg.	2	NIL
28.	Er. Chamkaur Jindal	M.Tech.	Assistant Professor	Mechanical Engg.	1	NIL
29.	Er.Gurdeep Singh	B.Tech	Assistant Professor	Production Engg.	3	NIL
30.	Er. Deepak Dhand	B.Tech	Assistant Professor	Production Engg.	4	NIL

8. Percentage of classes taken by temporary faculty programme-wise information: 65%

9. Programme-wise Student Teacher Ratio: 1:16

10. Number of academic support staff(technical) and administrative staff:

	Sanctioned	Filled
Junior Lab Technician / Mechanic	04	03
Steno/Clerk	1	1
Lab Attendant	4	4
Attendant	3	3

11. Number of faculty with ongoing projects

Number of faculty with ongoing projects : 04

Name of the Project : Research Project

Funding Agency level : National

Name of Funding Agency : AICTE/DST

Total grants received : Rs.18 Lakhs

12. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE,DBT,ICSSR,AICTE etc.

S. No.	Name of Faculty	Project Title	Sponsored By	Duration	Year	Amount Rs. (lacs)
1.	Sehijpal Singh and Jatinder Kapoor	Development of Magnetic Abrasive for Micro-Machining of Metallic and Non-Metallic Surfaces,	AICTE	2 years	2008-10	7.45
2.	Sehijpal Singh	Design and Development of Rig for Internal finishing process by using alternative Current,	IE(I)	1 year	2009-10	0.21
3.	Sehijpal Singh and Harwinder Singh	Impact of advanced manufacturing technologies on SME's of auto-parts manufacturing industry,	IE(I)	1 year	2010-11	0.15
4.	Harwinder Singh	Implementation of continuous improvement (CI) strategies in small and medium enterprises (SMEs) of Northern India manufacturing industry for strategic success,	DST, New Delhi	3 years	2011-13	10.56

13. Research facility/ centre:

- State Recognition: Nil
- National Recognition: one
- International Recognition: Nil

14. Publications :

Journals Publications

1. Brar G.S., Kumar R. "Effect of the welding techniques on residual stress developed in butt welding of AISI 304 stainless Steel Plates" International Journal of Engineering Studies, Vol.2 No .3, 2010, pp. 271-278.
2. Singh H., Khamba J.S. "An Empirical examination for enhancing the utilization level of advanced manufacturing technologies in Indian manufacturing industries", Journal of advances in management research, Vol.7, 2010, pp112-126.
3. Singh H., Khamba J.S. "Extent of use advanced manufacturing technologies in Northern Indian mechanical manufacturing industry" Journal of mechanical engineering , Vol.6,No.1 Mar,2010, pp.1-4.

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5. Singh H., Singh J., "Evaluation of KAIZEN Techniques in Manufacturing Industry of Punjab" Udyog Pragati Journal, Vol.34, No.1, Jan-Mar, 2010, pp.1-7.
6. Singh Harmit, "A Review on Packed Bed Solar Energy Storage Systems" in International Journal, Renewable and Sustainable Energy Reviews". 14 (2010) 1059-1069.
7. Singh J., Singh H., "Assessment of continuous improvement approach in SMEs of Northern India" International Journal of Productivity and Quality Management, Vol. 5, No. 3, 2010, pp.252-268.
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9. Singh Lakhvir, Singh Sehijpal, Mishra P.S. "Study on internal surface polishing of non-ferromagnetic tubes" Journal of Engineering and Technology Education (NITTTR Chandigarh), Vol. 4 No.1 , 2010 pp.15-21.
10. Singh Lakhvir, Singh Sehijpal, Mishra P.S. "Internal surface finishing of brass tubes by dry/wet magnetic abrasives" The IUP Journal of Mechanical Engineering, Vol.3 No.3, 2010, pp.18-28.
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12. Singh Ravi Inder, Singh Rupinder and Y.S.Brar, "Technoeconomic aspects of sugar based power plant- A case study" , International Journal Emerging technologies and applications in Engineering Technology and Sciences, ISSN: 0974-3588, 2010, pp. 58-61.
13. Singh H., Khamba J.S "Evolving success factors for enhancing advanced manufacturing technologies" (AMTs) utilization International Journal of Applied Management Science Vol.2, No.1, 2010, pp.55-75.
14. Singh H., Khamba J.S., "An empirical examination for enhancing the utilization level of advanced manufacturing technologies (AMTs) in Indian manufacturing industry" Journal of Advances in Management Research, Vol. 7, No. 1, 2010, pp. 112-126.
15. Singh H., Khamba J.S., "Enablers for utilisation of new technologies using ISM approach" International Journal of Advanced Manufacturing Systems, Vol. 1, No. 1, 2010, pp. 1-10.
16. Singh Sehijpal, Kapoor J., Khamba J.S. "Effect of cryogenic treated wire electrode on the surface of an EN-31 steel machined by WEDM", International Journal of Surface Engineering and Material Technology Vol.1, No.1, 2011. pp.43-47.
17. Brar G.S., Singh G. "A Numerical Analysis of residual stresses in V- Butt weld Joint of Two Similar Aluminum Alloy plates" International Journal of Manufacturing Science and Technology, Vol. 5 (1) 2011, pp.23-33
18. Pandher C. S., Singh R. "Effect of Geometrical Shapes of Patterns in Vacuum Moulding" Internal journal of Advanced Mechatronics and Robotics. pp. 97-102, July, 2011.
19. Singh Ravi Inder, Mohapatra S K , Gangacharyulu D, 2011, "Fluidized bed combustion and gasification of rice husk and rice straw-a state of art review", International Journal of Renewable Energy Technology, Vol 2, Issue 4, 2011, pp.345-372.
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21. Singh Sehijpal, Kumar Raman "Abrasive Flow Polishing of Tungstun Carbide wire Drying Die" International Journal of Applied Engg. Research Vol. 6 No. 4, 2011, pp.499 – 510, pp. 18-28

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24. Singh Ravi Inder, Mohapatra S K, Gangacharyulu D, " Study of agglomeration in 3.5 MW AFBC using rice husk particles", International Journal of Renewable Energy Technology, Vol 2, Issue 2, 2011,120-142.
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26. Kapoor, J., Singh, S.P. and Khamba, J.S. (2011) "Current research trends on wire electrodes for wire electrical discharge machining", Int. Journal of Engg. Sciences, vol.1 (1), pp.167-174.
27. Kapoor, J., Sehijpal Singh and Khamba, J.S. "An investigation on wear of shallow cryogenic treated wire in WEDM" Materials Science Form, Vol 701(2012) pp 31-42.
28. Brar G.S., Singh G. "FEA of residual stresses in Butt Welded type Low Carbon Steel using MMAW Technique" Applied Mechanics and Materials Vol.110-116, 2012 pp.26-2692.
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31. Singh, J. and Singh, H., "Continuous Improvement Approach - state of-art-review and future Implications", International Journal of Lean Six Sigma, Vol. 3, No. 2, 2012, pp.88-111.
32. Kumar, R., Singh, H. and Dureja, J.S., "An approach to analyze logistic outsourcing problem in medium scale organization by CFPR and VIKOR", Journal of Manufacturing Technology Management, Vol. 23, No. 7, 2012, pp.885-898.
33. Singh, H. and Kakkar, R., "Hybrid methodology for measuring the utilization of advanced manufacturing technologies using AHP and TOPSIS Benchmarking:" An International Journal (*In press*).
34. Singh, H. and Bhanot, N. "Benchmarking the Performance Indicators of Indian Railway Container Business using Data Envelopment Analysis Benchmarking." An International Journal (*In press*).
35. Singh, H. and Khamba, J.S. "A case study of Indian manufacturing organisation for utilisation of advanced manufacturing technologies", International Journal of Indian Culture and Business Management, (*In press*).
36. Harmeet Singh, R.P. Saini, J.S. Saini, "Performance of a Packed bed Solar Energy Storage System Having Large Sized Elements with Low Void Fraction" International Journal Solar Energy Vol. 87, pp.22-34, 2013.
37. Kapoor, J., Singh, Sehijpal and Khamba, J.S. (2012) "Effect of cryogenic treated brass wire electrode on material removal rate in wire electrical discharge machining", Journal of Mechanical Engineering Science, 226 (11): 2750 – 2758.(IMECHE-C)
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39. Kapoor, J., Khamba, J.S. and Singh, Sehijpal (2012) "The effect of machining parameters on surface roughness and material removal rate with cryogenic treated wire in WEDM", Int. J. Machining and Machinability of Material, 12(1/2) : 126-141.(Inderscience Publishers)

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43. Harmeet Singh (2013), "Performance Evaluation of Micro-stepped Solar Still" International Journal of Theoretical and Applied Research in Mechanical Engineering (IJTARME)

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1. Brar G.S., Kumar R., "Effect of the welding techniques on residual stresses developed in butt welding of AISI304 stainless steel plates", Proc. of National Conference on Precision Manufacturing held at SLIET, Longowal from 26-27, March, 2010.
2. Brar G.S., Singh G., "FEA of residual stresses in butt welded stainless steel plates", Proc. of National Conference on Futuristic Trends in Mechanical Engineering, GNDEC, Ludhiana from 29th-30th, Oct., 2010. pp. 208-213.
3. Chohan J.S., Bilga P. S., "Occupational Health Hazards in Small Scale Steel Manufacturing Industries: A Case Study" , accepted for 2nd International Conference on Production and Industrial Engineering to be held at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar from 3rd – 5th December 2010.
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17. Singh N., Singh H., "MATLAB based case study of BILT using QAP" Proc. of National Conference on Futuristic Trends in Mechanical Engineering, GNDEC, Ludhiana from 29th-30th, Oct., 2010. pp.241- 246.
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30. Singh Sehijpal, Singh L., Singhi C., "Finishing of stainless steel (AISI-303) Tubes using sintered magnetic abrasives" National Conference on advancements and futuristic trends in Mechanical and Materials Engineering October 7th -8th 2011, PTU Jalandhar.
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33. Brar, G. S. and Singh, Gurdeep, "Nondestructive and Destructive Techniques to Determine the Residual Stress in Welded Structures" National Conference on Emerging Frontiers in Mechanical Engineering for New Generation Industry (EFME-2100) organized by ideal Institute of Technology, Ghaziabad, March 12-13, 2011. pp. 192-197.
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35. Singh, H. and Kumar, R. "Selection of material for bicycle chain in Indian scenario using MADM approach", Proceedings of World Congress on Engineering 2012 held at London, UK from July4, 2009 to July6, 2012. Pp. 1377-1381.
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37. Parminder Singh Sidhu, Harmeet Singh, Paramjit Singh Bilga,Gurpreet Kaur "Daylight Utilization In Small Scale Manufacturing Industries", National conference on Emerging Trends in Energy Engineering held at DIT Dehradoon from 23-24 March 2012.
38. Singh Sehijpal, Dhawan, V., Singh, I., and Wadhawan, S., (2013), "Predicting Modeling of Delamination Induced in GFRP Laminates using Fuzzy Logic," Proceedings of National Conference on Futuristic Trends in Computing, Communication and Information System, FTCCIS-2013, YIET, Yamunanagar.

15. Details of patents and income generated:

S.No.	Name of Faculty	Title	Year	National/ International	Status
1	Sehijpal Singh Jatinder Kapoor	Cryogenic treatment to brass wire for improved machining characteristics of wire-EDM (Filed-Nov 2009)	2010	National	Filed

2	Sehijpal Singh	A new method of producing magnetic abrasive (Filed, Aug.2010)	2010	National	Filed
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16. Areas of consultancy and income generated

Sr. No.	Faculty	Area/Project	Agency	Revenue generated (Rs)
1	Sehijpal Singh and Jatinder Kapoor, Rupinder Singh	Capacity Utilization	VIRA Industries, Ludhiana	1,00,000
2	Sehijpal Singh and Jatinder Kapoor, Paramjit Singh	Assessment of Engine Block and Pump Blocks	Directorate of Revenue Intelligence (Govt. of India)	85,000
3	Sehijpal Singh and Jatinder Kapoor	Dimensional Evaluation of orthodontic Dies.	B.J.S. Dental College and Hospital & Research Institute	65,000
4	Sehijpal Singh and Rupinder Singh	Microstructure Analysis of Ferrous Metal	Balco Industries Ludhiana	20,000

17. Faculty Recharging strategies

- Annual increments based on appraisal for faculty
- CAS(Career Advancement Scheme) for promotions
- Funding for attending National and International Conferences
- Facility of recommending books for Departmental Library
- Faculty Development Programmes for motivating the faculty
- National and International Conferences
- Funding for membership of National/International Societies.

18. Student Projects

- Percentage of students who have done in-house projects including inter-departmental: 90%
- Percentage of students doing projects in collaboration with other universities/ industries / institutes: 10%

19. Awards recognition received at the national and international level by Faculty:

S.No.	Name of Faculty	Award	Year
1.	Dr Harwinder Singh	Best Session Paper Award at 1st International Multi-Conference on Engineering and Technological Innovation: IMETI 2008 held at Orlando, Florida, USA	2008
2.	Dr.Harwinder Singh	Best Teacher Award	2013

20. Seminars/Conferences/Workshops organized and the source of funding(national/international)with details of outstanding participants, if any

S. No.	Name of Faculty	Title	Nature (Conference/ Seminar/ Winter/ Summer Schools)	Funding Agency	Year
1.	Sehjpal Singh, P.S. Bilga, Buta Singh	“Occupational Health and Safety” in collaboration with Bureau of Indian Standards, 6th Feb. 2009	National Workshop	Bureau of Indian Standards	2009
2.	Sehjpal Singh P.S. Bilga, D.S Bhogal, Prem Singh	“Manufacturing and Testing of Submersible Pumps” in collaboration with Bureau of Indian Standards and North India Pump Manufacturers Association, May 20, 2010	National Workshop	Bureau of Indian Standards and North India Pump Manufacturers Association	2010
3.	Sehjpal Singh P.S Bilga, Ravi Inder Singh Harwinder Singh	“Futuristic Trends In Mechanical Engineering” (sponsored by DST) 29-30th Oct. 2010	National Conference	DST	2010
4.	Sehjpal Singh Harwinder Singh	“Fundamentals of Research Methodology” held at Guru Nanak Dev Engineering College from July11-15, 2011.	Faculty Development Program	PTU	2011
5.	Sehjpal Singh Harwinder Singh P.S Bilga, Gurinder Singh Brar	International Conference on Research and Innovations in Mechanical Engineering	Internationa l Conference	AICTE,DST,PT U,TEQIP	2013
6.	Sehjpal Singh Gurinder Singh Brar	Finite Element Method and its Application	Faculty Development Program	AICTE	2013

21. Student Profile programme wise:

Course	Applications received	Selected		Pass Percentage	
		Male	Female	Male	Female
B.Tech.	750	180	—	85	—

22. Diversity of Students

Name of Course	Percentage of students from the college	Percentage of students from the state	Percentage of students from other states	Percentage of students from other countries
B.Tech.	Not applicable	85%	15%	Nil

23. Students cleared competitive examination:

Batch 2009-2013: GATE-11, GRE-1

Batch 2008-2012: GATE- 9, GRE-1

Batch 2007-2011: GATE- 12,GRE-1

24. Student progression:

Student progression	Percentage against enrolled		
	2007-2011	2008-2012	2009-2013
UG to PG	18	30	18
PG to M.Phil.	--	--	--
PG to Ph.D.	--	--	--
Ph.D. to Post-Doctoral	--	--	--
Employed Campus selection	45	47	45
Other than campus recruitment			4
Entrepreneurs			

25. Diversity of staff

Percentage of faculty who are graduates	
of the same university	88.24%
from other universities within the state	Nil
from other universities from other states	11.76%
from universities outside the country	Nil

26. Number of faculty who were awarded Ph.D., D.Sc., and D. Litt. During the assessment period:

2

- Dr. Jatinder Kapoor
- Dr. Harmeet Singh

27. Present details about infrastructural facilities:

- a) Library: 461 Books
- b) Internet Facilities for Staff and Students: 40Mbps wired and Wireless connectivity in Staff Rooms, Laboratories , Hostel and faculty flats.
- c) Total No of Class Rooms: 10
- d) Class Rooms with ICT Facility: 05
- e) Student and Research Laboratories:

S. No.	Lab Name
1.	Heat Engine Lab., Ref. and AC Lab
2.	Heat Transfer Lab.
3.	CAD/CAM Lab.
4.	Dynamics of Machines Lab.
5.	Metallurgy and Heat Treatment.
6.	Hydraulics machines lab.
7.	Fluid Mech. Lab.
8.	Mechanical Measurement & Metrology Lab.
9.	Department Computer Centre.

28. Number of post graduate students getting financial assistance from the college:
10% PG students are given scholarship under TEQIP-II.
29. Was any need assessment exercise undertaken before the development of new program? If so, highlight the methodology:

Yes, it is done by taking

- Feedback from students (studying as well as pass-out)
- Feedback from Alumni of the Department
- Feedback from Companies in which students get placed
- Feedback from faculty

These feedbacks are taken online from time to time and a committee is formed which analyses these feedbacks which then plans for modification of course or introduction of new course.

30. Does the department obtain feedback from

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

The department takes feedback from faculty and utilizes in

- Identifying the academic gaps in the curriculum
- Identifying the need in improving the course contents by updating the syllabus
- Identifying the need for including new courses in the curriculum
- Identifying the pitfalls in the teaching learning process
- Strengthening the teaching learning process

- b. Students on staff, curriculum as well as teaching-learning evaluation and what is the response of the department to the same?

The department obtains feedback from students on staff, curriculum and teaching-learning evaluation. The questionnaires are given to students at the end of the semester and at the end of the graduate program and various rubrics are being set for various questions and students are evaluated accordingly. Further, the department analyzes the feedback and measures are taken accordingly, some of them are

- Encouraging the faculty to attend for FDP's/ Seminars/ Guest lectures
- Encouraging the faculty for skill enhancement programme
- Including the new subjects as per the industry demand
- Use of new methods in teaching learning process as to develop better understanding of the course contents
- Measures to strengthen the Teaching Learning process

- c. Alumni and employers on the programmes and what is the response of the department to the same?

The department obtains feedback from Alumni and employers through Alumni Survey and Industry Survey. Further, the department responses in the form of

- Conducting various aptitude tests, group discussions for skill enhancement
- Various technical events are being organized by societies for improving skills of the students

31. List of distinguished Alumni of the Department

S.No	Name	Designation
1.	Er. Harjap Singh	Ex. Major General Indian Army 1961
2.	Dr. Randhir Singh Seehra	Ex. Principal G.N.D.E.C Ex. Director I.E.T Bhaddal Ex. Principal GNDEC Bidar (Karnataka) 1961
3	Dr. Ranjit Singh Parmar	Ex. Prof. & Head I.I.T Delhi Director- Netaji Subhash Institute Tech., Delhi 1962
4.	Dr. Yogeshwar Hari	Professor (Mech. Engg.) Univ. of North Carolina (U.S.A) 1962
5.	Er. Rajinder Singh Dhaliwal	Project Manager I.B.M, USA 1965
6.	Er. K.D Chaudhary	CMD PSPCL Punjab 1971
7.	Dr. Harbhajan Singh Shan	Ex-Emeritus Professor and Head Mech and Ind Engg Deptt I.I.T. Roorkee Advisor Swift Group of Institutions, Punjab, 1966
8.	S. Pushpinder Singh Grewal	Chief Managing Director N.F.L, New Delhi, 1966
9.	Dr. G. Das Mehta	President Science Applications International Applications (SAIC) Chairman –ASME Washington,-DC Section 1967
10.	Dr. M.L Singla	Dean Faculty of Management Delhi University, Delhi
11.	Er. Ajay Narula	CMD Delhi Power Board

32. Give details of student enrichment programmes(special lectures/workshops/seminar) involving external experts

Date	Name and Designation	Topic
30/12/2008	Dr. J.S. Khamba, Dean (Engg.), Lovely Professional University, Phagwara	Role of technology management in manufacturing industry for strategic success
30/12/2008	Dr. Gurdeep Singh, Directro Rayat and Bahra Institute of Engg. & Technology , Mohali	Technology Innovations
17/01/2009	Dr. V.P. Singh, Head, PEC, Chandigarh	<u>The influence of vibrations on the absorption of mechanical energy in human body</u>
03/03/2009	Dr. Dixit Garg, Professor NIT, Kurukshetra	JIT System: Concepts, Benefits and Motivation in Indian Industries
09/03/2009	Dr. Anish Sachdeva, Assistant Professor, NIT Jalandhar	Introduction to Multi-Criteria Decision Making methods
29/06/2009	Dr. S. Kumar, Thakkar, Assistant Professor PEC, Chandigarh	Introduction to Design of Experiments
26/06/2009	Dr. Dilbag Singh, Assistant Professor, BCET, Gurdaspur	Recent Advances in hard turning
26/06/2009	Dr. Balwinder Sidhu, Assistant Professor, GZSCET, Bathinda	Investment Casting: A clean and accurate technology
05/10/2009	Dr. H.K. Kansal, HOD(Mech, UIET Panjab University	Powder Mixed EDM: An Innovation
13/08/2009	Dr. Ajay Batish, Thapar University, Patiala	Ergonomics: A Guide to Manual Lifting Tasks
29/12/2009	Dr. I.P.S. Ahuja, Reader, Punjabi University, Patiala	Role of total productive maintenance for strategic success in manufacturing industry
13/05/2010	Dr. S.K. Mahapatra, Professor and Head, Thapar University, Patiala	Study on Performance characteristics of a Centrifugal Slurry Pump
22/05/2010	Dr. Harpreet Singh, Assistant Professor, IIT Ropar	Thermal Spray Coating: Latest trends and Applications
17/05/2010	Dr. T.S. Sidhu, Principal, SBSCET Ferozepur	Erosion performance of hydro turbine steel and thermal spray coating
06/05/2010	Dr. S.K. Thakkar, Assistant Professor PEC, Chandigarh	Some research ideas on Electric Discharge Machining
23/03/2010	Dr. R.K. Garg, Professor and Head NIT, Jalandhar	Opportunities for productivity improvement Sewing machine industry of Ludhiana
22/07/2010	Dr. Jatinder Madaan	Introduction and Applications of Finite Element Analysis

	Associate Professor SLIET, Longowal	
14/11/2010	Dr. Vikas Chawla Professor Ferozepur College of Engineering, Ferpzepur	Introduction to Hot-corrosion resistance of alloy and composite coating.
22/12/2010	Dr. Inderdeep Singh Assistant Professor IIT, Roorkee	Material removal processes for polymeric matrix composites
07/02/2011	Dr. J.S. Oberoi Professor BBSBEC, Fatehgarh Sahib	Introduction to optimization Techniques
14/01/2011	Dr. Subash Chander Associate Professor NIT, Jalandhar	Flame impingement heat transfer–research challenges
22/02/2011	Dr. R.S. Bhatti, Associate Professor SBS College of Engineering & Technology, Ferozepur	Introduction to Research, Analytical Models & Model Tuning
18/02/2011	Dr. H.S. Shan, Ex Professor and Head IIT, Roorkee	Current directions for Research in Non Traditional Machining
22/11/2012	Dr. Sanjeev Thakkar Assoc. Prof.(ME)	Thermoelectric Non-conventional machining processes
13/2/2012	Dr. Harmesh Kumar Prof. PU CHD.	New developments in EDM.
16/04/2012	Dr. Rejash Kumar Assoc. Prof. SLIET Longowal	Diagnostic Maintenance
05/11/2012	Dr. J.S.Khamba Director UOCE Patiala.	Technological Management and its role in manufacturing industry.
14/06/2012	Dr. Jagtar Singh Asst. Prof (ME) SLIET Longowal	Cryogenic Machining processing of Cutting Tools.
16/2/2013	Dr. Lakhvir Singh Prof(ME) BBSBEC,Fatehgarh	Abrasive Machining
18/7/2013	Dr. Balwinder singh Assoc.Prof.(ME) GZSCET, Bathinda.	Investment Casting.
12/6/2013	Dr. Dilbag Singh BCET Gurdaspur	Single Point Diamond turning of hard metals

33. List the teaching methods adopted by the faculty for different programmes

- Use of ICT such as projectors for seminars
- Presentations on subject topics
- Manual as well as online notes providing to students
- Practical implementation of subject concepts in labs, wherever possible

- Tests, assignments, quizzes and discussions for different subject related topics
34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

The department ensures that programme objectives are constantly met and learning outcomes are monitored through the skill enhancement techniques, teaching learning system and career and guidance cell. The Program Education Objectives and Program Outcomes of the department are as follows:

Program Educational Objectives (PEO):

1. To prepare students for successful careers in Indian and multinational industries/companies engaged in thermal systems, manufacturing processes, machine design and the related fields.
2. To develop the ability among students to understand and synthesize data/information and technical concepts for application to product/system/process design.
3. To prepare students to be able to work as part of teams on multidisciplinary projects involving professional ethics and codes of professional practice.
4. To develop the ability among the students for taking research/teaching assignments.

Program Outcomes (PO):

- a. Graduates will be able to use the basic knowledge of mathematics and science in engineering and technological applications.
- b. Graduates will be able to identify, formulate and solve mechanical engineering problems.
- c. Graduates will be able to design and conduct experiments, interpret and analyze data, and report results.
- d. Graduates will be able to conceptualize and design the mechanical systems or processes that meet desired specifications and requirements.
- e. Graduates will be able to function/participate as a member of the teams engaged in Engineering/Technology laboratories, as well as in multidisciplinary design teams in latest technologies.
- f. Graduates will have ability to serve the society with professional ethics.
- g. Graduates will be capable of self learning and development.
- h. Graduates will have an understanding of the impact of engineering on society and demonstrate awareness of contemporary issues.
- i. Graduates will be able to use modern engineering software tools and equipments to solve mechanical engineering problems.
- j. Graduate will have the confidence to optimize available engineering resources.
- k. Graduates will be able to deliver the engineering fundamentals in effective and innovative ways.
- l. Graduates will be able to handle research projects for the development of engineering and technology.

To achieve these following measures are taken by the department:

- The department ensures the curriculum is designed to meet the program outcomes.
- The faculty ensures the syllabus is revised and is involved in improving student skills through quizzes, assignments, mini projects, mid-semester test and final major project.
- The course file is being made by all faculty members for their respective courses and HOD monitors the coverage of syllabus with the help of Course file and sees the academic schedules are intact.
- The performance of the students is analyzed time to time and slow learners are identified. Special classes are planned for the slow learners called as remedial classes.
- For every 20-25 students, one teacher is being allotted as advisor. These advisers counsel the students periodically (once in a week) and monitor their regularity, also address personal problems if any. They also help in guiding them regarding their future prospects. HOD of the department coordinates the counseling activity and sees that it is being done on a regular basis. Whenever the necessity occurs, the parents are called for and are advised to monitor their wards and take necessary actions.
- The entire faculty is involved in guiding the students for their project work which helps them in their future professional exposure.

35. Highlight the Participation of students' and faculty in extension activities Students:

Students

(A) Inter Department Competition		
NATURE OF ACTIVITY	NUMBER OF STUDENTS ENROLLED	RECOGNITION/ REWARDS RECEIVED, IF ANY
I.S.T.E organized Technical Quiz 2009.	4	--
Adgineers (Ad Making) competition held at Technovision 2009.	30	--
Students chapter (I.E) organized Technical Quiz 2010.	14	3rd position
Paper Presentation organized by SAE 2010.	8	--
SAE, ISTE and SCIE organized Techno-vision, 2010.	15	I st prize in paper Presentation and I st in CAD competition..
Mega quiz organized by SAE 2010.	2	--
Wall street competition at Genesis 2010.	3	I st Prize

Workshop on CAD/CAM held at techno vision 2010 organized by SAE, SCIE, SCIET.	5	I st Prize
Reverse Engineering held at Techno vision 2010 organized by SAE, SCIE, SCIET.	2	2 nd Prize
Students chapter (I.E) organized paper presentation 2011.	3	2 nd
Students chapter (I.E) organized group discussion 2011.	11	--

(B) Inter College Competition

NATURE OF ACTIVITY	NUMBER OF STUDENTS ENROLLED	RECOGNITION/REWARDS RECEIVED, IF ANY
Aero modeling organized by ROBOTECH labs at Tech fest, 2009 held at NIT Jalandhar.	2	--
National Level Quiz competition organized by ISHRRRAE during ACREX 2011 at New Delhi on 24 th -25 th FEB, 2011	1	6 th position
Concept Car and Bike Competition held at Auto Mall 2011 at Ludhiana from 22-24, April, 2011	10	Special prize of Rs. 51,000/-
SAE India Mini Baja competition held at Indore, 2011	20	8 th Position out of 80 teams from All over India and Special prize of Rs. 10,000/-
National level quiz competition organized by ISHRAE during ACREX-2011, New Delhi	2	6 th position and special prize of Rs. 5000
Kshitij 2011 IIT KGP	01	--

EXTRA CURRICULAR ACTIVITIES OF THE STUDENTS

(A) Inter Department Competition		
NATURE OF ACTIVITY	NUMBER OF STUDENTS ENROLLED	RECOGNITION/ REWARDS RECEIVED, IF ANY
Singing Competition held at techno vision 2009.	1	--

Harfon Maula organized by ISTE 2009.	2	--
Bollywood Innings 2009.		--
The Bluff master GENESIS 2010.	06	1 st , 2 nd , 3 rd
ISO-SOAP-TRICKS GENESIS 2010.	02	1 ST , 2 ND
CAD DIGEST GENESIS 2010.	03	1 st , 2 nd , 3 rd
Technology ME- Prod.(Contraptions) GENESIS 2010.	04	1 st , 2 nd
Paper Presentation GENESIS 2010.	01	1 st
Product Design and Marketing GENESIS 2010.	01	2 nd
Students chapter (I.E), computer club, SAE and ISTE organized Spectrum11 2010-11.	30	B.Tech (Mech.) student participated, First Prize in Fun Games.
SPELL- BEE organized by I.S.T.E 2010.	5	--
PLE CANRIO organized by I.S.T.E 2010.	20	--
I.S.T.E organized CODE'O MANIA 2010.	12	--
Blood donation camp organized by NSS and Salam Zindagi Foundation 2010.	41	--
College Athletic Meet 2009.	25	Winner of Inter-Department Trophy
Rush Hour held at techno vision 2010 organized by SAE, SCIE, SCIET	1	--
General Knowledge Quiz organized by ISTE 2009, 2010, 2011.	10	1 st position
Coord-i-art by SAE 2010.		--
Chart Making competition organized by PARVAZ 2010.	5	1 st position
Robotics Workshop organized by SAE 2011.	25	--
Young Manager Contest 2010.	02	--
Cooperate to dominate 2010.	03	
AD-Mad organized by SAE 2010.	2	3 rd Prize
John Bull organized by ISTE 2010.	1	3 rd Prize
Executive hunt 2011.		1 st position
Technopic Hunt 2011	02	--
Mega Quiz (Spectrum11) 2011.	01	--
Efficycle -2012	04	3 rd
Spell Bee	02	----

Rewind it	04	----
Workshop Robotics	02	3 rd
Tech Fantastic	04	2 nd
Funable Focus	02	----
Sports Mania	02	-----
GENESIS-12	10	3 rd

(B) Inter College Competition

NATURE OF ACTIVITY	NUMBER OF STUDENTS ENROLLED	RECOGNITION/ REWARDS RECEIVED, IF ANY
P.T.U Inter college Best Physic Competition 2009.	2	1st and 2 nd
P.T.U Inter college Best Physic Competition 2010.	2	1st and 2 nd
P.T.U Inter college Best Physic Competition 2011.	2	1st
P.T.U Inter college handball tournament 2009.	4	1 st ,
P.T.U Inter college handball tournament 2010.	4	1 st ,
P.T.U Inter college handball tournament 2011.	4	2 nd
P.T.U Inter college Lawn Tennis tournament 2009.	1	1 st
P.T.U. Inter college Athletic Meet 2011	9	3 rd in 4x400m, 2 nd in Cross-Country
P.T.U Inter college Body Building Competition 2009.	4	1 Gold and 1 Silver medal
P.T.U Inter college Body Building Competition 2010.	4	1 Gold and 1 Silver medal
Group Discussion at B.B.S.B.E.C, Fatehgarh Sahib 2010.	2	2 nd Prize
Cultural & Tech. Fest held at B.B.S.B.E.C, Fatehgarh Sahib 2010.	5	2 nd Prize in Addholics
P.T.U Inter college Swimming Competition 2010.	3	1 st Position
P.T.U Inter college Hockey Competition 2009.	3	2 nd Position
P.T.U Inter college Basket Ball Tournament 2010.	2	--
P.T.U Inter college Foot Ball Tournament 2010	2	--

Combined Annual Training Camp, 2009-2010	6	Co-appreciation Award
National Level Singing Competition held Chitkara University 2011	01	1 st
P.T.U Inter college Badminton Tournament 2012.	02	3 rd
P.T.U Inter college kabaddi Tournament 2012.	10	3 rd
P.T.U Inter college handball Tournament 2012.	7	2 nd

Faculty:

S. No.	Faculty	Society/institute/others)	Activity Details
1.	Sehjpal Singh	Ludhiana Local Chapter of Institution of Engineers (India)	Being Hon. Secretary Involved in organisation of various technical activities/programs of Local Chapter of IE(I)
2.	Ravi Inder Singh Harmit Singh	SAE	Being Faculty advisors involved in various activities under SAE Collegiate Club (Appendix-19)
3.	P.S. Bilga Prem Singh	ISHRE	1.Two students participated in National Quiz Competition during ACREX-2011, New Delhi on 24-25 th Feb and got 6 th Position and a prize of Rs.5000 2. Arranging 6 month Training and industrial/educational tours in Ref. and AC related industries for the students
4.	Sehjpal Singh	PCRA	

Professional Membership of Faculty

S. No.	Faculty	Professional Society/institute/others
1.	Sehjpal Singh	ISTE, IE(I), IIPE, ISME, IIIE
2.	P.S. Bilga	ISTE, ISME, ISHRE, IIIE
3.	Harwinder Singh	ISTE, IE(I), IAENG
4.	Jatinder Kapoor	ISTE, IE(I), C.E
5.	Deepinder Singh	ISTE
6.	Harmit Singh	ISTE, SAE, ISHMT
7.	Ravi inder singh	ISTE

8.	G.S. Brar	ISTE,
9.	Prem Singh	SESI, IE(I)

36. Beyond syllabus scholarly activities of the department

- Content Beyond syllabus is included in some subjects which are reflected in class time table as well.
- Projects are assigned to students in labs in addition to practicals suggested in syllabus.
- Educational tours are conducted for students.
- Classes for weaker students are held to improve the performance of students.
- Various technical events are conducted for improving technical skills of students see Appendix-VI-VIII for reference

37. State Whether the Programme/ department is accredited / graded by other agencies. Give details.

Yes the programme is accredited with NBA and ISO certified.

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

- Strengths:
1. Well Qualified and Experienced Faculty and Staff
 2. Department is accredited by National Board of Accreditation (NBA) and ISO certified.
 3. Good number of reputed International/National Journal and Conferences including .
 4. Well equipped labs for students.
 5. Department has got grants from DST, AICTE and MODROB.
 6. Good placement of students.

Weaknesses:

1. Less number of permanent faculty members.
2. Lack of good consultancy projects.

Challenges:

1. To maintain good academic record of the students.
2. To start Post Graduation Courses in new areas.
3. To enhance the interpersonal and technical skills of students.
4. To bring more research projects from various funding agencies.

39. Future plans of the department:

1. To conduct more short term training programs and conferences.
2. Start full time post graduation courses in the department.

Evaluative Report of Civil Engineering Department

1. Name of the Department : Civil Engineering Department, Year of establishment 1956

2. Names of Programs / Courses offered (UG, PG, M.Phil., PhD, Integrated Masters; Integrated Ph.D., etc.)

Bachelor of Technology (B.Tech)

Started with intake of 30 seats in 1956. (F.5-23/57-T.4 dated 14/08/1957)

--Intake increased to 60 in 1963 (17.P.C/degree/544/63-T.5 dated 13/5/1963)

--Intake decreased to 40 (F. No. 765-65-208(E)/ET/97 dated 12/9/1997)

--Intake increased to 60 (F. No. 765-65-208 (E)/ET/95 dated 21/7/1998)

--Intake increased to 90 in 2008 (765-65-208(E)/ET/95 dated 25/08/2008)

--Intake increased to 120 in 2010 (North/West/1-3286931/2010/
EOA dated 23/08/2010)

Bachelor of Technology (B.Tech) (Second Shift) :

Started with intake of 60 seats each in Civil Engg. & Computer Science & Engineering in 2010 (North-West/1-3286931/2010/EOA dated 23/8/2010)

PG (Full-Time) Structural Engineering:

Started with 18 seats in 1999 (F. No. 441/PUN/BOS/(PG)/99 dated 7/9/1999)

--Intake increased to 25 (F. No. 441/PUN/13/E&T(PG)/91 dated 29/8/2002)

Geo-Technical Engineering:

Started with 18 seats in 2001 (F. No. XV/AIBPG/APP-1535/ET/2001 dated 9/8/2001)

--Intake increased to 25 (F. No. 441/PUN/13/E&T(PG)/91 dated 29/8/2002)

Environmental Science & Engineering:

Started with 18 seats in 2009 (765-65-208(E)/ET/95 dated 31/07/2009)

PG(Part-Time) Soil Mechanics & Foundation Engineering.

Started with 13 seats in 1981

Ph.D (under QIP Scheme) Civil Mechanical and Electrical Engineering.

--Started with 6 seats in 2011 (2 in each branch) (F. No. RIFD/QIP/Govt/2011 dated 11/8/2011)

3. Interdisciplinary courses and departments involved

Course	Year	Department Involved
Mathematics-I		Mathematics
Mathematics - II		Mathematics
Physics		Physics
Chemistry		Chemistry

Engineering Mechanics, Basic Mechanical Engineering, Engineering Graphics		Mechanical Engineering Dept.
C- Programming		Computer Science Dept.
Mathematics - III	Second Year	Mathematics

4. Annual/ semester/choice based credit system Semester based System

5. Participation of the department in the courses offered by other departments :
Civil Engineering faculty teaches three first year Courses.

Course	Year	Department Offering the Course
Environmental Science	First Year	Computer Science, Electrical and Electronics, Electrical and Communications, Electronics and Instrumentation, Information Technology, Mechanical Engineering

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

	Sanctioned	Filled
Professor	3	4
Associate Professors	6	6
Asst. Professors	19	17

7. Faculty profile with name, qualification, designation, specialization (D.Sc./D.Litt./ PhD/M.Phil, etc.)

S.No	Name of faculty	Highest Qualification	Designation	Specialization	No. of years of Experience	No. of PhD's guided in the last 4 years	
						Guiding	Guided
01	Harpal Singh	PhD	Professor	Structural Engg.	23		--
02	HS Rai	PhD	Professor	Structural Engg.	20	02	--
03	JN Jha	PhD	Professor	Geo Technical	20		02
04	KS Gill	PhD	Asso.Professor	Geo Technical	23		--
05	BS Walia	PhD	Professor	Structural Engg.	23	02	--
06	Harvinder Singh	Ph D	Asso. Professor	Structural Engg.	13	03	--
07	Gurdeepak singh	M.E	Asso. Professor	Geo Technical	18		--
08	Harjinder Singh	M.E	Asso. Professor	Geo Technical Engg.	23		--
09	Jagbir Singh	PhD	Asso. Professor	Structural Engg.	10	02	--
10	KS Bedi	M.Tech,	Asso. Professor	Structural Engg.	18	Nil	--
11 .	Puneet Pal Singh	M.Tech,	Assistant Professor	Environment Engg.	8	Nil	--
12 .	Prashant Garg	M.E	Assistant Professor	Highway Engg	8	Nil	--
13	Harpreet Kaur Gaba	M.Tech,	Assistant Professor	Structural Engg.	6	Nil	--

14.	Inderpreet Kaur	M.Tech,	Assistant Professor	Structural Engg.	6	Nil	--
15	Manpreet singh	M.Tech	Assistant Professor	Geo Tech. Engg.	3	Nil	--
16	Gagandeep Kaur	B.Tech	Assistant Professor	B,Tech Civil Engg	3	Nil	--
17	Pardeep Singh	M.Tech	Assistant Professor	Geo Technical	3	Nil	--
18	Kulwinder Singh	M.Tech	Assistant Professor	Geo Technical	3	Nil	--
19	Pritpal Kaur	B.Tech	Assistant Professor	B,Tech Civil Engg	2	Nil	--
20	Gurbir K Jawanda	M.Tech	Assistant Professor	Structural Engg.	2	Nil	--
21	Rajinderpal Kaur	M.Tech	Assistant Professor	Structural Engg.	3	Nil	--
22	Preetinder Kaur	M.Tech	Assistant Professor	Environment Engg.	2	Nil	--
23	Sukhminder Singh	M.Tech	Assistant Professor	Structure Engg.	2	Nil	--
24	Amandeep Singh	B.Tech	Assistant Professor	B,Tech Civil Engg	2	Nil	--
25	Gurpuneet Singh	B.Tech	Assistant Professor	B,Tech Civil Engg	3	Nil	--
26	Charanjit Singh	B.Tech	Assistant Professor	B,Tech Civil Engg	2	Nil	--
27	Bhupinder Singh	B.Tech	Assistant Professor	B,Tech Civil Engg	2	Nil	--

8. Percentage of classes taken by temporary faculty – program-wise information : 55%

**9. Program-wise Student Teacher Ratio B.Tech: 15:1
M.Tech: 12:1**

**10. Number of academic support staff (technical) and administrative staff:
sanctioned and filled**

Non Teaching Staff	Sanctioned	Filled
Academic Support Staff	10	8
Administrative Staff	7	6

11. Number of faculty with ongoing projects from

a) national - 05

b) international funding agencies and

c) Total grants received. Mention names of funding agencies and grants received project-wise.

Project Title	Project Duration	Amount received	Funding Agency	Status (Completed /in progress)	Number of faculty involved
Ground Improvement & Ground Control including Waste Containment with Geosynthetics.	1 year	Rs 7.0 lac	AICTE	completed	01
Growth, Development and distribution of free geospatial data	2 year	\$3000	Open Street Map Foundation, UK	completed	01
Behaviour of Footing on Reinforced Slope.	2 years	Rs 7.20 lac	AICTE	completed	02
Prediction of Collapse Load of Skew-Slab Bridges.	2 years	Rs 7.60 lac	AICTE	completed	01

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

Grants received from external sponsored projects:

Name of the Faculty	Title of the project and duration	Amount sanctioned	Funding Agency
JN Jha	Ground Improvement & Ground Control including Waste Containment with Geosynthetics. (Vide file no.	Rs 7.00 lac	AICTE

	RIFD/SDP /24/2011-12 dated 12.08.2011)		
JN Jha	Behaviour of Footing on Reinforced Slope (vide file No.8023/BOR/RID/RPS-24/09-10 dated 31.03.2010) for two years	Rs 7.20 lac	AICTE
KS Gill	Utilization of Plastic Waste for improving the Subgrade in Flexible Pavements (vide file no. 1-7/RID/TR/(3)/ 2010-11 dated 21/5/2010) for one year	Rs 0.76 lac	AICTE
Harvinder Singh	Prediction of Collapse Load of Skew-Slab Bridges (vide file no. 8023/BOR/RID/RPS-83/08-09 dated 12.03.2009) for three years	Rs 7.60 lac	AICTE
Harvinder Singh	Flexural Behavior Of Flexible-Beam Supported RC Slabs (vide file no. 8023/BOR/RID/RPS-56/07-08 dated 05.03.2008) for two years	Rs 8.40 lac	AICTE
HS Rai	Growth, Development and distribution of free geospatial data	\$3000	Open Street Map Foundation, UK
HS Rai	State of the Map: Punjab during 3rd annual International OpenStreetMap Conference at Amsterdam, Netherland	Rs 0.70lac	Open Street Map Foundation, UK
Harvinder Singh	Behaviour of Shallow-Beam Supported RC Slabs: Experimental behaviour (material provided)	Rs 0.55 lac	ACC Ltd, MRH Associates, Ludhiana
HK Gaba	Retrofitting of reinforced slabs (material provided)	Rs 0.34 lac	MRH Associates, Ludhiana
HS Rai	Innovative Practice on the use of opensource	Rs 0.70lac	Google Inc,
Harvinder Singh	Behavior of piled-raft footings: Analytical and Experimental Investigations (vide file no. 20/AICTE/RIFD/RPS-11/2012-13 dated 20.01.2013) for three years	Rs 10.50lac	AICTE
Harvinder Singh	Flexural Behavior of Fibre--reinforced Concrete Stiffened Plates: Analytical and Experimental Investigations (vide file no. F. 30-1/2013(SA-II)/RA-2012-14-NEW-GE-PUN-2874 for two years	Rs 27.50lac	UGC

Financial Assistance for projects received by the Department:

Project Title	Project Duration	Amount received	Funding Agency	Status (Completed /in progress)	Number of faculty involved
UKIERI collaborative research award project in collaboration with eight other institutes of higher learning in India and University of Dundee, UK.	3 years	£ 3.37 lac	UKIERI	Completed	04
Flexural Behaviour of Flexible-Beam Supported RC Slabs.	2 years	Rs 8.40 lac	AICTE	Completed	02
Utilization of plastic waste for improving the subgrade in flexible pavements	1 year	Rs 0.76 lac	AICTE	Completed	01
Recent Advances in Pavement Design including Low Volume Roads	1 year	Rs 0.90 lac	AICTE/ ISTE	Completed	02
State of the Map: Punjab	1 year	Rs 0.70 lac	Open Street Map Foundation , UK	Completed	01
National Programme for Capacity Building of Engineers in Earthquake Risk Management	1 year	Rs 3.00 lac	Department of Revenue, Rehabilitation and Disaster Management, Govt. of Punjab	Completed	05

13. Research facility / centre with

- **state recognition**
- **national recognition**
- **international recognition**

The research work/ project work is carried out in different laboratories of the department having the most advanced equipment purchased out of grants funded by national and international organizations like DST, AICTE, UGC, UKIERI, (UK), and Open Street Map Foundation, UK

14. Publications:

Publications in Journals

Nature	Details of Publications	Year
International Journal	Gill, K.S. , Choudary, A.K., Jha, J.N. and Shukla, S.K. "Experimental and numerical studies of loaded strip footing resting on reinforced fly ash slope" Geosynthetics International, 20, no. 1, 2013, PP 13-25, http://dx.doi.org/10.1680/gein.12.0036	2013
International Journal	Gill, K.S. , Choudary, A.K., Jha, J.N. and Shukla, S.K. "Large model footing load test on reinforced coal ash slope" International Journal of Geotechnical Engineering, UK, 2013, Vol. 7, No 3,	2013
International Journal	K.S. Gill, J.N. Jha , A.K. Choudary and S.K. Shukla "Load bearing capacity of the footing resting on a reinforced flyash slope" Journal of Civil Engineering and Architecture, USA, Vol 6, No. 5, 2012, PP 627-632	2012
International Journal	Kumar, Arvind; Bhatia, Rajeev; Walia, BS (2011), 'An Experimental Study on the Load-Settlement Behaviour of a Fibre-Reinforced Sand Bed', International Journal of Geotechnical Engineering, Vol. 5(3), pp 343-350.	2011
National Journal	Singh, Harvinder; Kumar, Maneek; Kwatra, Naveen (2011), 'Prediction of collapse load of three side supported RC rectangular slabs: A simplified approach', Indian Concrete Journal, Vol. 85(7), pp 21-28.	2011
International Journal	Singh, Harvinder (2011), 'Laterally Loaded Reinforced Concrete Stiffened-Plates: Analytical Investigations', Structural Design & Construction (ASCE), doi: 10.1061/(ASCE) SC.1943-5576.0000100.	2011
International Journal	Singh, Harvinder; Kumar, Maneek; Kwatra, Naveen (2010), 'Behaviour of Shallow Beam Supported Rectangular Slabs: Analytical and Experimental Investigation', Advances in Structural Engg. 13(6), pp 1183-1198.	2010
International Journal	Jha, J.N., Choudhary, A.K. and Gill, K.S. (2010), 'Bearing capacity improvement of soil using Bamboo micropiles', International Journal of Earth Science and Engineering, Vol 3(1), pp167-176.	2010
International Journal	Choudhary,A.K., Jha, J.N. and Gill,K.S. (2010), 'A study on CBR behaviour of waste plastic stop reinforced soil', Emirates Journal of Engineering Research, 15(1), pp 9-15.	2010
International Journal	Choudhary, A.K., Jha,J.N., Gill,K.S. (2010), 'Laboratory Investigation of Bearing Capacity Behavior of Strip Footing on Reinforced Flyash slope', Geotextile and Geomembrane (Elsevier), 28(4), pp 393-402.	2010
International Journal	Choudary, A.K.; Jha, J.N.; Gill, K.S. (2009), 'Engineering Properties of High Volume Class F Fly Ash-Soil Mixtures', International Journal of Earth Sciences and Engineering, Vol.2, No. 4, pp 351-359.	2009

International Journal	Jha, J. N.; Gill, K.S.; Choudhary, A.K (2009), ‘Effect of high fraction class F flyash on lime stabilization of soil’, International Journal of Geotechnics and Environment. 2009, 1(2), pp 105-128.	2009
National Journal	Singh, Jagbir; Sharma, V.R.(2009), ‘Optimal beam design using “Complex Method” Journal of Institution of engineers (Civil Engg.), Vol.90, pp 33-35.	2009
International Journal	Siddique, Rafat; Khatif, Jamaal; Kaur, Inderpreet (2008), ‘Use of Recycled plastic in concrete Plastics in Concrete (Review)’, International journal of Waste Management., Vol. 28,No.10, pp 1835-1852.	2008
International Journal	Kumar, Arvind; Walia, B.S.; Saran, S (2007), ‘Bearing capacity tests of square footings on reinforced layered soil.’, International Journal of Geotechnical Engineering, Southeast Asian Geotechnical Society, Vol. 38 Issue 1, pp 24-32.	2007
International Journal	Kumar, Arvind; Walia, B. S.; Saran, S (2007), ‘Pressure-settlement characteristics of square footings on reinforced layered soil’, International Journal of Geotechnical Engineering, Southeast Asian Geotechnical Society, Vol. 38 Issue 2, pp 57-64.	2007
International Journal	Kumar, Arvind; Walia, B. S.; Saran, S. (2007), ‘Pressure-settlement characteristics of rectangular footings on reinforced layered soil’ , International Journal of Geotechnical Engineering, Vol 1, No.1, pp -81-90.	2007
International Journal	Rai, Harpreet Singh; Singh, Puneet Pal; Banerjee, UC; Bansal, TK (2007), ‘Decolourisation of triphenylmethane dye-bath effluent in an integrated two stage anaerobic reactor’ , Journal of Environmental Management, 83, pp 290-297.	2007
National Journal	Jha, J.N (2007), ‘Effect of vertical reinforcement on bearing capacity of footing on sand’, Indian Geotechnical Journal, 37 (1), pp 64-78.	2007
National Journal	Gaba, Harpreet (2007), ‘Ecofriendly structures’ , Punjab academy of sciences, 2007, Vol.3 (1, 2), pp 69-73.	2007
National Journal	Singh, Jaspal; Sharma, VR; Singh, Jagbir (2007), ‘Response of silos- A case study in Punjab’ , Journal of current sciences, 10 (2), pp 701-706.	2007
International Journal	Kumar, Arvind; Walia, B.S. (2006), ‘Bearing capacity of reinforced layered soil.” Journal of Geotechnical and Geological Engineering’ , Kluwer Academic Publishers, The Netherlands, Vol. 24, No.4, pp 1001-1008.	2006
National Journal	Jha, J.N. and Gill, K.S (2006), ‘Effect of Rice Husk on Lime Stabilization’ , Journal of the Inst. of Engrs (India), Vol. 87, pp 33-39.	2006
National Journal	Singh, Harpal (2006), ‘Analysis and Design of Pre-stressed Concrete Continuous Beams’ , Indian Concrete Institute, pp 35-40.	2006

Publicationjs in Conferences

Details of Publications	Year
Jha, J.N., Choudary, A.K. and Gill, K.S. "Stability of strip footing on reinforced flyash slope" 6th International Congress on environmental Geotechnics, 8th-12th Nov. 2010, New Delhi, Vol. 2 PP 1160-1165	2010
Gill, K.S., Jha, J.N., Choudary, A.K and Shukla, S.K. "Estimation of CBR values using dynamic cone penetrometer" 13th International Conference of Association for Computer Methods and Advances in Geomechanics (IACMAG), 9-11 May, 2011, Melborne, Australia, Vol 1, PP 519-522	2011
Gill, K.S., Jha, J.N., Choudary, A.K and Shukla, S.K. "Load bearing capacity of the footing resting on a reinforced flyash slope" International Conference on Advances in Geotechnical Engineering (ICAGE), 7-9 Nov. 2011, Perth, Australia, PP 531-536	2011
K.S. Gill, J.N. Jha, A.K. Choudary and S.K. Shukla "Load bearing capacity of the footing resting on flyash slope with multilayer reinforcements" Geo-congress:State of the Art and Practice in Geotechnical Engineering, GeoCongress 2012© ASCE 2012, PP 4262-4271	2012
Gill, K.S., Choudary, A.K., Jha, J.N. and Shukla, S.K. "Large model footing load test on multi layer reinforced coal ash slope " Geo- Congress:Stability and performance of Slopes and Embankments, Geo-Congress 2013© ASCE, California, USA, March, 2013,PP 489-498	2013
Singh, H. and Jha, J.N. "Constitutive models for sustainable design of foundation systems" Innovations in Concrete Construction, Concrete Congress, UKIERI, 5-8 March, 2013, Jalandhar, India, PP1724-1735	2013
Garg, P., Singh, H. and Jha, J.N. "Optimisation of piled raft foundation" Innovations in Concrete Construction, Concrete Congress, UKIERI, 5-8 March, 2013, Jalandhar, India, PP 2122-2133	2013
Gill, K.S., Choudary, A.K., Jha, J.N. and Shukla, S.K. "Large model footing load test on multi layer reinforced flyash slope " Indian Geotecnical Conference, 2011, Kochi, Vol. II, PP 819-822	2011
Gill, K.S., Kaur, k., Choudary, A.K. and Jha, J.N. "Numerical study of footing on single layer reinforced slope" Indian Geotecnical Conference, 2011, Kochi, Vol. II, PP 839-842	2011
Choudary, A.K., Gill, K.S., and Jha, J.N. "Improvement of CBR values of expansive soil subgrades using geosynthetics" Indian Geotecnical Conference, 2011, Kochi, Vol. I, PP 569-572	2011
Gill, K.S., Choudary, A.K., Jha, J.N. and Shukla, S.K. "Load bearing capacity of the footing resting on a reinforced flyash slope" Indian Geotechnical Conference, Delhi, 13-15, Dec. 2012, Vol II PP 6646-667	2012
Choudary, A.K., Gill, K.S., Jha, J.N. and Shukla, S.K. "Improvement of CBR values of expansive soil subgrades with single reinforcement layer" Indian Geotechnical Conference, 2011, Delhi, 13-15, Dec. 2012, PP 289-292	2011

Shukla, S.K., Jha, J.N. , Gill, K.S. and Choudary, A.K. "Estimation of field compaction parameters" Indian Geotechnical Conference, Delhi, 13-15 Dec. 2012 Vol II PP 668-671	2012
Singh, K., Jha J.N. , Singh, H., Garg, P, " An innovative procedure for proportioning piled strip foundation system" Indian Geotechnical Conference, Delhi, 13-15 Dec. 2012 Vol II PP 564-567	2012
Jha, J.N and Singh, H. "Ground Improvement techniques: Issues, Methods and their Selection" Proceeding AICTE sponsored Staff Development Programme on Ground Improvement and Ground Control including Waste Containment with Geosynthetics, 22.122011-05.01.2012, Ludhiana PP 1-23	2012
Gill, K.S. And Jha, J.N. " Identification and classification of problematic soil" Proceeding AICTE sponsored Staff Development Programme on Ground Improvement and Ground Control including Waste Containment with Geosynthetics, 22.122011-05.01.2012, Ludhiana PP 35-47	2012
Shukla, S.K. and Jha, J.N. " Field values of compaction test parameters" Proceeding AICTE sponsored Staff Development Programme on Ground Improvement and Ground Control including Waste Containment with Geosynthetics, 22.122011-05.01.2012, Ludhiana PP 165-175	2012
Gill, K.S. And Jha, J.N. " Shallow and Deep Compaction for Made up and Insitu Soil" Proceeding AICTE sponsored Staff Development Programme on Ground Improvement and Ground Control including Waste Containment with Geosynthetics, 22.122011-05.01.2012, Ludhiana PP 72-86	2012
Jha, J.N. and Garg, P. " Ground improvement technique- Stone and Lime Column" Proceeding AICTE sponsored Staff Development Programme on Ground Improvement and Ground Control including Waste Containment with Geosynthetics, 22.122011-05.01.2012, Ludhiana PP 87-94	2012
Shukla, S.K. and Jha, J.N. " Geosynthetics Reinforcements- Reinforcing Mechanism and Case Studies" Proceeding AICTE sponsored Staff Development Programme on Ground Improvement and Ground Control including Waste Containment with Geosynthetics, 22.122011-05.01.2012, Ludhiana PP 165-175	2012
Jha, J.N., Singh, H. and Kumar, R. " Soil constitutive models for geotechnical application" Proceeding, National Conference on Innovative Challenges in Civil Engineering, Bathinda, 2012 PP 75-81	2012
Kaur, A., Gill, K.S. and Jha, J.N. "Numerical study of geosynthetic-Reinforced earth slopes loaded with strip footing" Proceeding, National Conference on Innovative Challenges in Civil Engineering, Bathinda, 2012 PP 86-91	2012
Bedi, K.S., Kumar, R. and Jha, J.N. "Use of rice husk ash as a low cost pozzolanic material in self compacting concrete" Proceeding, National Conference on Innovative Challenges in Civil Engineering, Bathinda, 2012 PP 191-197	2012
Singh, Harvinder; Singh, Sukhpal (2011), 'Flexural behavior of RC Rectangular Slabs with one Flexible Edge: Analytical Investigations' Proceedings of International Conference on Advances in Materials and Techniques for Infrastructure Development (AMTID 2011), pp 1-10.	2011

Singh, Jagbir, Singh, Harvinder (2011), 'Optimum design of isolated column footing', Proceedings of International Conference on Advances in Materials and Techniques for Infrastructure Development (AMTID 2011), Paper code: S047, pp 1-8	2011
Cheema, Puneetpal Singh, Singla, Aditi (2011), 'Anaerobic Treatment of Domestic Wastewater in High Rate Anaerobic Reactors', Proceedings of International Conference on Advances in Materials and Techniques for Infrastructure Development (AMTID 2011), Paper code: E016., pp 1-9.	2011
Gill, K.S.; Jha, J.N.; Choudhary, AK; Shukla, SK (2011), 'Estimation of CBR values using dynamic cone penetrometer', Proceeding, 13th International Conference of association for computer methods and advances in geomechanics, Vol. 1, pp 519-522	2011
Gurdeepak Singh, Harkawaljet Singh (2011), 'Role of Information Technology in Construction Management', Proceeding, International Conference ICUTIT, PCTE Baddowal, pp 25-27.	2011
Rai, HS; Singh, Harvinder; Singh, Jagbir (2011), 'Influence of Concrete Ingredients on Specific Heat: An Experimental Study', Proceeding of UKIERI Concrete Congress, pp 253-266.	2011
HS Rai, KS Bedi; Harpal singh (2011), 'Mechanical Properties of Rice Husk Ash Based self compacted concrete', Proceeding of UKIERI Concrete Congress, pp 143-152.	2011
Paine, KA; Dhir, RK; Halliday, JE; Zheng, L, Rai, HS (2011), 'Use of Recycled and Secondary Aggregates in Concrete: Engineering and Environmental', Proceeding of UKIERI Concrete Congress, pp 77-86.	2011
Bhattacharjee, B; Misra, A; Rai, HS (2011), 'Specifications for High Performance Concrete in India', Proceeding of UKIERI Concrete Congress, pp 1-12.	2011
Jha, J.N.; Choudhary, AK and Gill, K.S. (2010), 'Stability of strip footing on reinforced flyash slope', 6th International Congress on Environmental Geotechnics, pp 1160-1165.	2010
Choudhary, A.K., Jha, J.N. and Gill, K.S. (2010), 'Utilization of plastic wastes for improving the sub grades in flexible pavements', ASCE, Geotechnical Special Publications Paving materials and Pavement analysis, pp 320-326.	2010
Bilga, Paramjit Singh; Singh, Puneet Pal; Kaur, Mandeep (2010), 'Development of Waste Water Treatment Technology Selection Software: A case study', Proceedings of international conference on Production & Industrial Engg., pp 879-884.	2010
Singh, Gurdeepak; Singh, Harkawaljet (2011), 'Green Computing: Environmental aspects and implementation techniques, Procedding of National Conference on engineering applications, pp 384-387.	2011
Walia, B.S.; Singh, Gurdeepak; Garg, Prashant (2010), Effect of cement and flyash on MDD and OMC of clayey soil, Procedding of National Conference RACE-2010, pp 53-54.	2010
Walia, B.S.; Garg, Prashant (2010), 'Shape memory alloy: Prospects in structure engineering', Procedding of National Conference RACE-2010, pp 21-24.	2010

Gill, K.S., Jha, J.N. and Choudhary, A.K. (2010), 'CBR value estimation using dynamic cone penetrometer' , Indian Geotechnical Conference Bombay, Vol.I, pp 259-262.	2010
Choudhary, A.K., Jha, J.N. and Gill, K.S. (2010), 'Shear strength characteristics of fiber reinforced flyash' , Indian Geotechnical Conference Vol.II, Bombay, pp 583-586.	2010
Manveen (2010), 'Failure of structures during earthquakes: Causes and remedies' , Proceedings, Emerging Trends in Civil Engineering, Indo Global Engineering College, pp 89-90.	2010
Jha, J.N., Choudhary, A.K. and Gill, K.S. (2009), 'Bearing capacity improvement of soil using Bamboo micropiles' , Proceeding, International Conference on Advances in Concrete, Structural and Geotechnical Engineering, BITS Pilani, pp CD-ROM	CD ROM
Chouhan, R., Jha, J.N., Gill, K.S. (2009), 'Strength improvement of soil-lime and flyash mix including durability aspects' , Proceeding, International Conference on Advances in Concrete, Structural and Geotechnical Engineering, BITS Pilani , pp CD ROM	CD ROM
Manveen (2009), 'Sustainable eco-cities: An approach to conserve the environment' , Proceedings, Changing environmental trends and sustainable development(CETAS-2009), Hisar,, pp 236-239.	2009
Choudhary, A.K., Jha, J.N. and Verma, B.P. (2009), 'Construction of an Ash Pond with Waste Recycled Product, Flyash and locally available Soil' , Proceeding, Indian geotechnical Conference, Guntur 2009, Vol. 1, pp 565-568.	2009

Edited books :

1. **"Structural and Geotechnical Aspects of Earthquake Resistant Design"** Edited by J.N.Jha and H.S.Rai, Civil Engg. Deptt.
Guru Nanak Dev Engineering College, Ludhiana, 2004 (**Supported by AICTE, N.Delhi**)
2. **"Civil Engineering: Meeting the Challenges of Tomorrow"** Edited by J.N. Jha, K.S. Gill and P.P. Singh Cheema, Allied
Publisher, N. Delhi., 2006 (**Supported by AICTE, N.Delhi and Deptt. Science and Technology, Govt. of India, N.Delhi**)
(ISBN:81-8424-136-4)
3. **"Recent Advancement in Pavement Design Including Low Volume Roads"** Edited by J.N.Jha and K.S.Gill, Civil Engg. Deptt.
Guru Nanak Dev Engineering College, Ludhiana, 2008 (**Supported by AICTE, N.Delhi**)
4. **"Ground Improvement and Ground Control including Waste Containment with Geosynthetics"** Edited by J.N.Jha, K.S.Gill,
Harvinder Singh and Jagbir Singh, Civil Engg. Deptt. Guru Nanak Dev Engineering College, Ludhiana, 2011 (**Supported by AICTE, N.Delhi**) **(ISBN 978-81-921093-0-5)**

5. "Waste and Waste Characterization" Vol. I, Edited by J.N.Jha, Harvinder Singh and K.S.Gill, Civil Engg. Deptt. Guru Nanak Dev Engineering College, Ludhiana, 2011 (**Supported by DST,N.Delhi and CSIR,**) (ISBN 978-81-923777-8-0)
6. "Reinforced Soil Application in Infrastructure Development" Vol. II, Edited by J.N.Jha, Harvinder Singh and K.S.Gill, Civil Engg. Deptt. Guru Nanak Dev Engineering College, Ludhiana, 2011 (**Supported by DST,N.Delhi and CSIR,**) (ISBN 978-81-923777-8-0)

15. Details of patents and income generated

The following are the filed patents:

S. No	Faculty	Title of Patent	Patent/ Application no.	Remarks
1	Dr Harvinder Singh	Shallow-Beam Supported Rectangular Reinforced Concrete Slabs	18/DEL/2009	National
2	Dr Harvinder Singh	Multipurpose Reaction Frame	543/DEL/2011	National

16. Areas of consultancy and income generated

Broad areas of Consultancy Services provided by Civil Engineering Department are as under:

- (a) Structural Design/Vetting of Structural Design
- (b) Geotechnical Investigation
- (c) Material Testing
- (d) Technical Skill Enhancement
- (e) Environmental Engineering
- (f) Surveying
- (g) Highway Engineering

The consultancy income of around Rs 80 Lac is generated by the Civil Engineering Department every year.

17. Faculty recharging strategies, workshops, training programmes and similar programmes)

Module Description	Any other contributory Inst./ Industry	Developed / organized by	Duration	Resource Persons	Target Audience	Usage and citation etc.

Short term course	AICTE, New Delhi and ISTE, New Delhi	JN Jha KS Gill	One week (16.06.2008-20.06.2008)	DR Sanjeev Aggarwal, Dr Tripta Goel, Dr Umesh Sharma, Dr R Datta, Er JK Sharma	Faculty of engg. colleges, field engineers from Govt and Private sector	Available in proceeding of STC
Expert Lecture	M/S SOKKIA india PVT. Ltd., Noida	B.S. Walia	Half Day 18.06.2009	Mr. Deepak Garg Mr. Manish Kumar	Students and Faculty of Civil engg.	To enhance knowledge in Total Station and GPS
Workshop	UKIERI	Civil Engg Deptt in collaboration with UoD, Scotland (UK)	One day (17-02-2010)	Dr RK Dhir, Dr SP Singh, Dr B. Battacharjee, Dr SB Singh, Dr Reddy	Field engineers from Govt and Private sector, RMC plant operator, contractors, Faculty of engg. colleges,	--
Workshop	RAM CADDS sys, Chennai	GNDEC, Ludhiana	Two days 02/02/2010		Faculty of Civil Engg. Department, Ludhiana	To enhance knowledge of FEM based Geotechnical software
International Conference	University of Dundee, UK along with Indian partners of UKIERI	GNDEC, Ludhiana	One Day (16/2/2010)	Dr RK Dhir, Dr SP Singh, Dr B. Battacharjee, Dr SB Singh,	Faculty of Civil Engg. Department, Ludhiana	To enhance knowledge of latest development of concrete technology

	project					
Board Of Studies	P.T.U, Kapurthala	H.S. Rai J.N. Jha B.S. Walia	One Year	Dr.A.K. Agnihotri Dr. S. K. Bansal, Dr. Sanjeev Aggrawal	Members of Board of Studies	Up Gradation of curriculum
Workshop	Open Source Geospatial Foundation	B.S. Walia Prashant Garg	One day (14/01/2008)	Dr V Ravi,	Faculty of engg. colleges	--
Workshop	GNDEC, Ludhiana	Gurdeep ak Singh Prashant Garg	Three Day (03.01.2011-05.01.2011)	Dr. H.S. Rai Dr. B.S. Walia Prof. Gurdeepak Singh Prof. Prashant Garg	Faculty of Civil Engg. Department, Ludhiana	To enhance the computational Skills
Expert Lecture	GNDEC, Ludhiana	J.N.Jha, K.S.Gill	Half Day 20.09.2010	Dr. K. S. Rao, Department of Civil Engineering, IIT Delhi	Faculty of Civil Engg. Department, Ludhiana	Slope Stability Analysis of Chenab Bridge Abutments using UDEC and 3DEC
Expert Lecture	GNDEC, Ludhiana	K.S.Bedi	Half Day 09.04.2010	Mr. A.K. Tiwari, Dy Vice President , Ambuja cement	Faculty of Civil Engg. Department, Ludhiana	Challenges of civil engineering structures and opportunities for civil engineers
Expert Lecture	GNDEC, Ludhiana	B.S. Walia Gurdeep ak Singh	Half Day (10.10.2009)	Dr SS Shah, Professor, Aligarh Muslim University, Aligarh	Faculty of Civil Engg. Department, Ludhiana	Latest developments in Civil Engineering.

Expert Lecture	GNDEC, Ludhiana	Harvinde r Singh H. S. Rai	Half Day (22.05.2010)	Dr SP Singh, Professor, Department of Civil Engg, NIT Jalandhar	Faculty of Civil Engg. Departme nt, Ludhiana	Earthquak e resistant design of masonry structures.
Expert Lecture	GNDEC, Ludhiana	K. S. Gill, J. N. Jha	Half Day (11.11.2010)	Dr Umesh Sharma, Asso Professor, Department of Civil Engg, PEC Chandigarh	Faculty of Civil Engg. Departme nt, Ludhiana	Aggregate s for constructi on of flexible pavements : Testing
Expert Lecture	GNDEC, Ludhiana	K. S. Gill, J. N. Jha	Half Day (09.05.2010)	Dr Sanjeev Aggarwal, Asso Professor, Department of Civil Engg, GZSIET, Bathinda	Faculty of Civil Engg. Departme nt, Ludhiana	Flexible and Rigid Pavements : Latest Developm ents.
Expert Lecture	GNDEC, Ludhiana	Harvinde r Singh Harpal Singh	Half Day (22.05.2010)	Dr AP Singh, Professor, Department of Civil Engg, NIT Jalandhar	Faculty of Civil Engg. Departme nt, Ludhiana	Use of STAADpro in civil engineering
Expert Lecture	GNDEC, Ludhiana	B.S. Walia Gurdeep ak Singh	Half Day (15.09.2010)	Dr Jaspal Singh, Professor, Department of Civil Engg, PAU Ludhiana	Faculty of Civil Engg. Departme nt, Ludhiana	Scope of High-Rise Building in present scenario.
Expert Lecture	GNDEC, Ludhiana	Puneet pal Singh	Half Day (22.04.2010)	Dr Manjeet Bansal, Asso Professor, Department of Civil Engg, GZSIET, Bathinda	Faculty of Civil Engg. Departme nt, Ludhiana	Solid Waste Management in India.
Expert Lecture	GNDEC, Ludhiana	Jagbir Singh, Puneet pal Singh	Half Day 25.11.2009	Dr. A. Biswas, Dean and Professor, Civil Engg. Department, University of WINDSER,	Faculty of Civil Engg. Departme nt, Ludhiana	Use of Polymer Coagulant s for waste water treatment

				Canada. 2009.		
Expert Lecture	GNDEC, Ludhiana	J.N. Jha	Half Day 24.02.2009	M.H. Khan, Geotech software solution Mumbai	Faculty of Civil Engg. Department, Ludhiana	Generation of Report for soil Investigation
Expert Lecture	GNDEC, Ludhiana	B.S. Walia. Gurdeep ak Singh	Half Day 11/11/2010	Dr Arvind Agnihotri, Professor, NIT, Jalandhar	Faculty of Civil Engg. Department, Ludhiana	Liquefaction of Soils: Remedial Measures.
Expert Lecture	GNDEC Ludhiana	K.S. Bedi Jagbir Singh	Half Day 12.08.2008	Sh. M.N. Singh, Ambuja cement, on Aug. 2008.	Faculty of Civil Engg. Department, Ludhiana	Catch Young Engineer
Expert Lecture	GNDEC Ludhiana	K.S. Bedi Jagbir Singh	Half Day 25.03. 2008	Executive Engineers of B & R, P.W.D 2008	Faculty of Civil Engg. Department, Ludhiana	Simplifying Quantity Estimation and Evaluation by Use of Software
Expert Lecture	GNDEC Ludhiana	Jagbir Singh Prashant Garg	Half Day 15TH Feb 2008.	Mr. R.K. Sengupta, Support Manager, Primavera, N. Delhi	Faculty of Civil Engg. Department, Ludhiana	Primavera - An Effective and efficient Construction management tool
Expert Lecture	GNDEC Ludhiana	Puneet pal Singh K.S. Bedi	Half Day 23.05.2008	Mr. Ranjit Singh on 23rd may 2008	Faculty of Civil Engg. Department, Ludhiana	Tips to improve effective communication for placement

Expert Lecture	GNDEC Ludhiana	K.S. Bedi Jagbir Singh	Half Day 25.11.2008	Er. C.M. Dordi.	Faculty of Civil Engg. Department, Ludhiana	Concrete-A Family of material and its Design Ideology
Expert Lecture	GNDEC Ludhiana	J.N. Jha	Half Day 3/8/2009	Dr RK Dutta, Professor, CED, NIT Hamirpur	Faculty of Civil Engg. Department, Ludhiana	Slope Stability: Different Techniques
Work shop	Department of Revenue, Rehabilitation and Disaster management, Govt of Punjab	Jagbir Singh K.S. Bedi	One Week 2010	Dr. J.N.Jha, Dr. Harpal Singh, Dr. H.S.Rai, Prof. Gurdeepak Singh, Prof. Prashant Garg	Field Engineers of Punjab Govt. Department	National Programme for Capacity Building of Engineers in Earthquake Risk Management
Expert Lecture	GNDEC, and Institute of Engineers (Ludhiana Chapter)	J.N. Jha	Half Day 19.09.2011	Dr KG Rangaraju , Ex. Professor, IIT, Roorkee	Students and Faculty of Civil Engg. Department, Ludhiana	Daligar Dam and Indus Treaty

18 . Student projects

- Percentage of students who have done in-house projects – 90%
- Percentage of students doing projects / internships in collaboration with industries / institutes – 100%

19. Awards / Recognitions received at the national and international level by

- Faculty: Dr J.N.Jha
- Doctoral : Nil

- Students: As follows

Event	Position/ Achievement	Organized By
Technical quiz	1 st prize-Harshbab Singh and Baljinder Singh D2 Civil 2 nd prize- Manvir Kaur and Rattandeep Kaur D3 Civil 3 rd prize- Rinki Verma and Harshpreet Kaur D3 Civil	SCIE in Association with ACES IN GENSIS 2009
Shear force and bending moment	1 st prize-Amandeep Singh and Charanjeet Singh D3 Civil 2 nd prize- Loveleen Jain and Gursewak Singh D2 Civil 3 rd prize- Ajay Kalra and Jagjeet Singh D3 Civil	
Paper presentation	1 st prize- Manpreet Singh M.tech 2 nd prize- Gurmher Singh D2 Civil 3 rd prize- Komal Ashu D3 Civil	
Block making	1 st prize- Rupinder Singh and Jaskamaljeet Singh D2 Civil 2 nd prize- Hargurdeep Singh and Jagdeep Singh D3 Civil 3 rd prize- Amit kumar and Ankush kumar Bhandari D2 Civil	

20. Seminars/Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

- Geotechnical and Geoenvironmental Aspects of Wastes and Their Utilization in Infrastructure Projects, 15th - 16th February, 2013. Prof Unikrishnan Pillay, Ex-Principal, N.I.T., Calicut, Prof Manoj data, Ex-Director, PEC University, Chandigarh and Prof V.Savant, I.I.T., Roorke participated in the conference.
- International Conference on latest development of concrete technology, Feb, 2010, in collaboration with University of Dundee , UK, under UKIERI project. The delegates from India and UK participated in the conference.
- International Workshop on Reinforced soil and geosynthetic engineering, Dec, 2012, Dr S K Shukla, Professor, Edith Cowan University, Australia, was the resource person.
- Workshop to enhance knowledge of FEM based Geotechnical software, Feb, 2010. The experts from RAM CADD Sys, Chennai were the resource persons.

- Workshop on the Capacity Building of Engineers in Earthquake Risk Management, 2010, sponsored by Department of Revenue, Rehabilitation and Disaster management, Govt of Punjab

21. Student profile course-wise:

Name of the Course	Applications Received	Selected		Pass Percentage	
		Male	Female	Male	Female
B.Tech.	750	145	35	78	86
M.Tech.	110	50	24	72	78

22. Diversity of students

Name of the course	% of students from the College	% of students from the State	% of students from other States	% of students from other countries
B.Tech	Not applicable	85	15	0
M.Tech	20	65	15	0

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

30 students have qualified different competitive examination of state and national level.

24. Student progression

Student progression	Percentage against enrolled
UG to PG	17%
PG to M.Phil.	Not applicable
PG to Ph.D.	0.5%
Ph.D. to Post-Doctoral	—
Employed	
• Campus selection	43%
• Other than campus recruitment	19%
Entrepreneurs	3%

25. Diversity of staff

Percentage of faculty who are graduates	
of the same parent university	78%
from other universities within the State	15%
from other universities from other States and Countries	7%

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period. Two faculty members were awarded PhD during the last three years.

27. Present details about infrastructural facilities

a) Library

Apart from central library the department is maintaining a separate library with 500 volumes for quick reference by the staff members and students. Laboratory Manuals, M.Tech and B.Tech project reports are kept in the department library for reference.

b) Internet facilities for staff and students

2 labs consisting of 65 Systems with internet connectivity
Internet facility for all staff members in their rooms

c) Total number of class rooms

There are ten classrooms

d) Class rooms with ICT facility Three

classrooms have ICT facility.

e) Student & Research Laboratories

The department has fully equipped laboratories, which offer the following laboratory courses.

Research Laboratories:

- Strength of Materials Lab
- Concrete TechnologyLab
- Advance Surveying Lab
- Geo-Technical Engineering Lab
- Transportation Engineering Lab
- Fluid Mechanics & Hydraulic Machines Lab
- Environmental Engineering Lab
- Heavy testing lab
- Student Laboratories:

All the research laboratories are open to students and the following are in addition to the research laboratories.

- Computer Applications in Civil Engineering Lab
- Geology and Model Lab

The list of the major equipment in the laboratories is maintained in the department.

28. Number of post graduate students getting financial assistance from College.

Under TEQIP 10% of P.G. students get financial assistance from the college.

29. Was any need assessment exercise undertaken before the development of new programmes? If so highlight the methodology

Yes. NBA, ISO & UGC (as per their methodology)

30. Does the department obtain feedback from

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?**

Faculty meetings will be conducted in the department at regular intervals. Group discussions on the curriculum are conducted and changes if any are made.

- b. Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?**

Feedback is collected regularly both in paper form and using suggestion boxes. Suggestions made by the students are discussed by the entire faculty during staff meetings and necessary steps are taken. The feedback from the students is sent to the concerned faculty and the problems if any are rectified.

- c. Alumni and employers on the programmes and what is the response of the department to the same?**

Feedback is collected from alumni. Most of them suggested improvement in placements and communication skills and setting up of an independent alumni building. The department is taking steps to improve the communication skills of the students by conducting various department activities involving students and also external workshops with experts are being conducted.

31. List the distinguished alumni of the department (maximum 10)

S.NO.	Name	Batch	Designations
1.	Er. Kirpal Singh	1980	DGM (Civil) NTPC
2.	Er. Surinder Pal	1980	Executive Director Railway Board
3.	Er. Vainder Pal Singh	1980	DGM, HP Financial Corp., Shimla
4.	Er. Kanwaljit Singh	1965	Member, Railway Board, Indian Railway
5.	Er. Sukhminder Singh Dhaliwal	1983	Professional Engineer, Member of Parliament Govt. of Canada
6.	Er. Akshay Sachdeva	1988	DIG, Sikkim
7.	Er. Gurveer Singh	1972	Arjun Awardee, Olympian (Year 1976)
8.	Er. Manjinder Singh	1980	DGM Ircon

9.	Er. Tirlok Singh Gill	1968	Rt. Chief engineer P.W.D. (B&R), Punjab
10.	Dr.Tirthram Sharma	1956	Design consultant U.S.A.

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

Name of recourse person	Expertise Area Industry/Academic/ R&D	Topic covered
Mr Amit Singh, ACC Concrete Ltd	Industry	Application of RMC in modern day construction
Mr. P.M. Chandershekar, B.L. Kashyap & Sons Ltd	Industry	Infrastructure development in 21 st century
Mr. Ramesh Katiyal, L & T (ECC) Ltd	Industry	Use of modern equipments in construction industry
Mr. Vivek Gandi, IREO Pvt. Ltd, Delhi	Industry	Role of engineers in modern day development
Dr KS Rangaraju, Technical Advisor GoI	Academic	Baligar Dams and Indus Water Treaty
Dr. K.S.Rao, Department of Civil Engineering, IIT Delhi	Academic	Slope Stability Analysis of Chenab Bridge Abutments using UDEC and 3DEC
Mr. A.K. Tiwari, Dy Vice President	Industry	Challenges of civil engineering structures and opportunities for civil engineers
Dr SS Shah, Professor, Aligarh Muslim University, Aligarh	Academic	Latest developments in Civil Engineering.
Dr SP Singh, Professor, Department of Civil Engg, NIT Jalandhar	Academic	Earthquake resistant design of masonry structures.
Dr Umesh Sharma, Asso Professor, Department of Civil Engg, PEC Chandigarh	Academic	Aggregates for construction of flexible pavements: Testing
Dr Sanjeev Aggarwal, Asso Professor, Department of Civil Engg, GZSIET, Bathinda	Academic	Flexible and Rigid Pavements: Latest Developments.
Dr AP Singh, Professor, Department of Civil Engg, NIT Jalandhar	Academic	Use of STAADpro in civil engineering
Dr Jaspal Singh, Professor, Department of Civil Engg, PAU Ludhiana	Academic	Scope of High-Rise Building in present scenario.
Dr Manjeet Bansal, Asso Professor, Department of Civil Engg, GZSIET, Bathinda	Academic	Solid Waste Management in India.

Mr. M.L. Nath, Advisor, SOMA Enterprises	Industry	Preparing subgrade for flexible pavements: latest development
Mr. Rohit Mehra, Punj Lloyd Ltd	Industry	Civil Engineering: Field Problems and possible solutions
Mr Amit Singh, ACC Concrete Ltd	Industry	Self Compacting Concrete
Major Vikram Singh, Gammon India Ltd	Industry	RMC: Latest Scenario.
Dr. A. Biswas, Dean and Professor, Civil Engg. Department, University of WINDSER, Canada. 2009.	Industry	Use of Polymer Coagulants for waste water treatment
M.H. Khan, Geotech software solution Mumbai	Industry	Generation of Report for soil Investigation
Dr Arvind Agnihotri, Professor, NIT, Jalandhar	Academic	Reinforced Earth: Sate of Art
Mr. Mukesh Kumar, Angelique International Ltd, New Delhi	Industry	High Rise Buidling: Latest Trends
Mr. M.L. Nath, Advisor, SOMA Enterprises	Industry	Latest in Construction Machniary for road construction
Mr. Santosh Patil, Shapoortji Pallonji Co. Ltd	Industry	Reinforced Earth: Scope in todays world
Sh. M.N. Singh, Ambuja cement, on Aug. 2008.	Industry	Catch Young Engineer
Executive Engineers of B & R, P.W.D., on 25th March 2008	Industry	Simplifying Quantity Estimation and Evaluation by Use of Software
Mr. R.K. Sengupta, Support Manager, Primavera, N. Delhi on Feb 2008.	Industry	Primavera- An Effective and efficient Construction management tool
Mr. Ranjit Singh on 23rd may 2008	Industry	Tips to improve effective communication for placement
Er. C.M. Dordi.	Industry	Concrete- A Family of material and its Design Ideology
Dr RK Dutta, Professor, CED, NIT Hamirpur	Academic	Waste Utilisation in Ground Improvement

33. List the teaching methods adopted by the faculty for different programmes.

Teaching Methods:

- Lectures
- Power Point Presentations
- Group discussions
- Tutorials
- Assignments
- Quiz
- site visits

Tools:

- OHP – Over Head Projector
- LCD Projector

Faculty is also taking the help of Internet in the preparation of their lectures with the inclusion of latest developments in the field of engineering

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

- The department ensures the curriculum is designed to meet the learning outcome. The faculty ensures the syllabus is revised and is involved in improving student skills through tutorials, assignments, mini projects, term paper and final project.
- There are class teachers for every section (consisting of 60 students) to look after the overall performance of students. HOD monitors the coverage of syllabus with the help of Course file and sees the academic schedules are intact.
- After every mid examination, the performance of the students is analyzed and slow learners are identified. Special classes are planned for the slow learners.
- For every 20 students, one teacher is being allotted as counselor. These counselors counsel the students periodically (once in a week) and monitor their regularity, also address personal problems if any.
- They also help in guiding them regarding their future prospects. HOD of the department coordinates the counseling activity and sees that it is being done on a regular basis. Whenever the necessity occurs, the parents are called for and are advised to monitor their wards and take necessary steps.
- Faculty ensures in complete personality development of the student and also helps them train for all future endeavors.
- The entire faculty is involved in guiding the students for their project work which helps them in their future professional lives.

35. Highlight the participation of students and faculty in extension activities.

The students are participating in extension activities like AFOSEC/TECHNOVISION/ Annual Day Celebrations.

The students actively participate in activities of the Association for Civil Engineering Students (ACES), a department initiative to help the students in improving their communication and technical skills. Students also take part in NSS/NCC programs

36. Give details of “beyond syllabus scholarly activities” of the department.

The department organizes special lectures, workshops and seminars on various topics useful for the students in their professional lives which are not included in their syllabus.

All the teachers are involved in the planning and execution of various departmental activities. They plan and prepare timetables, lecture schedules well in advance before the commencement of every semester. Each staff member engages 18 periods of teaching /laboratory load. For each laboratory there is a lab in-charge at the level of associate professor, who will look after the maintenance and development.

All the faculty members are involved in guiding the students for their project work at 2nd semester of the IV year as well as a mini project at 1st semester of IV year and industrial internship at the end of the 3rd year second semester . Four of our faculty members have registered for pursuing PhD.

Research papers are published in National and International journals and conferences. Senior faculty guide doctoral students, both from the college and other colleges, in emerging areas

The department has one student's chapter namely Indian Institute of Engineers. Faculty encourages the students and guides them to present papers at various National Level Paper Contests organized by other colleges, universities.

Various Personality development programs are being organized in the department.

**37. State whether the programme/ department is accredited/ graded by other agencies.
Give details.**

The Programmes are accredited by NBA and are ISO certified.

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Strengths:

- Qualified and Experienced Faculty
- Infrastructure/ Fully equipped Labs
- Placement Opportunities
- Well established Consultancy Cell
- QIP centre for Ph.D. research

Weaknesses:

- No funding for student research
- Lack of research initiative
- Some obsolescence removal needed in labs

Opportunities

- Using new advanced software
- Advanced laboratories
- Prospects for Research activity
- Digitalized classrooms

- Research oriented consultancy

Challenges

- Providing more industrial exposure to students
- 100 % placements
- Further improvement in academic results
- Student research projects
- Faculty recharging

39. Future plans of the department.

- > Development of Research center with the help of affiliating university.
- > Improve the industry – Institute Interaction to provide more opportunities for students to meet Industry – society needs.
- > More emphasis on personality development programmes for students along with regular academics.
- > Development of laboratories & procurement of advanced software.
- > To conduct national and international conferences

Evaluative Report of the Department

- 1. Name of the Department:** Electrical Engineering Department
Year of Establishment : 1957 (Accredited in 2004 & 2008)
- 2. Names of Programmes / Courses offered** (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)
 UG: B.Tech (Electrical Engg.)
 PG: M.Tech (Power Engg, Full-Time)
 PG: M.Tech (Electrical Engg., Part-Time)
 Ph.D: (Electrical)
- 3. Interdisciplinary Programmes and Departments Involved:** NIL
- 4. Examination Systems:** Semester System
- 5. Participation of the Department in the Courses Offered by other Departments:** BEEE-Applied Science Department
- 6. Number of Teaching Posts Sanctioned and Filled** (Professors/Associate Professors/Asst. Professors)

Post	Sanctioned	Filled
Professor	2	1
Associate Professors	4	4
Asst. Professors	12	12

- 7. Faculty Profile with Name, Qualification, Designation, Specialisation (D.Sc./D.Litt./Ph.D./M.Phil., etc.)**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
Er. Jaswinder Singh	M.E	Associate Prof. & H.O.D.	Power Systems, Digital Control Systems	28 years	--
Dr. Y.S. Brar	Ph.D	Professor	Electrical Power Systems	22 years	1
Er. Khushdeep Singh	M.E	Associate Prof.	Power Systems, Power System Protection, Instrumentation	27 years	--
Er. Preetinder Singh	M.Tech.	Associate Prof.	Electrical Machines	22 years	--
Er. Rupinderjit Singh	M.Tech.	Associate Prof.	Power Generation	22 years	--
Dr. Kanwardeep	Ph.D	Assistant Prof.	Power Systems	15 years	--

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
Singh					
Er. N.S. Bhangu	M.Tech.	Assistant Prof.	Power Engineering	12 years	--
Er. G.S. Sodhi	M.Tech.	Assistant Prof.	Applied Electronics and Instrumentation Engg.	13 years	--
Er. CharanPreet Singh	M.Tech.	Assistant Prof.	Power system	9.5 years	--
Er. Harmeet Singh Gill	M.Tech.	Assistant Prof.	Power Engineering	10.5 years	--
Er. Arvind Dhingra	M.Tech.& MBA	Assistant Prof.	Power Systems, Energy Efficiency	18 years	--
Er. Harminder Singh	Diploma, PSBTE	Assistant Prof.	Systems and Control	33 years	--
Er. Ravinder Kaur	M.Tech.	Assistant Prof.	Power Systems	14 years	--
Er. Shivani	M.Tech.	Assistant Prof.	Electrical	10 years	--
Er. Gurpreet Kaur	M.Tech.	Assistant Prof.	Power system	4 years	--
Er. Sukhdeep Singh	M.E	Assistant Prof.	Control system	4 years	--
Er. Tarandeep Kaur Gill	M.Tech.	Assistant Prof.	Power system	1years	--
Er. Samreet kaur	M.E	Assistant Prof.	Control system	4 years	--

8. Percentage of classes taken by temporary Faculty – Programme-wise information

Name of Faculty	Qualification	Designation	Distribution of Teaching load (%)		
			1 st year	UG	PG
Er. Shivani	M.Tech	Assistant Prof.	0	100	0
Er. Gurpreet Kaur	M.Tech.	Assistant Prof.	0	71	29
Er. Sukhdeep Singh	M.E.	Assistant Prof.	67	33	0
Er. Tarandeep Kaur	M.Tech	Assistant Prof.	100	0	0
Er. Samreet Kaur	M.E.	Assistant Prof.	71	0	29

9. Programme-wise Student Teacher Ratio: 1:20

10. Number of Academic Support Staff (technical) and administrative staff: Sanctioned and Filled

Post	Sanctioned	Filled
Draftsman	1	1
clerk	1	1
Technical support staff	7	6
Inst. Repairer+ EPABX	1	1
Maintenance Mechanic	1	1

11. Number of faculty with ongoing projects from a) National B) International funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

Number of Faculties Involved	Name of Funding Agency	Name of Project	Total Grant Recieved
2	AICTE	MODROB	4 (4.6 LACS)
1	AICTE	STTP	1
1	AICTE	Seminar	1
1	AICTE	EACS	1
2	AICTE	RPS	8.5 LACS

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received :
College has received a grant of Rs 1 crore under DST-FIST.

13. Research facility / centre with

- **State Recognition:** Yes
- **National Recognition:** Yes
- **International Recognition:** Yes

14. Publications:

- * Number of Papers Published in Peer Reviewed Journals (National / International)

Status	2013-14		2012-13		2011-12		2010-11	
	National	International	National	International	National	International	National	International
Published/ Presented	-	9	-	4	1	10	-	5

The following are the major research papers published by the faculty:

- Jaswinder Singh, “Recent Trends in Wind Energy Conservation Systems”, Yamuna Journal Of Technology And Business Research, Vol. 1, Issue 1, July- Dec 2011, Page no. 27-32.
- Jaswinder Singh, “Control Of Heating System In Process Industry”, SGI Reflections Int. Jour. Of Applied Science, Technology And Management, Vol. 2, Issue -1, July 2011, (ISSN 0976-2140).
- Jaswinder Singh, “Electric Energy Conservation in Process Industry”, Int. Jour. Of Applied Engineering Research, Vol. 6, Number 18(2011), (ISSN 0973-4562).
- Ekta Walia, Anjali Goyal and Y.S. Brar, “Zernike Moments and LDP-Weighted Patches for Content-Based Image Retrieval” Signal Image and Video Processing (SIViP), DOI 10.1007/s11760-013-0561-z, 09 October, 2013.
- V. Mehan, R. Dhir and Y. S. Brar, “A Spatial Domain Approach of Fingerprinting for Colored Digital Images”, International Journal of Computers & Technology, ISSN: 22773061, vol. 11, no. 1, pp. 2156-2160, 2013. (Published) (Impact Factor: 1.341)
- V. Mehan, R. Dhir and Y. S. Brar, “Watermarking for Health Management System”, International Journal of Advanced Research in Computer Science and Software Engineering, ISSN: 2277 128X, vol. 3, no.9, pp. 224-228, 2013. (Published) (Impact Factor: 2.080)
- Harsh Sharma and Y.S. Brar, ‘ Evaluation of Improvement in Power Transfer Capability of an Interconnected Power System with and without Contingency’, International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, vol. 2(6), June 2013.
- Balraj Singh, J.S. Dhillon and Y.S. Brar,’ Design of Digital IIR Filters: A Comparison’, accepted in Intl Journal of Electrical,Electronics and Telecommunication Engineering, 2013.
- Balraj Singh, J.S. Dhillon and Y.S. Brar,’ Predator Prey Optamization method for the design of IIR filter’, accepted in WSEAS Tranactions On Signal Processing, 2013.
- Balraj Singh, J.S. Dhillon and Y.S. Brar,’ A hybrid Differential Evaluation Method for the Design of IIR Digital Filter’, ACEEE International Journal on Signal and Image Processing, Vol. 4 (1), 2013
- Sumeet Kaur Sehra, Yadwinder Singh Brar and Navdeep Kaur, ‘Multi Criteria Decision Making Approach for Selecting Effort Estimation Model’ International Journal of

Computer Applications (0975-8887), vol. 39(1), Feb. 2012.

- Sumeet Kaur Sehra, Yadwinder Singh Brar and Navdeep Kaur, ‘Soft Computing Techniques for Software Project Effort Estimation’ International Journal of Advanced Computer and Mathematical Sciences, ISSN 2230-9624, Vol. 2(3), 2011, pp. 160-167.
- Kanwardeep Singh, Vinod Kumar Yadav, Narayana Prasad Padhy and Jaydev Sharma, “Congestion Management Considering Optimal Placement of Distributed Generator in Deregulated Power System Networks, Electric Power Components and Systems, vol. 42, issue 1, pp 13-22, Jan. 2014.
- Kanwardeep Singh and Saurabh Ratra, “Maximizing Social Welfare Considering Optimal Placement of Distributed Generator in Deregulated Power System Networks”, Int. Jour. Of Applied Engineering Research, Vol. 8, no. 8, pp. 1-4, 2013. (ISSN 0973-4562)
- Kanwardeep Singh, Vinod K. Yadav, Arvind Dhingra, “Congestion Management Using Optimal Placement of TCSC in Deregulated Power System,” International Journal on Electrical Engineering and Informatics, vol. 4, no. 4, pp. 620-632, December 2012.
- K. Singh, N.P. Padhy, and J. Sharma, “Influence of Price Responsive Demand Shifting Bidding on Congestion and LMP in Pool-Based Day-Ahead Electricity Markets,” IEEE Trans. Power System, vol. 26, no. 2, pp 886-896, May 2011.
- K. Singh, N.P. Padhy, and J. Sharma, “Transmission expansion planning including reactive power procurement in deregulated environment,” Electric Power Components and Systems, vol. 39, issue 13, pp 1403-1423, Aug. 2011.
- K. Singh, N.P. Padhy, and J. Sharma, “Congestion management considering hydro-thermal combined operation in a pool based electricity market”, Int. Jour. Electrical Power and Energy Systems, vol. 33, no. 8, pp 1513-1519, Oct. 2011.

* **Books with ISBN numbers with details of publishers:**

S.No.	Name	Author	Publisher	ISBN No.
1.	Basic Electrical & Electronics Engineering	Dr. Y.S. Brar & Arvind Dhingra	Kalyani Publishers, Ludhiana	978-93-272-1504-5
2.	Quick glance at Viva-Voce	Dhingra Arvind & Others	Katson, New Delhi	81-88458-57-0
3.	Viva voce at a Glance	Dhingra Arvind & others	Kalyani Publishers, Ludhiana	81-272-2493-6
4.	Modern Approach to Fundamentals of Electrical Engineering	Arvind Dhingra	Modern Publishers, Jalandhar	—
5.	Modern Approach to Electrical Machines	Arvind Dhingra	Modern Publishers, Jalandhar	—
6.	Modern Approach to Electrical Measurements & Instrumentation	Arvind Dhingra	Modern Publishers, Jalandhar	—
7.	Basic Electrical & Electronics Engineering (Sample Papers)	Arvind Dhingra	Modern Publishers, Jalandhar	—
8.	Network Analysis &	Arvind Dhingra	Modern Publishers,	—

	Synthesis (Sample Papers)		Jalandhar	
9.	Instrumentation Engineering (Sample Papers)	Arvind Dhingra	Modern Publishers, Jalandhar	-
10.	Linear Control Systems (Sample Papers)	Arvind Dhingra	Modern Publishers, Jalandhar	-
11.	EM & DC Machines (Sample Papers)	Arvind Dhingra	Modern Publishers, Jalandhar	-
12.	Generation Of Electric Power (Sample Papers)	Arvind Dhingra	Modern Publishers, Jalandhar	-
13	Instrumentation	R.K. Sofat & Shivani Abrol	Dhanpat Rai, Ludhiana	978-81-7700-084-9

15. Details of Patents and Income Generated: NIL

16. Areas of Consultancy and Income Generated: Eleven Testing jobs in different fields of electrical engineering & income generated: Rs 27500

17. Faculty Recharging Strategies:

S.No	Name of course	Organizing Committee	Duration
1.	Renewable Energy Based Technologies	NITTTR, Chandigarh	18-22 July,2011
2.	Strategic Management for Excellence	NITTTR, Chandigarh	16-20 May,2011
3.	Automation in Industries	NITTTR, Chandigarh	25-29 April,2011
4.	Microcontroller & its Applications	NITTTR, Chandigarh	23-27 May
5.	IPR's for Pharmaceutical Sector and Patent System	NITTTR, Chandigarh	4-8 April,2011
6.	Research Methodology	NITTTR, Chandigarh	7-11 March, 20-11
7.	Competencies for 21 st century	NITTTR, Chandigarh	17-21 October, 2011
8.	CAD/CAM	NITTTR, Chandigarh	5-9 Sep,2011
9.	CAD using CATIA	NITTTR, Chandigarh	12-16 Sep,2011
10.	Teaching Practice in Engg Drawing	NITTTR, Chandigarh	10-14 Oct,2011
11.	Research Methodology: Tools & Technique	NITTTR, Chandigarh	12-16 Dec,2011
12.	OFC System Design & Performance Evaluation	NITTTR, Chandigarh	21-25 Nov,2011
13.	Power supply Design, Fabrication And Testing	NITTTR, Chandigarh	1-5 Aug,2011
14.	Computational Tools for Engineers	TEQIP-II	29 th July-3 rd Aug,1013

18. Student projects

- Percentage of Students who have done In-House Projects including Inter-

Departmental:100%

- Percentage of Students doing Projects in Collaboration with Industries / Institutes:0%

19. Awards / Recognitions: Received at the National And International Level by:

- Faculty

Name of Faculty	Awards Received at National Level	Awards Received at International Level
Dr. Yadwinder Singh Brar	----	Best Paper Award at International Conference- 2013
Dr. Kanwardeep Singh	Best Paper Award, Orsi-Chennai, 2007	-
Er. Arvind Dhingra	Best Teacher Award, ISTE, 2013	-
Er. N.S. Bhangu	Univ. Position in M.Tech. (Bronze Medal), 2001	-
Er. CharanPreet Singh	Univ. Position in M.Tech. (Silver Medal), 2005	-
Er. Harmeet Singh Gill	Univ. Position in M.Tech. (Silver Medal), 2004	-
Er. Tarandeep kaur Gill	Univ. Position in M.Tech. (Gold Medal), 2012	-

- Doctoral / Post Doctoral Fellows: NIL
- Students

Name of Student	Awards Received at National Level	Awards received at International Level
Sanchit Taneja	ISTE Student Convention (Best Student Award, Scintilla), 2014	-
Sunil Kumar	ISTE Student Convention (Best Student Award), 2013	-
Atinderpal Singh	ISTE Student Convention (Best Student Award) 2012	-
Harpreet Singh	ISTE Student Convention (Best Student Award) 2011	-

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

Name of Event	2013-14	2012-13	2011-2012	2010-2011	2009-2010
Seminar	--	--	03	04	03
Workshop	01	01	--	--	--
Symposia	--	--	--	--	01

21. Student profile course-wise:

Name of the Course	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B.Tech (Electrical)	At University Level & 750 at college level in Direct Admission	76	14	84%	88 %
M.Tech.(Regular)	At University Level	14	11	56%	44%
M.Tech.(Part-Time)	12 at College Level	8	2	61.5 %	15.3%

22. Diversity of Students:

Name of the Course	% Of Students from the College	% of Students from the State	% of Students from Other States	% of Students from Other Countries
B.Tech (Electrical)	N.A.	85%	15%	—
PG(Regular)	10%	75%	15%	—
PG(part time)	-	85%	15%	—

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations:

09 (GATE cleared), 05 (State Electricity Board Exam cleared).

24. Student Progression:

Student progression	Percentage against enrolled
UG to PG	19.4%
PG to M.Phil.	N.A.
PG to Ph.D.	8%
Ph.D. to Post-Doctoral	NIL
Employed	
• Campus selection	35%
• Other than campus recruitment	22.8%
Entrepreneurs	7%

25. Diversity of Staff:

Percentage of Faculty who are Graduates	
of the same Parent University	50%
from other Universities within the State	38%
from Other Universities from Other States	12%

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period: 2**27. Present details about Infrastructural Facilities:****a) Library**

The departmental library has text and reference books of different courses of electrical engineering. The journals on different research topics are also available.

b) Internet Facilities for Staff And Students: Available all time**c) Total Number of Class Rooms: 5****d) Class Rooms with ICT facility: 01****e) Students' Laboratories: 11**

Curriculum Lab Description	Quality of Instruments	Lab Manuals
Electrical Machine Lab	Working	Available
Electrical Drives Lab	Working	Available
High Voltage Lab	Working	-
Measurement Lab	Working	Available
Advanced Measurement Lab	Working	Available
Microprocessor Lab	Working	Available
Power Electronics Lab	Working	Available
Power System Lab	Working	Available
Applied Electronics Lab	Working	Available
Computational Lab	Working	Available
Basic Electrical & Electronics Lab	Working	Available

f) Research Laboratories: NCER, AICTE.

- 28. Number of Post Graduate Students getting Financial Assistance from the College:** 10% PG students get scholarship under TEQIP-II.
- 29. Was any need Assessment exercise undertaken before the Development of New Program(s)? If so, give the Methodology:** NBA, ISO & UGC (as per their methodology)
- 30. Does the Department obtain Feedback from**
- Faculty on Curriculum as well as Teaching-Learning-Evaluation? If yes, how does the Department utilize it?** Yes, a consistent feedback is maintained and evaluation record is maintained in respective faculty registers throughout the semester.
 - Students on Staff, Curriculum as well as Teaching-Learning-Evaluation and what is the response of the Department to the same?** Yes, a regular feedback form is filled by the students in every semester of each course is undertaken by them and record is maintained by the department. Teacher evaluation is done accordingly in the end by the respective H.O.D's by the year end.
 - Alumni and Employers on the programmes and what is the response of the Department to the same?** Yes, Annual alumni meet is held and yearly feedback is obtained and looked after by the authorities of department on national and international level updates.
- 31. List the distinguished Alumni of the Department (maximum 10)**
1. T.S. Gill (Rtd. CE,PSEB)
 2. Madhur Verma (IPS)
 3. Harjit Singh Virdi (LEAD, G.E., Canada)
 4. Paramjit Singh Virdi (System Engineer, Wipro tech., USA)
 5. Jaswinder Singh Mann (LEAD, Syncrude, Canada)
 6. Dr. H.K. Grewal (Ex. Principal, GNDEC, Ldh)
 7. Dr. H.K. Buttar (Ex. Principal, GNDEC, Ldh)
 8. S.S. Gill (Rtd. CE, PSEB)
 9. Gagandeep Singh Gill (Research Scholor P.G., University Of Western Ontario, Canada)
 10. Harjit Singh Gill (Additional. S.E. PSPCL)
- 32. Give details of Student Enrichment Programmes (Special Lectures / Workshops / Seminar) with External Experts.** Expert Lectures have been held regularly to update the student with knowledge delivered from industry & academia experts. The outcome monitoring of the students available in the market as per the acceptability of the achievable capabilities as deflected through their placements.
- 33. List the Teaching Methods adopted by the faculty for different Programmes.** Audio visual aids, online telecast (Edusat)
- 34. How does the Department ensure that Programme Objectives are constantly met and learning outcomes monitored?** The department has both short and long term objectives. Short term objective is to keep students & faculty apprised of recent advancements in

related field which is taken care by industrial visits, expert lectures, and seminars & hands-on workshops. Long term objectives include promotion of non conventional sources of energy. Here the department has been actively associated with PEDA and 40 street lights have been replaced with solar street lights. An NCER Lab under RPS is being set up.

35. Highlight the participation of students and faculty in Extension Activities.

FACULTY: (a) Pf. Gagandeep Singh Sodhi- Guest Faculty at GADVASU
(b) Pf. Y.S Brar- Expert Lectures
(c) Dr. KD Singh- Expert Lectures
(d) Pf. Arvind Dhingra- Expert Lectures
(e) Pf. Jaswinder Singh, Pf. Khushdeep Singh- Consultancy

STUDENTS: Students of department have won prizes in technical events held in college level and at university level.

36. Give details of “Beyond Syllabus Scholarly Activities” of the department. ISTE, NCC, NSS, SCIE, CSI, SAE

37. State whether the programme/ department is accredited/ graded by other agencies.

Give details. NBA (April 2009), ISO (yearly), UGC autonomous (August 2012)

38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

STRENGTH:

- Highly Qualified and Experienced Staff.
- Fully equipped Laboratories.
- Well stocked Departmental Library.
- High Voltage Lab.
- Computational Lab with latest software related to Electrical Engineering.
- Non-Conventional Energy Resources Lab.

WEAKNESS:

- Industrial Consultancy need to be improved.
- Some labs need up-gradation.
- Course work is not in tune with latest advancement in Electrical Engineering.
- Research Publications at National/International level required to be improved.
- Industry oriented projects required to be taken up.

OPPORTUNITIES:

- Power sector is growing vigorously.
- Demand for qualified power engineers is growing at fast pace.
- Opportunities exist in promotion of Non Conventional Energy Sector.

- Demerger of Electricity Boards to power COM's and private companies.
- Open Access regime.

CHALLENGES:

- Mushrooming of Private Technical Institutes.
- Opening up of education sector to foreign players.
- Over confidence in abilities.
- Some outdated technology in use.
- Placement of students need to be improved

39. Future Plans of the Department:

1. Completion of Non-Conventional Energy Resources Lab by Dec-2014.
2. To organize STTP in June 2014.
3. To organize International conference in Dec-2014.

Evaluative Report of the Department

1. Name of the department: **Electronics and Communication Engineering**
 & Year of establishment: **1981**
2. Name of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters, Integrated Ph.D., D.Sc. D.Litt. etc)
 UG (B. Tech. In Electronics and Communication Engineering)
 PG (M. Tech. In Electronics and Communication Engineering) full time and part time
 Ph.D. In Electronics and Communication Engineering
3. Interdisciplinary courses and departments involved **NIL**
4. Annual/ Semester/ Choice based Credit system **Semester system**
5. Participation of the department in the course offered by other departments
 Department conducts some courses offered by the departments of Applied Sciences, Computer Science and Information Technology
6. Number of teaching posts sanctioned, filled and actual (Professor/ Associate Professor/ Assistant Professor)

	Sanctioned	Filled
Professor	02	01
Associate Professor	04	03
Assistant Professor	03	12

7. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of experience	No. Of Ph.D. students guided for the last 4 years
Sandeep Singh Gill	Ph.D.	Professor and Head	VLSI designing, soft computing applications	15	-
Nirmal Singh Grewal	M.E.	Associate Professor	Control Systems, Power Electronics	30	-
Kanwaljit Singh	M. Tech. ECE	Associate Professor	Optical Communications, Microprocessors	20	-
Ameeta Sehra	M.E.	Associate Professor	Advanced Communications	20	-
Narwant Singh Grewal	M. Tech. ECE	Assistant Professor	Wireless Communication, Optical fibers, VLSI design	12	-
Balwinder Singh	M. Tech. ECE	Assistant Professor	Digital Signal Processing,	10	-

Dhaliwal			Diversity Systems		
Munish Rattan	M. E. Electronics	Assistant Professor	Antenna, Microwave and Radar	10	-
Baljeet Kaur	M. Tech. ECE	Assistant Professor	Fiber Optics	10	-
Harminder kaur	M. Tech. ECE	Assistant Professor	Advanced Communication System, Mobile Communication	3	-
Gurjot Kaur Walia	M. Tech. ECE	Assistant Professor	Electronics and Communication	3	-
Navneet Kaur	M. Tech. ECE	Assistant Professor	VLSI, Signal processing	3	-
Gurpurneet Kaur	M. Tech. ECE	Assistant Professor	VLSI, Optical Fiber Communication	3	-
Chahat Jain	M. Tech. ECE	Assistant Professor	Antenna design, AMC design	3	-
Rohin Gupta	B.Tech ECE M. Tech. VLSI	Assistant Professor	VLSI Design, NN, Robotics	2	-
Kuldeepak Singh	M. Tech. ECE	Assistant Professor	Free Space Optics	1	-
Harminder Kaur	M. Tech. ECE	Assistant Professor	Wireless Communication	1	-

8. Percentage of classes taken by temporary faculty – 50%

9. Programme wise student teacher ratio: 1:20

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled:

Staff	Sanctioned	Filled
academic support staff (technical)	8	7
administrative staff	8	8

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received.

NIL

12. Departmental Projects funded by DST-FIST, DBT, ICSSR etc.; total grants received

S. No.	Name of Faculty	Nature of Work	Agency	Year	Amount
1.	Prof. S. S. Gill and Dr. Munish Rattan	Recent Advances in Electronics and Communication Technologies- 2011.	DST, New Delhi	2011	60,000

2.	Prof. S. S. Gill and Dr. Munish Rattan	Recent Advances in Electronics and Communication Technologies, 2011	CSIR, New Delhi	2011	30,000
3.	Prof. S. S. Gill and Dr. Munish Rattan	Recent Advances in Electronics and Communication Technologies, 2011	PTU, Jalandhar	2011	30,000
4.	Dr. S. S. Gill and Dr. Munish Rattan	Recent Advances in Electronics and Communication Technologies- 2013.	DST, New Delhi	2013	75,000
5.	Dr. S. S. Gill and Dr. Munish Rattan	Recent Advances in Electronics and Communication Technologies, 2013	TEQIP-II	2013	1,00,000
6.	Dr. S. S. Gill and Dr. Munish Rattan	Recent Advances in Electronics and Communication Technologies, 2013	PTU, Jalandhar	2013	50,000
7.	Er. Kanwaljit Singh Prof. Ameeta Seehra	Modernization of Existing Communication Engineering Lab	AICTE	2008-2010	10.0 lac

13. Research faculty / centre with

State recognition

National recognition

International recognition

M.Tech. and Ph.D. research/project work is being conducted in the areas of Communication engg, electronic design automation, antenna design and communication, VLSI design.

14. Publication

Nature (Int. J. /Nat. J. /Int. Conf. /Nat. Conf.)	Details of Research Papers
International Journal	<ul style="list-style-type: none"> • Nirmal Singh Grewal et al. "Cognitive Radio with its functions: Solution to Radio Scarcity." International Journal of Emerging Technologies and Application in Engineering Technology and Sciences during Dec 20-22, 2010. ISBN: 978-81-8465-360-1, page no. 367-371. • Nirmal Singh Grewal et al., "Sign language recognition for Deaf and dumb." International Journal of advanced research in computer science and software engineering. ISSN 2277, Volume

3, Issue 9, September 2013, pp. 103-106.

- Nirmal Singh Grewal et al., "Sign language recognition system." International Journal of computational engineering research (IJCER) June 2013. Page no. 15-18.
- Nirmal Singh Grewal et al., "Sign language recognition using digital image processing" International Journal of electronics and data communication (UDEC) June 2013. page no. 15-18.
- Nirmal Singh Grewal et al., "Design of neuro – fuzzy intelligent handoff controller" in IJECT vol. 5, Issue 1, jan-march 2014.
- Nirmal Singh Grewal et al. " Design of intelligent handoff controller based on fuzzy logics" , in IJECT vol. 5, Issue 1, jan-march 2014.
- "Effect of Menstrual cycle on the formant frequencies of speech signal," *International Journal of Advanced Engineering & Computing Technologies, Special Edition*, December, 2013, ISSN No. 2249-4928
- "Startup Issues in CMOS Power Supply," *International Journal of Advanced Engineering & Computing Technologies, Special Edition*, December, 2013, ISSN No. 2249-4928
- S. S. Gill et al., "Quality of service in hospitality industry: An empirical study," World Review of Business Research, vol. 2, no. 3, May 2012.
- S. S. Gill et al., "Correlation between employee and customer satisfaction: A case of a Heart Care facility," World Journal of Social Sciences, Vol. 2, July 2012, pp. 267-272.
- Sandeep Singh Gill, Rajeevan Chandel and Ashwani Chandel, " Comparative study of Ant Colony and Genetic Algorithm for VLSI circuit partitioning ", International Journal of Intelligent system and Technologies" , Vol 4, No.2, pp 104-108, March 2009.
- Sandeep Singh Gill, Rajeevan chandel and Ashwani Chandel , " Genetic Algorithm based approach to circuit partitioning", International Journal of Computer and electrical Engineering Vol.2, No.2, Apr 10,2010
- Supreet Singh, S. S. Gill& Jaspreet Kaur, "Initial Partitioning Algorithm for ISPD 98 Benchmark", International Journal of Electronics Engineering J 1(2), July-Dec, 2009, pp. 285-289
- Rajesh Kumar, S.S.Gill, "Spectroscopic analysis of Carbon nanotube properties", International Journal of Electronics and Communication Engineering (IJECE), Dec 2010.
- Lokesh. S.S. Gill, " Ultra high speed optical signal processing based on single SOA at 60 Gbps", Internation Journal for Light and Electron , Elsevier, [Volume 122, Issue 11](#), June 2011, Pages

978–985 2011

- Jatinder Singh, S.S. Gill, S.S. Sodhi, “ Investigation Data Format conversion based on MZI-SOA”, Optics and Lasers in Engineering, Elsevier, [Volume 49, Issue 1](#), January 2011, Pages 152–158 2011
- S.S. Gill, Rajeevan Chandel, Ashwani Chandel, “ Efficient clustering and simulated Annealing based approach for circuit partitioning journal of Shanghai Jiatong University (Science) Springer, vol 16, ISSN: 1007-1172July 2011
- S.S. Gill, Rajeevan Chandel, Ashwani Chandel, “Netlist Bi partitioning using Particle swarm optimization Technique”, International Journal of Artificial Intelligence and Soft computing, Inder Science Vol 3, May 21,2011.
- U.Mathur, Sandeep Singh Gill, Munish Rattan, “Removal of Speckle noise from eye images through bacterial foraging optimization,” International Journal of Advanced Engineering Technology,Vol-II, Issue I, Jan-March,2011
- S.S. Gill et al., “Design of First order Sigma Delta Modulator of an Over sampling ADC in CMOS VLSI”, International Journal of Emerging Technologies & Applications in Engineering Technology & Sciences, Dec-2011.
- S. S. Gill et al., “Performance evaluation of channel estimation in OFDM system for different QAM and PSK modulations.” *International Journal of Elect. and Computer Engineering*, vol.11, no. 2, pp. 140-150, Dec. 2011.
- S. S. Gill et al., “Investigations in Dictionary attacks on cellular security based DES and AES,” *International Journal of Applied Engineering Research*, vol. 6, no. 18, 2011.
- S. S. Gill et al., “Implementation of Quadratic rotation decomposition based recursive least squares algorithm,” *Research Cell: An International Journal of Engineering Sciences*, vol.5, pp. 157-165, issue Dec. 2011.
- Mandeep Kaur, Ameeta Sehra, Manjit Singh, Charanpreet Singh,” Modelling and simulation of gain and output power characteristics of semiconductor optical amplifiers”at International Journal on Power Systems Operation & Control 2010.
- Narwant Singh et al.,” Parametric Investigation of a Fractal Antenna on Mushroom Type Ground Plane “, International journal of Advanced Engineering Sciences and Technologies,

Vol.9, No. 1, August, 2011:25-30.

- Narwant Singh et al., "Investigation of DWDM System for Different Modulation Formats," IOSR Journal of Engineering , Vol. 2 issue 1, Jan 2012, pp. 111-117.
- Narwant Singh et al., "NRZ versus RZ in 136X10 Gbps DWDM System", International Journal of Scientific & Engineering Research, Vol. 3, issue 7, July 2012, pp. 1-3.
- Narwant Singh et al., "A Linear Antenna Array Failure Correction Using Firefly Algorithm", Progress In Electromagnetics Research, Vol. 27, pp. 241-254, December 2012. ISSN: 1937-8726
- B.S.Dhaliwal et al., "Design of Fault Tolerant Full Adder/Subtractor Using Reversible Gates" published a paper in International Conference on Computer Communication and Informatics (ICCCI 2012), at Coimbatore during January 10-12, 2012.
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15. Details of patents and income generated NIL

16. Areas of consultancy and income generated

Year	Course/ Project	Revenue Earned (Rs)
2011	Lab Experiments (AMIE)	9,000
2011	Electronic circuit design using VHDL	1,00,000
2012	Electronic circuit design using VHDL	48,000
2012	Lab Experiments (AMIE)	15,000
2013	Lab Experiments (AMIE)	21,000
2013	Electronic circuit design using VHDL	75,000
2014	Lab Experiments (AMIE)	21,000

17. Faculty recharging strategies

The following are the major Faculty Development Programmes , Short term courses and workshops attend by the faculty:

Topic of Programme	Workshop/ FDP/STTP/ Seminar	Organized By	Year	Duration
Enhancing leadership skills	Workshop	IIM, kazikode	2013	10 days
Antenna Technology: Indian Antenna Week 2013 (IAW- 2013)	Workshop	Organized by IEEE at Aurangabad	2013	3 rd June, 2013 to 7 th June, 2013
Computational tools for	Short Term	Organized by the	2013	One week

Engineers	Training Program	department of Electrical Engineering		29 th july – 3rd August, 2013
Induction Training Programme through ICT	STC	Organized by NITTTR Chandigarh at GNDEC Ludhiana	2013	One week 4 th feb 2013- 8 th feb, 2013
Institutional Academic Workshop	Workshop	At GNDEC, Ludhiana , Sponsored by TEQIP	2013	One day 25 th april 2013
Recent Advances in Manufacturing Technology	Short term course	At GNDEC sponsored by TEQIP-II	2013	Two weeks 10 th june 2013-21 st june 2013
Engineering Applications for Sustainable Development (EASD-13)	Workshop	ECE department, NIT Hamirpur.	2013	Three days
Antenna and Propagation	National Symposium	Cochin, University, Cochin (Kerala)	2012	17.12.2012 to 19.12.2012
Recent Advances in Genetic Algorithms and Their Applications in Engineering Design	STC	Department of Mathematics & Paper Technology, Indian Institute of Technology, Roorkee	2012	One Week June 25-29, 2012
Learning content management system	Workshop	Organized by Civil Engineering and Computer science Department, GNDEC	2012	Two days
E-Governance	Workshop	TCS at Guru Nanak Dev Engineering College, Ludhiana	2012	One day
Induction Training Programme through ICT	STC	NITTTR, Chandigarh	2013	One Week 4 th feb 2013- 8 th feb, 2013
Capital markets and financial instruments	STTP	MBA Deptt., GNDEC, Ludhiana. AICTE sponsored	2011	Two week 2nd dec 2011-6th dec 2011
Recent Trends in Microwave Integrated Circuits	Summer School	Organized by NIT Tiruchirappalli.	2010	Two week 13 th July, 2010 to 17 th July, 2010
New initiatives and Directions in Entrepreneurship &	STTP	MBA Deptt., GNDEC, Ludhiana	2010	Three days

management				
Demonstration of Communication Kits	workshop	By Silicon Electronics Pvt. Ltd New Delhi, at ECE Department, GNDEC,Ldh	2010	Two days 11 th July 2010 -12 th July 2010
MATLAB and its applications in Engineering', (MAT-09),	Winter school	EED, NIT, Hamirpur. AICTE sponsored	2009	One week 18th dec 2009-22nd dec 2009
Understanding soft computing and its Applications.	STTP	Organized at GNDEC, Ludhiana by NITTTR Chandigarh AICTE sponsored	2009	One-week 6 th jan2009- 10 th jan 2009
Educational auditing & feedback system for excellence in Technical Institutions	STTP	Organized at GNDEC, Ludhiana by NITTTR Chandigarh AICTE sponsored	2009	One week Jan. 12-16, 2009
Knowledge management for effective teaching	STTP	IIT, Roorkee QIP sponsored	2006	One week 26 th June 2006- 30 th June, 2006.

18. Students projects

* percentage of students who have done in house projects including inter-departmental projects 100%

* percentage of students doing projects in collaboration with industry/ institute Nil

19. Awards/ recognitions received at the national and international level by

* Faculty

* Doctoral / post doctoral fellows

* Students

The students of Electronics have won a prize in technical model making contest held at IIT, Roorkee, 2013.

20. Seminars / conferences/ workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

- National Conference on Recent advances in Electronics and communication Engineering, 21-22 March 2013. Dr rajeevan Chandel, Professor, N.I.T., Hamirpur, Dr Surinder Singh, SLIET, Longowal, Punjab, Dr M S Patar, Punjabi University, Patiala, Punjab participated in the conference, Funded by AICTE, TEQIP.
- National Conference on Recent advances in Electronics and communication Engineering, March 2011, Dr Arvind, Professor, Indian Institute of Science Educational and Research, Mohali, Punjab, participated in the event Funded by AICTE.

- Induction Training Programme through ICT, in collaboration with NITTR, Chandigarh, 4th – 8th Feb, 2013.

21. Students profile programmes wise

Name of the programme	Applications received	Selected Male	Selected female	Pass %age Male	Pass %age female
B.Tech.	750	65	29	85%	89%
M.Tech.	96	10	8	72%	76%

22. Diversity of students

Name of the programme	% of students from the college	% of students from the state	% of students from the other state	% of students from other countries
B.Tech.	Not applicable	85%	15%	0%
M.Tech.	10%	75%	15%	0%

23. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE, and other competitive examinations?

15 students have qualified the different competition examinations of state and central government organizations.

24. Student progression

Student progression	Percentage against enrolled
UG to PG	15
PG to M. Phil	Not applicable
PG to Ph.D.	4
Ph.D. to post doctoral	—
Employed	
Campus selection	30
Other than campus recruitment	20
Entrepreneurs	—

25. Diversity of staff

Percentage of faculty who are graduate	
Of the same parent university	85%
From the other universities within the state	15%
from the other universities outside the state	—

26. Number of faculty who were awarded M. Phil., Ph.D., and D.Litt. during the assessment period

Two Faculty members were awarded Ph.D.

27. Present detail of departmental infrastructural facilities with regard to

a) Library

Apart from central library the department is maintaining a separate library with 500 volumes for quick reference by the staff members and students. Laboratory Manuals, M.Tech and B.Tech project reports are kept in the department library for reference.

b) Internet facilities for the staff and students - Yes

c) Total number of class rooms 5

d) Class rooms with ICT facility - One

e) Students laboratories

- Electronics Devices and Circuits Lab
- Microprocessor Lab
- Communication Engg. Lab
- Microwave Engg. Lab
- Fibre optics Lab
- EDA Lab

f) Research laboratories

- Fibre optics Lab

- EDA Lab

28. Number of post graduate students getting financial assistance from College.

Under TEQIP 10% of P.G. students get financial assistance from the college.

29. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes. NBA, ISO & UGC (as per their methodology)

30. Does the department obtained the feedback from

a) faculty on curriculum as well ast eaching learning evaluation? If yes, how does the department utilize the feedback?

Department utilizes the feedback from faculty as:

- It helps in the better teaching exercise by the use of audio visual aids.
- It helps to impart in depth knowledge of advanced context.
- It facilitates the re-vision of current syllabi according to latest technologies.
- To make observations about students' learning process and strategies that will help them figure out how to improve.

b) students on staff, curriculum and teaching learning evaluation and how does the department utilize the feedback?

Department utilizes the same as:

- It helps in improvement of teaching methods.

- It involves students in meaningful learning and encourages faculty as well as students to adopt deep approaches of learning.
- To provide rich detailed descriptive feedback about course contents.
- It helps to employ advanced learning techniques.

c) alumni and employers on the programmes offered and how does the department utilize the feedback?

Department utilizes the feedback from alumni and employers:

- By identifying what kind of experience and skills are needed to obtain specific position in profession.
- By providing feedback through which department further provides suggestions to Punjab technical university directly or through board of studies members for further improvement in content of existing / introduction of new academic courses most relevant to current requirements.

31. List the distinguish alumni of the department (maximum 10)

- Prabhjot Singh, IAS (2009 Batch)
- Kanav Kohal, Faculty, Arizona State University, U.S.A. and Director, PHFI, New Delhi
- Yadwinder Singh, Senior Scientist, ISRO
- Amandeep Singh Litt, Senior Vice president, Airtel
- S.P.S. Rangi, MD of an Electronic Design firm
- Karanjeet Singh Bajwa, MD, Microsoft
- Ajay Vasudeva, President, Norton Networks
- Gaurav Dev Dhillon, MD, Informatics, USA
- Murli Krishan, Chief Manager, INTEL
- Amritpal Sra, Senior software engineer in MNC, USA

32. Give the details of student enrichment programmes (special lecture / workshop/ seminar) involving external experts

Expert lectures are organized regularly to update the student and faculty drawing experts from industry & academia.

33. List the teaching methods adopted by the faculty for different programmes.

Teaching Methods:

- Lectures
- Power Point Presentations
- Group discussions

- Tutorials
- Assignments
- Quiz
- site visits

Tools:

- OHP – Over Head Projector
- LCD Projector

Faculty is also taking the help of Internet in the preparation of their lectures with the inclusion of latest developments in the field of engineering

34. How does the department ensure that programme objective and consultancy met and learning outcomes are motivated?

- The department ensures the curriculum is designed to meet the learning outcome. The faculty ensures the syllabus is revised and is involved in improving student skills through tutorials, assignments, mini projects, term paper and final project.
- There are class teachers for every section (consisting of 60 students) to look after the overall performance of students. HOD monitors the coverage of syllabus with the help of Course file and sees the academic schedules are intact.
- After every mid examination, the performance of the students is analyzed and slow learners are identified. Special classes are planned for the slow learners.
- For every 20 students, one teacher is being allotted as counselor. These counselors counsel the students periodically (once in a week) and monitor their regularity, also address personal problems if any.
- They also help in guiding them regarding their future prospects. HOD of the department coordinates the counseling activity and sees that it is being done on a regular basis. Whenever the necessity occurs, the parents are called for and are advised to monitor their wards and take necessary steps.

35. Highlight the participation of students and faculty in extension activities.

The students participate in a wide variety of activities available in the college organised by different societies or clubs such as IETE, ISTE, NCC, NSS, SCIE, CSI, SAE. Each of these societies function under the supervision of a faculty member who is assisted by a student committee constituted for the purpose. All the faculty members are involved in the planning and execution of these activities.

36. Give the detail of “beyond syllabus scholarly activities” of the department.

- Content Beyond syllabus is included in some subjects which are reflected in class time table as well.
- Projects are assigned to students in labs in addition to practicals suggested in syllabus.
- Educational tours are conducted for students.
- Classes for weaker students are held to improve the performance of students.
- Various technical events are conducted for improving technical skills of students

37. State whether the programme / department is accredited / graded by other agencies? If yes, give details.

The Programmes are accredited by NBA and are ISO certified.

38. Detail five major strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

STRENGTH:

- Highly qualified and experienced staff
- Fully equipped laboratories
- Well stocked departmental library
- Computational lab with required software.
- Department is accredited by NBA

WEAKNESSES

- Teacher student ratio require improvement
- More number of sponsored research projects are required
- Consultancy work need to be enhanced
- PG syllabus need updation
- No Patents

OPPORTUNITIES:

- Electronics sector is growing
- Demand for qualified electronics engineers is growing
- Opportunities exist in certain specializations of electronics
- Use of new advanced software
- Huge prospects of research oriented consultancy

CHALLENGES:

- Providing 100% placements
- Students' research projects
- Faculty recharging
- To bring more grants from government agencies
- Some outdated technology in use.

39. Future plans of the department.

- Enhanced Contribution towards research and development

- Revision of the curriculum and introduction of the new courses
- Better interface with the Industry for employability of students.
- More emphasis on personality development programmes for better grooming of students along with regular academics

Evaluative Report of the Department

1. Name of the Department:-**PRODUCTION ENGG.**

Year of Establishment: **-1986**

2. Names of Programmes / Courses offered :- **UG, PG, Ph.D**

3. Interdisciplinary courses and departments involved: -**Total Quality Management, Environment Science, and Tribology.**

4. Annual/ semester/choice based credit system :- **Semester**

5. Participation of the department in the courses offered by other departments :- **Tribology**

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asstt. Professors)

	Sanctioned	Filled
Professor	1	1
Associate Professors	2	2
Assistant Professors	14	11

7. Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./ Ph.D./M.Phil., etc.)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
Er. Jasmaninder Singh Grewal	M.Tech.	Associate Professor	Manufacturing Processes, Tribology	22	
Er. Balraj Singh Gill	M.Tech.	Associate Professor	Metallurgy, Welding	24	
Dr. Rupinder Singh	Ph.D	Professor	Metal Casting, Rapid Prototype	13	2
Dr. Harpuneet Singh	Ph.D	Assistant Professor	Plant Layout, Operation Research	14	

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
Er. Jagdeep Singh	M.Tech.	Assistant Professor	Industrial Engg., Modelling and Simulation	6	
Er. Jaswinder Singh	M.Tech.	Assistant Professor	Machine Design, CAD/CAM	3	
Er. Simranjit Singh	M.Tech	Assistant Professor	Machine Drawing, Non Destructive Testing	5	
Er. Parminder Singh	M.Tech	Assistant Professor	Product development and designing, Machining Science	2	
Er. Jagjit Kaur	B.Tech	Assistant Professor	Fluid Mechanics and Machinery, Thermal Engg.	2	
Er. Rohit Sharma	B.Tech	Assistant Professor	Machine Drawing, Operation Management	1.5	
Er. Iqwinderpreet Singh	B.Tech	Assistant Professor	Engineering Drawing, Computer Graphics	1	
Er. Amrinder Singh Pannu	M.Tech	Assistant Professor	Automobile Design, Machine Design	01	
Er. Kanwalpreet Sahni	M.Tech	Assistant Professor	Industrial Safety	0.6	
Er. Arshpreet Kaur	M.Tech	Assistant Professor	Industrial Automation	0.6	

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
			and robotics		

8. Percentage of classes taken by temporary faculty – programme-wise information :- **70%**
9. Programme-wise Student Teacher Ratio :- **15.36**
10. Number of academic support staff (technical) and administrative staff: sanctioned and filled :-

Staff	Sanctioned	Filled
Junior Lab Technician	1	1
Steno/Clerk	2	1
Lab Attendant	1	1
Attendant	1	1

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

Research Grant of **Rs 29.15 Lacs** for the year 2012-13, for the project, “Process capability analysis of hybrid rapid investment castings” by National Coordinated Project (NCP), by All India Council for Technical Education, New Delhi. On-going

Research Grant of **Rs 14.74 Lacs** for the year 2012-13, for the project, “Development of rapid investment castings for industrial applications” by Council of scientific and industrial research, Extramural research division, New Delhi. On-going

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received :- **Rs 43.89 Lacs**
13. Research facility / centre with
 - state recognition :- Nil
 - national recognition :- Nil
 - international recognition :- Nil

14. Publications:

* number of papers published in peer reviewed journals (national / international)

International Journals:-

Metallurgical and mechanical characteristics of cryogenically treated tungsten carbide (WC-Co)	S.S. Gill, J. Singh, H. Singh, Rupinder Singh	International Journal of Advanced Manufacturing Technology, Vol.58, No. 1-4, 2012 DOI:10.1007/s00170-011-3369-4 (Springer publications)	119-131
Process capability study of rapid silicon moulding for plastic components	Rupinder Singh, Balpreet Singh	International Journal of Materials Engineering Innovation (IJMatEI), Vol. 3, No.2, 2012	89-100
Effect of work piece volume on statistically controlled rapid casting solution of aluminum alloys using three dimensional printing	Rupinder Singh	Materials and Manufacturing Processes, Vol. 27, No.4, 2012 DOI:10.1080/10426914.2010.536935 (Taylor and Francis publications)	377-382
Mathematical modeling of dimensional accuracy in vacuum assisted casting	Rupinder Singh	Virtual and physical prototyping, Vol. 7, No.2, 2012 (Taylor and Francis publications)	129-135
Process capability analysis of cost effective rapid casting solution based on three dimensional printing	Munish Chhabra, Rupinder Singh	International Journal of Mechanical Engineering, MIT, Moradabad, Vol.2, No.1, 2012	31-38
Effect of cryogenic treatment on AISI M2 high speed steel – metallurgical and mechanical characterization	S.S. Gill, H. Singh, J. Singh, Rupinder Singh	Journal of Materials Engineering and Performance, Vol. 21, No.7, 2012 DOI: 10.1007/s11665-011-0032-z (Springer publications)	1320-1326
Electric discharge machining of titanium and its alloys: A review	S. Kumar, Rupinder Singh, A. Batish, T. P. Singh	International Journal of Machining and Machinability of Materials, Vol. 11, 2012 (Inderscience publication)	84-111
Application of Fused Deposition Modelling for Rapid Investment Casting-A Review	P. Kumar, IPS Ahuja, Rupinder Singh	International Journal of Materials Engineering Innovation (IJMatEI) Vol. 3, No. 3/4, 2012 (Inderscience publication)	204-227
Obtaining desired surface roughness of castings produced using ZCast direct metal casting process through Taguchi's experimental approach	M. Chhabra, Rupinder Singh	Rapid Prototyping Journal, Vol. 18, Issue 6, 2012 (Emerald publication)	458-471
Mathematical modeling for surface hardness in investment casting applications	Rupinder Singh	Journal of Mechanical Science and Technology, Vol. 26, No. 11, 2012 DOI 10.1007/s12206-012-0854-0 (Springer publications)	3625-3629
Adaptive Neuro-Fuzzy inference system modeling of cryogenically treated AISI M2 HSS turning tool for estimation of flank wear expert systems with applications	S.S. Gill, H. Singh, J. Singh, Rupinder Singh	Expert Systems With Applications, Vol. 39, No.4, 2012 (Elsevier publication)	4171-4180
Experimental investigations for silicon moulding solution of plastic components	Rupinder Singh, B. Singh	Materials Science Forum, Special topic volume: Rapid casting solutions, Vol. 701, 2012 (Trans Tech Publications Ltd.)	9-13

Macro-model for development of Al-Al ₂ O ₃ metal matrix composite with vacuum moulding: designed experiments	Rupinder Singh, J. Singh, J. Singh	Journal of the Institution of Engineers (India): Series C, Vol.93, No.4, 2012 DOI: 10.1007/s40032-012-0049-6 (Springer publications)	325-330
Effect of work piece volume on shell wall thickness reduction in rapid casting of aluminum using three dimensional printing	Rupinder Singh Rajinder Singh	The UMP International Journal of Automotive & Mechanical Engineering (IJAME), Vol.6, 2012	680-691
Comparison of polyjet printing and silicon moulding as rapid plastic moulding solution	Rupinder Singh	The UMP International Journal of Automotive & Mechanical Engineering (IJAME), Vol.6, 2012	777-784
Some investigations for small sized product fabrication with FDM for plastic components	Rupinder Singh	Rapid Prototyping Journal Vol. 19, Issue1, 2013 (Emerald publication)	58-63
Investigating the effect of vulcanization in tread rubber applications	J. Kumar, Rupinder Singh	Materials Science Forum, Special topic volume: Recent advancement in manufacturing processes, Vol. 751, 2013 (Trans Tech Publications Ltd.)	1-7
Macro-model for development of Al-SiC metal matrix composite with vacuum moulding: designed experiments	Rupinder Singh, Jaswinder Singh	Materials Science Forum, Special topic volume: Recent advancement in manufacturing processes, Vol. 751, 2013 (Trans Tech Publications Ltd.)	21-26
Investigating the effect of shape factor, slurry layers and pouring temperature in precision investment casting	Rupinder Singh, Jagdeep Singh	Materials Science Forum, Special topic volume: Recent advancement in manufacturing processes, Vol. 751, 2013 (Trans Tech Publications Ltd.)	35-44
Replication of plastic components with silicon moulding: designed experiments	Rupinder Singh, Vipul Sharma	Materials Science Forum, Special topic volume: Recent advancement in manufacturing processes, Vol. 751, 2013	61-70
Investigating the effect of moulding sand properties on investment castings: A Process capability study	Rupinder Singh	Journal of Mechanical Science and Technology, Vol.27, No.3, 2013 DOI: 10.1007/s12206-013-0107-x (Springer publications)	837-842
Maintenance planning and control of hand tools unit: A case study	Rupinder Singh, Arvinderjit S	International Journal of Indian Culture and Business Management, Vol. 7, No.1, 2013 (Inderscience publication)	109-132
Machinability Index Evaluation: A Case Study of Carbide Inserts	Amritpal Singh, Rupinder Singh, Harwinder Singh	Applied Mechanics and Materials Vol. 330, 2013, Trans Tech Publications, Switzerland Also published in Proceedings of 2 nd International Conference on Manufacturing Engineering and Process, Vancouver, Canada, April 13-14, 2013	86-90
Experimental investigations for statistically controlled vacuum moulding solutions of Al-SiC MMC	Kamaljit Singh, Rupinder Singh	Applied Mechanics and Materials Vol. 330, 2013, Trans Tech Publications, Switzerland Also published in Proceedings of 2 nd International Conference on Manufacturing Engineering and Process, Vancouver, Canada, April 13-14, 2013	91-95
Execution of rapid prototyping technology- An Indian manufacturing industry's perspective	R.Kumar, Rupinder Singh and I.P.S. Ahuja	International Journal of Indian Culture and Business Management, Vol. 6, No.2, 2013 (Inderscience publication)	162-184
Effect of process parameters on surface hardness, dimensional accuracy and surface roughness of investment cast components	Rupinder Singh, Sunpreet Singh	Journal of Mechanical Science and Technology, Vol. 27, No.1, 2013 DOI 10.1007/s12206-012-1218-5 (Springer publications)	191-197

Process capability analysis of vacuum moulding for development of Al-Al ₂ O ₃ MMC	Rupinder Singh	Journal of the Institution of Engineers (India): Series C, Vol.94, No.1, 2013 DOI: 10.1007/s40032-012-0051-z (Springer publications)	93-97
Effect of phase pressure on casting properties in cold chamber die casting process	Rupinder Singh, Rahul Kapoor	Journal of the Institution of Engineers (India): Series C, Vol. 94, No.2, 2013 DOI: 10.1007/s40032-013-0066-0	147-153
Pattern development for manufacturing applications with FDM: A case study	Harish Garg, Rupinder Singh	International Journal of Automotive & Mechanical Engineering (IJAME), Vol. 7, 2013	981-992
Enhancing wear resistance of low alloy steel applicable on excavator bucket teeth via hardfacing	S. Singla, A.S.Kang, Jasmaninder Singh Grewal	Asia Review of Mechanical Engineering, 1, 2012	
A review on detonation gun sprayed coatings	Lakhwinder Singh, Vikas Chawla, Jasmaninder Singh Grewal	11, 3, 2012	243-265

National Journals:-

Manufacturing process optimization for surface roughness in stationary ultrasonic machining of titanium and its alloys	Rupinder Singh, J.S. Khamba	The Icfai University Journal of Mechanical Engineering, Vol. 5, No.4, 2012 (ICFAI University Press)	17-35
The effect of process parameters on mould properties manufactured by silicon moulding	Rupinder Singh, Vipul Sharma	The Icfai University Journal of Mechanical Engineering, Vol. 6, No.1, 2013 (ICFAI University Press)	15-26
Cost effective rapid manufacturing of shell casting using 3DP	Mukesh Verma Rupinder Singh	Icfai University Journal of Mechanical Engineering, Vol. 6, No.1, 2013 (ICFAI University Press)	66-76

Conferences -

Process capability study of hybrid investment casting	Rupinder Singh	Proceedings of 37 th International MATADOR Conference Manchester, UK, 25-27, July 2012	3-6
Investigations for statistically controlled machining solution of titanium alloys using USM	J.S.Khamba, Rupinder Singh	Proceedings of International conference on Manufacturing Engineering and Technology for Manufacturing Growth, San Degio, CA, USA, November 1-2, 2012	Published in CD
Modeling of surface hardness in vacuum moulding of Al-Al ₂ O ₃ MMC	Rupinder Singh	Proceedings of 4 th International and 25 th AIMTDR Conference, 2012, Jadavpur University, Kolkata, Dec. 14-16, 2012	145-149
Mathematical modeling of surface hardness in silicon moulding of plastic components	Rupinder Singh	Proceedings of 3 rd International Conference on Production and Industrial Engineering (CPIE-2013), NIT, Jalandhar, March29-31, 2013	207-210

Experimental investigations for statistically controlled rapid moulding solutions of plastics using SLS	Rupinder Singh, Jagdeep Singh	Proceedings of 3 rd International Conference on Production and Industrial Engineering (CPIE-2013), NIT, Jalandhar, March29-31, 2013	220-224
Investigating reliability improvement of superheaters pre and post RCM implementation in thermal power plant	N.S.Bhangu, G.L.Pahuja,Rupinder Singh	Proceedings of 3 rd International Conference on Production and Industrial Engineering (CPIE-2013), NIT, Jalandhar, March29-31, 2013	1417-1420
Experimental investigations for statistically controlled vacuum moulding solutions of Al-SiC MMC	Kamaljit Singh, Rupinder Singh	Proceedings of 2 nd International Conference on Manufacturing Engineering and Process (ICMEP 2013) Vancouver, Canada, April 13-14, 2013	Published in CD
Machinability Index Evaluation: A Case Study of Carbide Inserts	A. Singh, Rupinder Singh, H. Singh	Proceedings of 2 nd International Conference on Manufacturing Engineering and Process (ICMEP 2013) Vancouver,Canada, April 13-14, 2013	Published in CD
Mechanical and microstructural properties of nanostructuredand conventional coatings	Jasmaninder Singh Grewal, B.S. Sidhu	International conference on Research and Innovations in Mechanical Engineering, G.N.D.E.College, Ludhiana, Oct. 24-26, 2013	
Effect of filler wire composition on joining properties of GTAW stainless steel	Gurmeet Kaur, Daljinder Singh, Jasmaninder Singh Grewal	International conference on Research and Innovations in Mechanical Engineering, G.N.D.E.College, Ludhiana, Oct. 24-26, 2013	

* Monographs :-3

- “Wear Behavior of Hard facing” Excavator bucket teeth wear resistance enhancement via hardfacing, ISBN 978-3-659-35978-1, 2013
- Material degradation at high temperature; Erosion corrosion study of Detonation gun sprayed coatings on Gr.A1 boiler tube steels, ISBN 978-3-659-39808-7, 2013
- Behaviuor of wear resistant coatings: Enhancing wear resistance of high tensile steel applicable of rotavator blades, ISBN 978-3-8484-8045-6, 2012

* Chapter(s) in Books and Books with ISBN numbers with details of publishers :-

Chapter on ‘Sensitization in TIG welding of Austenitic Stainless Steel’ in book on ‘Advances in Materials Science Research, Volume 10’, 2011, Nova Science Publishers, Inc., Hauppauge, NY, USA, ISBN 978-1-62081-310-2(e-book), pp. 155-182.

Chapter on ‘Investigations for reducing wall thickness in low brass Rapid casting using three dimensional printing’ in book on Mechatronics and intelligent manufacturing, Vol.1, 2012, Nova Science publisher, Inc., Hauppauge, NY, USA, ISBN 978-1-61324-947-5, pp. 267-275 (Co-author: J P Singh).

15. Details of patents and income generated :- Two patents filed.

Faculty	Title of Patent	Patent/ Application No.	Remarks
Dr Rupinder Singh	Development of metal matrix composite by two stage hybridization of fused deposition modeling and investment casting	2847/DEL/2013	National
Dr Rupinder Singh	Development of metal matrix composite by two stage hybridization of fused Silicon modeling and investment casting	2847/DEL/2013	National

16. Areas of consultancy and income generated :- ABS Fusion Deposition Machine **20,000**

17. Faculty recharging strategies :- The faculty is encouraged to participate in the Faculty Development Programmes organized by organizations of national repute. Faculty is provided the financial help for participating in the National and International level conferences.

18. Student projects

- percentage of students who have done in-house projects including inter-departmental :- 100%
- percentage of students doing projects in collaboration with industries / institutes :- Nil

19. Awards / recognitions received at the national and international level by

- Faculty :- IEI Young Engineers Award 2009, Young Scientist Award by Punjab Academy of Sciences, 2009.
- Doctoral / post-doctoral fellows :- Nil
- Students :-

Ashish Malik –North India 1st Rank & all India 7th Rank, in an OFF Road vehicle design, manufacturing & Racing competition, Organized by SAE and Gold medal received for achieving 1st rank in PTU.

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any. :- 1

“Two week Faculty development programme on recent advancements in Manufacturing Technology from 10th june to 21st june, 2013 under TEQIP-II.

21. Student profile course-wise:

Name of the Course (refer question no. 2)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
UG (B-Tech)	756	48		82	—
PG (M-Tech) F.T	55	22	2	61.36	100
PG (M-Tech) P.T	30	13		75	—

22. Diversity of students

Name of the Course (refer question no. 2)	% of students from the College	% of students from the State	% of students from other States	% of students from other countries
UG (B-Tech)	N.A.	85	15	Nil
PG (M-Tech) F.T	41.6	45.9	12.5	Nil
PG (M-Tech) P.T	30.7	61.7	7.6	Nil

23. How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

GATE CLEARED: - 3

24. Student progression

Student progression	Percentage against enrolled
UG to PG	18
PG to M.Phil.	N.A.
PG to Ph.D.	Nil
Ph.D. to Post-Doctoral	Nil
Employed	
• Campus selection	25
• Other than campus recruitment	5
Entrepreneurs	5

25. Diversity of staff

Percentage of faculty who are graduates	
of the same parent university	85%
from other universities within the State	15%
from other universities from other States	Nil

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

:- Nil

27. Present details about infrastructural facilities

- a) Library: - YES
- b) Internet facilities for staff and students: - YES
- c) Total number of class rooms: - 3 Rooms, (G12, F111, F112)
- d) Class rooms with ICT facility: - Nil
- e) Students' laboratories: - 04
- f) Research laboratories: - 01

28. Number of students of the department getting financial assistance from College. :- 10% student of P.G. courses are given financial assistance by the college.

29. Was any need assessment exercise undertaken before the development of new program(s)?
If so, give the methodology. :- No

30. Does the department obtain feedback from

a) Faculty on curriculum as well as teaching learning evaluation? Yes

Department utilizes the feedback from faculty as:

- It helps in the better teaching exercise by the use of audio visual aids.
- It helps to impart in depth knowledge of advanced context.
- It facilitates the re-vision of current syllabi according to latest technologies.
- To make observations about students' learning process and strategies that will help them figure out how to improve.

b) Students on staff, curriculum as well as teaching learning evaluation and what is the response of the department for the same? Yes

Department utilizes the same as:

- It helps in improvement of teaching methods.
- It involves students in meaningful learning and encourages faculty as well as students to adopt deep approaches of learning.
- To provide rich detailed descriptive feedback about course contents.

- It helps to employ advanced learning techniques.
- c) Alumni and employers on the programmes and what is the response of the department for the same? Yes

Department utilizes the feedback from alumni and employers:

- By identifying what kind of experience and skills are needed to obtain specific position in profession.
- By providing feedback through which department further provides suggestions to Punjab technical university directly or through board of studies members for further improvement in content of existing / introduction of new academic courses most relevant to current requirements.

31. List the distinguished alumni of the department (maximum 10)

ALUMNI

S. No.	Name	Batch	Designation, Department and Organization	Present status (Retd./working)
1.	Jatinderpal Singh Gill	1990-94	Col. EME, Army Head Quarters ,New Delhi	Working
2.	Gurpreet Singh Jhajj	1995-99	Business & Mortage Manager, Royal Bank of Canada	Working
3.	Krantipal Singh	1995-99	Structural Analyst, CATERPILER Inc.,USA	Working
4.	Harpinder Singh Bhangu	1996-00	Senior Design Engineer, NYX Corp. Limited ,Deteriot, USA	Working
5.	Dinkar Bhardwaj	2000-04	GM, OLAM. Inc.,Coloumbia,South America	Working
6.	Navraj Sharma	2000-04	Senior R&D Engineer, LG Electronics, South Korea	Working
7.	Ajitpal Singh Saini	2001-05	Flight Lieutenant,Indian Air Force,Chabua,Assam	Working
8.	Nimit Sahnhan	2001-05	Senior Design Engineer, Honda Siel Cars Ltd. Gurgoan	Working
9.	Varneet Kholi	2003-07	Deputy Manager, Mahindra and Mahindra, New Delhi.	Working
10.	Navanpreet Singh	2003-07	Deputy Manager, Whirlpool Corporation, Mumbai.	Working

32. Give details of student enrichment programmes (special lectures / workshops / seminar) with external experts.

S. No.	Name of Faculty	Title	Delivered/participated	Organization	Dates
1	Dr.Dilbagh Singh	Minimization of waste using lean tools	Delivered	BCET, Gurdaspur	17/11/12
2	Dr.O.P Singh	Casting of Al-SiC Metal matrix composites with vacuum moulding	Delivered	BCET, Gurdaspur	15/09/11
3	Dr.Vikas Chawla	Pattern development for handtool dies with fused deposition moulding	Delivered	Ferozepur college of Engg.	04/11/11
4	Dr.O.P Singh	Impact of unreliable power on paper mills	Delivered	BCET, Gurdaspur	13/02/12
5	Dr.O.P Singh	Process capability of rapid silicon moulding for plastic components	Delivered	BCET, Gurdaspur	07/03/12
6	Dr.I.P.S. Ahuja	Statistically control rapid moulding solution	Delivered	PU,Patiala	26/04/12
7	Dr. Harpreet Singh	Advancements in Mech. Engg.	Delivered	IIT Ropar	22/05/12
8	Dr. TP Singh	Advancements in Mechanical Engineering	Delivered	SBSCET, Ferozepur	17/6/12
9	Dr. Ajay Batish	Six sigma and quality aspects	Delivered	Thapar University, Patiala	13/07/13
10	Dr. Sanjeev Kumar Takkar	Advancements in Production Engineering	Delivered	PEC,Chd	29/08/13

33. List the teaching methods adopted by the faculty for different programmes.

- Presentation on subject topics.
- Providing Manual and online notes to students
- Practical implementation of subject concepts in laboratories.

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

- Weekly tutorials are conducted.
- Monthly sessionals are conducted to meet the preset goals.
- Monthly assessment of student's communication skills via group discussions, seminars and presentations.
- End semester examinations to check the overall development of student in current semester.
- Feedback form are collected from students and analyzed to constantly monitor the performance of teaching staff and taking appropriate action.

35. Participation of students and faculty in extension activities

The students participate in the activities organized by N.S.S., N.C.C. The activities like tree plantation, blood donation camps, cleanliness drives are conducted regularly.

36. Give details of "beyond syllabus scholarly activities" of the department.

Event	No. of Students Participated	Organized By
Technical Quiz	14	DSPE
General Knowledge quiz	13	DSPE
Technical Debate	16	DSPE
Extempore	09	DSPE
Debate on Saheed Bhagat Singh	20	DSPE
Debate on democracy and independence	35	DSPE
Debate on environmental hazards in an industrial town	26	DSPE
Debate on pollutions created by vehicular traffic	19	DSPE
Expert talk by Faculty Advisor on personality development	23	DSPE
Expert talk by Student Members on role of DSPE in Enhancing Personality	30	DSPE
Paper Presentation	10	DSPE
Brain Teasers	07	
Quiz on CAD/CAM	15	
One day seminar/workshop on 'World Intellectual property day'	33	Sponsored by Punjab State Council for Science and Technology

One day ‘Patent Awareness Workshop’	10	Sponsored by Punjab State Council for Science and Technology and TIFAC, DST, Government of India
One day seminar/workshop on ‘World Intellectual property day’	33	Sponsored by Punjab State Council for Science and Technology)

Faculty in extension activities:

Name of Faculty Member	Topic	Organized by
Prof.J.S. Grewal	Advancements in Tribology	DSPE
Prof. B.S. Gill	Newer Technologies in Production Engineering	DSPE
Dr. Rupinder Singh	SWOT Analysis in Present Technical Scenario	DSPE
Dr. Harpuneet Singh	Emerging Technologies in Industrial and Production Engineering	DSPE
Prof.Jagdeep Singh	Role of SCM in Production Engineering	DSPE
Prof. Rohit Sharma	Reverse Engineering	DSPE
Prof. Iqwinder preet Singh	Robotics and Automation :A future of Production Engineering	DSPE
Prof.Jaswinder Singh	NDT:Its uses and importance in Production Engineering	DSPE
Prof.Parminder Singh	Facility Designing and Layout	DSPE
Prof. Simranjeet Singh	Introduction about Simulation	DSPE

37. State whether the programme/ department is accredited/ graded by other agencies. Give details. :- Yes the programme is accredited with NBA and ISO
38. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

Strengths

- Department is having qualified and experienced staff.
- Department is accredited by National board of Accreditation (NBA) and ISO

- Department is having well equipped labs for students
- Department has Rapid Prototype Manufacturing Research laboratory.

Weakness

- Contribution to the research from the department is less.
- Participation in consultancy project is less.

Challenges

- 1) To improve the quality of the students
- 2) To increase the placement percentage of the students
- 3) To bring more grants from government agencies.
- 4) To conduct STTP, FDP for the improvement of technical knowledge.

39. Future plans of the department.

- Better grooming of the students
- Enhanced Contribution towards research and development
- As per the requirements ,introduction of the new course options
- Revision of the curriculum
- Give more practical orientation to the programme
- Better interface with the Industry for employability of students.

Evaluative Report of CSE Department

1. Name of the Department : Computer Science & Engineering, 1997

**2. Names of Programmes/ courses offered : B. Tech. CSE Regular
M. Tech CSE Regular
M. Tech CSE Part-Time**

3. Interdisciplinary courses and departments involved :

Sr. No.	Course	Semester	Department Involved
1	Mathematics	4 th	Applied Science
2	Human Resource Management	6 th	Applied Science

4. Annual/ semester/ choice based credit system : Semester system

**5. Participation of the department in the courses offered by other departments
Jan 2011- May 2011**

Sr. No.	Course	Semes ter	Department
1	Human Resource Management	8 th	Mechanical Engg.
2	Fundamentals of computer Programming and Information Technology	1 st / 2 nd	Applied Science

6. Number of teaching posts sanctioned and filled:

	Sanctioned	Filled
Professor	2	0
Associate Professors	3	3
Asst. Professors	24	21

7. Faculty Profile:

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
Dr. Parminder Singh	Ph.D.	Associate	NLP	13	NIL

	M.Tech	Professor			
Mr. Amanpreet Singh Brar	M.Tech	Associate Professor	Digital Image Processing	15	NIL
Mr. Jasbir Singh Saini	M.Tech	Associate Professor	Networking	14	NIL
Ms. Sunint Kaur Khalsa	M.Tech	Assistant Professor	Software Engineering	8	NIL
Ms. Amandeep Kaur Sohal	M.Tech	Assistant Professor	Networking	9	NIL
Ms. Sumeet Kaur Sehra	M.Tech	Assistant Professor	Software Engineering	7.9	NIL
Mr. Vivek Thapar	M.Tech	Assistant Professor	Cloud Computing	11.9	NIL
Mr. Sukhjit Singh Sehra	M.Tech	Assistant Professor	Data Mining, Bioinformatics	7.9	NIL
Ms. Gurjot Kaur	B.Tech	Assistant Professor	Bioinformatics	4.5	NIL
Ms. Kirandeep Kaur	M.Tech	Assistant Professor	Digital Image Processing	3.5	NIL
Poonamdeep Kaur	M.Tech	Assistant Professor	Digital Image Processing, Databases	2.5	NIL
Jappreet Kaur	M.Tech	Assistant Professor	Digital Image Processing	2.4	NIL
Dipti Kunra	MBA	Assistant Professor	Finance	2	NIL
Blossom	M.Tech	Assistant Professor	NLP	4.5	NIL
Jagdeep Singh	B.Tech	Assistant Professor	Data Mining	2.4	NIL
Kamaldeep kaur	M.Tech	Assistant Professor	NLP	2.5	NIL
Manpreet Kaur Mand	M.Tech	Assistant Professor	Software Engineering	4.5	NIL
Gagandeep Kaur	M.Tech	Assistant Professor	Bioinformatics	2.4	NIL
Diana Nagpal	M.Tech	Assistant Professor	Software Engineering	2.4	NIL
Shailja	M.Tech	Assistant Professor	Digital Image Processing	6.6	NIL
Rajveer Kaur	M.Tech	Assistant Professor	Networking	1.2	NIL
Jasdeep Kaur	M.Tech	Assistant Professor	Digital Image Processing	1.0	NIL
Supreet Kaur	M.Tech	Assistant	Digital Image	3.3	NIL

		Professor	Processing		
Pawanjit Kaur	M.Tech	Assistant Professor	CDSS	1.5	NIL

8.Percentage of classes taken by temporary faculty programme-wise information:

79.07%

9.Programme-wise Student Teacher Ratio: 1:20

10.Number of academic support staff(technical) and administrative staff:

	Sanctioned	Filled
Academic Support Staff	6	5
Administrative Staff	3	3

11.Number of faculty with ongoing projects

Number of faculty with ongoing projects : 01

Name of the Project : Punjabi Text to Speech Help for People with Cognitive Disabilities

Funding Agency level : National

Name of Funding Agency : DST, New Delhi

Total grants received : 18,62,400

12.Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE,DBT,ICSSR,AICTE etc.

Sr. No.	Name of Faculty	Project Title	Sponsoring Agency	Duration	Session	Amount
1.	Parminder Singh (collaboration with Punjabi University, Patiala and IIT, Delhi)	Punjabi Text to Speech Help for People with Cognitive Disabilities	Department of Science & Technology (DST), New Delhi	2 years	2011-12	Rs.18,62,400

2.	Parminder Singh	Travel grant to attend 5 th International Conference for Internet Technology and secured transactions	Department of Science & Technology (DST), New Delhi	4 days	2010-11	Rs 83,207-00
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13.Research facility/ centre:

Adequate hardware and software are available for research purpose like MATLAB with various toolboxes, MSDN Dream Spark, Qual Net Research Licence, DCT(Data Communication Trainer Kit),LTS(Local Trainer kit with imulator),B-Link4,NISS Software.

- State Recognition: Nil
- National Recognition: Nil
- International Recognition: Nil

14.Publications

S.No.	Faculty	Paper/ Article Name	IJ/NJ/ IC/ NC/S	Published by
1	Parminder Singh	Punjabi Text-To-Speech Synthesis System	IC	International Conference on Computational Linguistics
2	Parminder Singh	A Rule Based Schwa Deletion Algorithm for Punjabi TTS System	IC	International Conference on Information Systems for Indian Languages (ICISIL-2011), Punjabi University, Patiala (Pb.)
3	Parminder Singh	Text-To-Speech Synthesis System for Punjabi Language	IC	International Conference on Information Systems for Indian Languages (ICISIL-2011), Punjabi University, Patiala (Pb.)
4	KamaldeepKaur	Topic Tracking for Natural Language Processing	IC	Proceedings of International Conference on Advances in Computing and Artificial Intelligence held at Chitkara University, Rajpura, (Pb.)
5	GurjotKaur	Mobile computing: technology with a futuristic approach	IC	Recent Advances in Electronic and Communication Technologies, Dept. of ECE, Guru Nanak DevEngg. College, Ludhiana (Pb.)

6	Blossom	To Find The POS Tag of Unknown Words: A Survey	NC	National conference on Engineering Application (NCEA-2011), St. Soldier Institute of Engg. And Technology, Jalandhar (Pb.)
7	AmanpreetBrar	An Empirical Approach for Software Fault Prediction	IC	5 th International Conference on Industrial and Information Systems (ICIIS 2010), Surathal
8	Jasbir Singh Saini	Mobility Aware Cache Management in Wireless Environment	IC	International Conference on Methods and Models in Science & Technology (ICM2ST-10), Chandigarh
9	Jasbir Singh Saini	Improving Route Discovery Time in AODV routing Protocol over Wireless Mesh Network	IC	International Conference on Future Challenges in Wireless, Optical Communications and Networks By "The Institute of Engineers (India)", BBSBEC, Fatehgarh Sahib (Pb.)
10	SumeetKaur	Fuzzy Clustering Based Missing Value Estimation of Gene Expression Data	IC	International conference on Interntional Symposium on Computer Engineering Technology 2010, held at RIMT Institute of Engineering and Technology, MandiGobindgarh (Pb.)
11	Sukhjit Singh	Fuzzy Clustering Based Missing Value Estimation of Gene Expression Data	IC	International conference on Interntional Symposium on Computer Engineering Technology 2010, held at RIMT Institute of Engineering and Technology, MandiGobindgarh (Pb.)
12	Sukhjit Singh	Secure Communication Schemes in Wireless Sensor Network	IC	International conference on Interntional Symposium on Computer Engineering Technology 2010, held at RIMT Institute of Engineering and Technology, MandiGobindgarh
13	Parminder Singh	Statistical Syllables Selection Approach for the Preparation of Punjabi Speech Database	IC	The 5 th International Conference for Internet Technology and Secured Transactions (ICITST-2010), London (UK)
14	Parminder Singh	Automatic marking of Punjabi Syllables Boundaries in a Sound File	IC	2 nd International Conference on Signal Processing Systems (ICSPS), Dalian, China
15	Parminder Singh	Development of Sound File Format Convertor	IC	6 th International Conference on Upcoming Trends in IT, Punjab College of Technical Education, Baddowal, Ludhiana (Pb.)

16	Parminder Singh	Speech Signal Pre-processing for isolated Speech Recognition	NC	National Conference on Computing, Communication & Information Technology (CCIT-2010)
17	Parminder Singh	A Rule Based Versatile Voice Production System	NC	National Conference on Emerging Optimization Techniques in IT
18	KirandeepKaur	Review of Image Denoising Approaches	IC	International Conference on Power Systems Operations & Control (ICOPS'10), Guru Nanak Dev Engineering College, Ludhiana (Pb.)
19	GurjitKaur	Expert System	IC	International Conference on Power Systems Operation & Control (ICOPS'10), Guru Nanak Dev Engineering College, Ludhiana (Pb.)
20	Gurdit Singh	Secure Routing Protocol for Hybrid Wireless Mesh Network	IC	International Conference on Computer and Communication Technology (ICCCT - 2010) held at Motilal Nehru Institute of Technology, Allahabad, India
21	Gurdit Singh	Throughput Analysis of HWMP Routing Protocol in Wireless Mesh Networks	IC	International Conference on Recent Trends in Business Administration and Information Processing (BAIP 2010) held at Trivandrum, Kerala, India
22	Gurdit Singh	A Survey: MAC Misbehavior in Wireless Mesh Networks	IC	International Conference on Signals Systems and Automation (ICSSA-09) at G. B. Patel College of Engg& Technology, Gujarat, India
23	Gurdit Singh	A Survey: Secure Routing Protocols in Hybrid Wireless Mesh Networks	IC	International Conference on Knowledge Discovery and Data Mining (WKDD 2010) at Phuket, Thailand
24	Gunjan	Data Mining: Extracting the Information	IC	Proceedings of International Conference on Industrial Competitiveness held at Gulzar Group Of Institutes Khanna, Distt. Ludhiana, Punjab (India)
25	Jasbir Singh Saini	Information Modeling for Adaptive Management using DSS for Strengthening Rural Health Issues and Awareness	IC	International Conference on Downtrend Challenges in IT (DCIT'09) held at PCTE, Baddowal (Pb.)

26	VivekThaper	Context-Free Language Induction by Evolution of Deterministic Pushdown Automata Using Genetic Programming	IC	International Conference on Downtrend Challenges in IT , at Punjab College of Technical Education Baddowal (Pb.)
27	VivekThaper	Power Distribution Challenges in VLSI, An Introduction	IC	International Conference on Downtrend Challenges in IT, at Punjab College of Technical Education Baddowal
28	Sunint Kaur	A Fuzzified approach for the prediction of Fault Proneness and Defect Density	IC	The World Congress on Engineering 2009 (WCE 2009) London, (UK)
29	Summet Kaur	A survey of techniques for software project effort estimation	IC	International Conference on Wireless Networks & Embedded Systems (WECON-2009) held, at Chitkara Institute of Engineering & Technology, Rajpura (Pb.)
30	Sumeet Kaur	Performance and design principles of IDS in wireless sensor network	NC	EPPCSIT '09 at GNDEC, Ludhiana (Pb.)
31	Sumeet Kaur	Access Control Using XACML Role Based Policies in grid environment	NC	EPPCSIT '09 at GNDEC, Ludhiana (Pb.)
32	Sukhjit Singh	12 Parameter based Enhanced Character Based Algorithm for Phylogenetic Analysis	IC	International conference on wireless networks and embedded systems, held at Chitkara Institute of Engineering and Technology
33	Sukhjit Singh	A survey of techniques for software project effort estimation	IC	International Conference on Wireless Networks & Embedded Systems (WECON-2009) held, at Chitkara Institute of Engineering & Technology, Rajpura (Pb.)

34	Sukhjit Singh	Performance and design principles of IDS in wireless sensor network	NC	EPPCSIT '09 at GNDEC, Ludhiana (Pb.)
35	Sukhjit Singh	Access Control Using XACML Role Based Policies in grid environment	NC	EPPCSIT '09 at GNDEC, Ludhiana (Pb.)
36	GurpreetKaur	Modern Management Practices & Information Technology Trends	IC	New Trends & Methodologies in Data Warehousing & OLAP" in National Conference, DAVIET, Jalandhar (Pb.)
37	Gurdit Singh	A Survey: Attacks in Wireless Mesh Networks	IC	International Conference on Signals Systems and Automation (ICSSA-09) at G. B. Patel College of Engineering & Technology, Gujarat, India
38	Gurdit Singh	SGS Authentication Protocol Resisting Man-In-Middle Attack	NC	Recent Advances and Future trends in Information Technology (RAFIT - 2009) at Punjabi University, Patiala (Pb.)
39	Gurdit Singh	Distributed Wireless Sensor Network for Emergency Disaster Management	NC	National Conference on Advances in Computer. Networks and Information Technology (NCACNIT – 2009) GJU, Hissar
40	Gurdit Singh	Detecting and Reacting against Denial of Service Attacks	NC	The National Conference on Emerging Principles and Practices of Computer Science and Information Technology (EPPCSIT - 09) Samlkha, Panipat
41	Gurdit Singh	Energy Efficient Routing in Wireless Sensor Networks	NC	Recent Trends and Challenges in Internet Technology (RTCIT - 2009) GNDEC, Ludhiana (Pb.)
42	Gurdit Singh	A Survey: Secure Routing Protocol in Hybrid Wireless Mesh Networks	NC	National Conference on Computing, Communication and Control (CCC-09) at University Institute of Engineering and Technology, Punjab University, Chandigarh
43	Parminder Singh	Biogeography based Satellite Image Classification	IJ	International Journal of Computer Science and Information Security, IJCSIS November 2009, ISSN 1947 5500

44	Parminder Singh	Syllables Selection for the Development of Speech Database for Punjabi TTS System	IJ	IJCSI International Journal of Computer Science Issues, Vol. 7, Issue 6, November 2010 ISSN (Online): 1694-0814
45	Parminder Singh	Automatic Segmentation of Wave File	IJ	International Journal of Computer Science & Communication Vol. 1, No. 2, July-December 2010, pp. 267-270
46	Jasbir Singh Saini	Scalable Energy Efficient AdHoc on Demand Distance Vector Routing Protocol	IJ	CiT International Journal of Networking and Communication Engineering
47	Amandeep Kaur Sohal	Characterization of Parathyroid Hormone using HMM Framework	IJ	International Journal of Computer Applications (0975 - 8887) Volume 1 – No. 16
48	Sukhjit Singh Sehra	Role Based Access Control For Grid Environment Using Gridsim	IJ	Journal of Engineering Research and Studies , JERS/Vol. I/Issue I/July-Sept. 2010/111-117
49	Parminder Singh	Speech Signal Pre-Processing for Isolated and Connected Punjabi Speech Recognition	IJ	-----
50	Parminder Singh	TD-PSOLA Based Emotional Speech Generation	IJ	-----
51	Parminder Singh	Corpus Based Statistical Analysis of Punjabi Syllables for Preparation of Punjabi Speech Database	IJ	International Journal of Intelligent Computing Research (IJICR), Volume 1, Issue 3, June 2010
52	Sumeet Kaur Sehra	Soft Computing Techniques For Software Project Effort Estimation	IJ	International Journal of Advanced Computer and Mathematical Sciences “Vol.2, Issue3
53	GurjotKaur	“Data Mining:an overview”	IJ	IJCST Vo l. 2, Issue 2, June 2011
54	ManpreetKaur	Survey of Contrast Enhancement Techniques based on Histogram Equalization	IJ	(IJACSA) International Journal of Advanced Computer Science and Applications, Vol. 2, No. 7, 2011

55	ManpreetKaur	Survey of Despeckling Techniques for Medical Ultrasound Images	IJ	-----
56	Blossom Manchanda	To find the POS Tag of Unknown Words in Punjabi Language	IJ	International Journal of Engineering Sciences
57	Bindu Goyal	A novel algorithm for image contrast enhancement using histogram equalization	IJ	International journal of research in computer application and management
58	Bindu Goyal	Natural gray scale images contrast enhancement using histogram equalization technique	IJ	International Journal of Computing and Corporate Research IJCCR India
59	Bindu Goyal	A Novel Approach for Contrast Enhancement of gray scale images using Histogram Equalization Techniques	IJ	-----
60	Bindu Goyal	Contrast Enhancement of Natural Images Using Histogram Equalization Technique	IJ	-----
61	Kamaldeep Kaur	Keyword Extraction for Punjabi Language	NJ	Indian Journal of Computer Science and Engg. vol no. 3,
62	Kamaldeep Kaur	A Survey of Topic Tracking Techniques	IJ	International journal of Advanced Research in computer science & software engg Vol 2, issue 5, may 2012 ISSN: 2277128X
63	Kamaldeep Kaur	Topic Tracking for Punjabi Language	IJ	computer science & engg: An International Journal vol 1, no. 3, August 2011 page: 37-49
64	Lolita Singh	“Data Mining:an overview”	IJ	IJCST Vo l. 2, Issue 2, June 2011
65	Sumeet Kaur	<u>Conceptual Translation as a part of Gene Expression</u>	IJ	International Journal of Computers & Technology, ISSN 2277–3061 (online), Volume 3 No. 3
66	Sukhjit Singh	<u>Conceptual Translation as a part of Gene Expression</u>	IJ	International Journal of Computers & Technology, ISSN 2277–3061 (online), Volume 3 No. 3

67	Sumeet Kaur	<u>Fuzzy Multi criteria decision making for selecting Effort Estimation Model</u>	IJ	International Journal of Computer Applications, February 2012, Volume 39(1)
68	Sumeet Kaur	<u>Analyzing the Effect of Queuing Disciplines On Network Performance</u>	IJ	International Journal of Computers and Distributed System, ISSN 2278-5183, Volume II, Issue I
69	Sukhjit Singh	<u>Analyzing the Effect of Queuing Disciplines On Network Performance</u>	IJ	International Journal of Computers and Distributed System, ISSN 2278-5183, Volume II, Issue I
70	Sumeet Kaur	<u>AI Based Model for Software Project Planning</u>	IJ	International Journal of Computers & Technology, ISSN 2277-3061 (online), Volume 3 No. 3
71	Sukhjit Singh	<u>AI Based Model for Software Project Planning</u>	IJ	International Journal of Computers & Technology, ISSN 2277-3061 (online), Volume 3 No. 3
72	Gunjan	Mathematical Morphology an Approach to Image Processing and Analysis	IJ	International Journal of computing and Corporate Research
73	Gunjan	Despeckling Techniques : A Survey	IJ	-----
74	Gunjan	Despeckling of ultrasound images using wavelets	IJ	-----
75	VivekThapar	A Novel Method for Edge Detection of Natural Color Images	IJ	International Journal of Computer Science and Information Technology & Security , 2249-9555
76	VivekThapar	Deployment Strategy of Homogeneous and Heterogeneous Wireless Sensor Network	IJ	International Journal of Computer Science and Communication Engineering, 2319-7080
77	KamaldeepKaur	A Survey of Topic Tracking Techniques	IJ	International journal of Advanced Research in computer science & software engg Vol 2, issue 5, may 2012 ISSN: 2277128X

78	KamaldeepKaur	Name Entity Recognition for Punjabi Language	IJ	International journal of computer science and Information Technology &Security Vol 2, no 3, june 2012 ISSN: 2249-9555
79	Parminder Singh	Voice Based Speaker Identification System	IJ	[IJESAT] INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE & ADVANCED TECHNOLOGY Volume-2, Issue-3, 486 – 491
80	Parminder Singh	Punjabi Speech Generation System based on Phonemes	IJ	-----
81	Parminder Singh	Removal of Spectral Discontinuity in Concatenated Speech Waveform	IJ	-----
82	SumeetKaur	<u>Data mining solution for transcription as a part of gene expression</u>	IJ	International journal of networking and parallel computing, ISSN 2319-4529, Volume 1, Issue 3
83	SumeetKaur	Effect of Data Preprocessing on Software Effort Estimation	IJ	International Journal of Computer Applications, May, 2013
84	GurjitKaur	Knowledge Discovery:A Methodology for dynamic & static data mining	IJ	SAJMR,Vol 2,Issue 5
85	Sukhjit Singh	<u>Data mining solution for transcription as a part of gene expression</u>	IJ	International journal of networking and parallel computing, ISSN 2319-4529, Volume 1, Issue 3
86	Sukhjit Singh	Effect of Data Preprocessing on Software Effort Estimation	IJ	International Journal of Computer Applications, May, 2013
87	GagandeepKaur	Knowledge Discovery:A Methodology for dynamic & static data mining	IJ	SAJMR,Vol 2,Issue 5
88	Vivek Thapar	Intrusion Detection System in Wireless Sensor Network(pp. 76-80)	IJ	International Journal of Computer Science and Communication Engineering, 2319-7080

89	Vivek Thapar	Simulation Model for Software Reuse	IJ	International Journal of Computer Science and Communication Engineering, 2319-7080
90	Vivek Thapar	Improved Energy Efficient MAC Protocol for Wireless Sensor Networks	IJ	International Journal of Advanced Research in Computer Science and Software Engineering , 2277-128X
91	Vivek Thapar	Security Implications of Ad-hoc Routing Protocols against Wormhole attack using Random Waypoint Mobility Model in Wireless Sensor Networks (pp. 138-146)	IJ	International Journal of Computer Science and Information Security, 1947-5500
92	Vivek Thapar	Performance Analysis of Ad-hoc Routing Protocols using Random Waypoint Mobility Model in Wireless Sensor Networks(pp. 3059-3063)	IJ	International Journal of Computer Science and Engineering, 0975-3397
93	Kamaldeep Kaur	Grid Monitoring Systems: A Survey	IJ	International Journal of Advanced Computer Technology vol 2, no. 5 ISSN: 2319-7900
94	Jasbir Singh Saini	Formal Measure of the Effect of MANET size over the Performance of Various Routing Protocols	IJ	International Journal of Engineering Research & Technology (IJERT) Vol. 2 Issue 10, ISSN: 2278-0181 ijert.org IJERTV2IS101010

15.Details of patents and income generated: Nil

16Areas of consultancy and income generated:

Sr. No.	Name of Faculty	Area of consultancy	Agency	Year	Amount (Rs)
1.	Sumeet Kaur	Training on PHP & MySQL	Institute	2010-2011	45000-00
2.	Rupinder Kaur	Training on PHP & MySQL	Institute	2009-2010	91000-00

17.Faculty Recharging strategies

- Annual increments based on appraisal for faculty.
- CAS (Career Advancement Scheme) for promotion.
- Faculty Development Program for motivating the faculty.

The following is the list of short term courses attended by the faculty

Course Name	Venue
Recent Advances and Future Trends in Digital Image Processing	Dept. of Computer Science, Punjabi University, Patiala
Implementing CISCO IOS Network Security IINS-10	NIT,Hamirpur
New Initiatives and Directions in Entrepreneurship & Management	National Institute of Technical Teacher's Training and Research (sponsored by MHRD) at Guru Nanak Dev Engineering College, Ludhiana
Learning Effective Document Writing Using LaTex	Department of Information Technology, DAVIET, Jalandhar
Data Base Management System	IIT Bombay
Capital Markets & Financial Instruments	Guru Nanak Dev Engineering College
Intelligent Computational Techniques	Department of Electronics and Communication Engineering at SBS CET , Ferozepur
Digital Signal Processing	Department of Electrical Engineering at IIT, Roorkee
Smart Nanoceramics & NanoScience Research Tools	Conducted by Department of Physic at IIT, Roorkee
Current Trends in Information Retrieval with Research Perspective	Department of Information Technology at PSG College of Technology, Coimbatore
Fundamentals of Research Methodology	GNDEC,Ludhiana
Cloud Computing	Bhai Gurdas Institute of Engineering & Technology, Sangrur, Punjab
Learning Content Management System	Guru Nanak Dev Engineering College, Ludhiana
Challenges and Opportunities in Medical Image Processing	Guru Nanak Dev Engineering College, Ludhiana

18.Student Projects

	Batch: 2007- 11	Batch: 2008-12	Batch: 2009-13
Percentage of students who have done in-house projects including	100%	100%	100%

inter-departmental**Percentage of students doing****projects in collaboration with other 8.95% 20.37%****universities/ industries / institutes****25.66%****19. Awards recognition received at the national and international level by****Faculty:**

Faculty Name	Award/ Recognition
Prof. Amanpreet Singh Brar	<ol style="list-style-type: none"> Member Board of studies Computer Science and Engineering, Punjab Technical University, Jalandhar. Member Board of studies Information Technology Punjab Technical University, Jalandhar.
Prof. Parminder Singh	<ol style="list-style-type: none"> Member Board of studies Computer Applications, Punjab Technical University, Jalandhar. External Expert for Board of Undergraduate studies in Computer Science for year 2012-2013, Punjabi University Patiala.

- Doctoral/ post doctoral fellows:** Nil
- Students :** Nil

20. Seminars/Conferences/Workshops organized and the source of funding(national/international)with details of outstanding participants, if any

Year	Seminars/ Conferences / Workshop	source of funding
2011-12	Two day symposium on “Challenges and Opportunities in Medical image Processing Analysis and Applications”	AICTE(1 lakh)
2013-14	1. Expert talk on “Middleware Technologies”	TEQIP-II
	2. Expert talk on “Android Mobile Application Development”	TEQIP-II
	3. Expert talk on “Electronic data Interchange & Healthcare”	TEQIP-II

21.Student Profile programme wise:

Name of the Course	Applications received	Selected		Pass Percentage	
		Male	Female	Male	Female
B.Tech CSE	750	38	53	83%	88%
M.Tech (CSE)	169	4	14	75%	82%

22.Diversity of Students

Name of the Course	% of students from the College	% of students from the State	% of students from other States	% of students from other countries
B.Tech (CSE)	Not applicable	85.00%	15.00%	Nil
M.Tech (CSE)	45%	50%	5%	Nil

23.Students cleared competitive examination:

Batch 2008-2012: GATE- 1

Batch 2007-2011: GATE- 2

Batch 2007-2011: GATE- 2

24.Student progression:

Student progression	Percentage against enrolled		
	2007-2011	2008-2012	2009-2013
UG to PG	15	19	15
PG to M.Phil.	--	--	--
PG to Ph.D.	--	--	--
Ph.D. to Post-Doctoral	--	--	--
Employed			
Campus selection	37	50	35
Other than campus recruitment	05	15	10
Entrepreneurs			

25. Diversity of staff

Percentage of faculty who are graduates	
Of the same parent university	90%
From other universities within the state	5%
From other universities from other states	5%

26. Number of faculty who were awarded Ph.D., D.Sc., and D. Litt. During the assessment period: Ph.D. – 1

27. Present details about infrastructural facilities:

a) **Library:**

1. **No. of Books.:** 380
2. **No. of Journals subscribed during last academic year.:** 06 through central library

b) **Internet Facilities for Staff and Students:** 40Mbps wired and Wireless connectivity in Staff Rooms, Laboratories , Hostel and faculty flats.

c) **Total No of Class Rooms:** 05

d) **Class Rooms with ICT Facility:** 01

e) **Student and Research Laboratories:**

Sr. No.	Lab Name
1	Software Lab-I
2	Software Lab-II
3	Operating system Lab-II
4	Project Lab-II

28. Number of post graduate students getting financial assistance from the College:

Year	Number of post graduate students
2011-12	2
2012-13	22
2013-14	16

29. Was any need assessment exercise undertaken before the development of new program? If so, highlight the methodology:

Yes, it is done by taking

- Feedback from students (studying as well as pass-out)
- Feedback from Alumni of the Department
- Feedback from Companies in which students get placed
- Feedback from faculty

These feedbacks are taken online from time to time and a committee is formed which analyses these feedbacks which then plans for modification of course or introduction of new course.

30. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

The department takes feedback from faculty and utilizes in

- It helps in the better teaching exercise by the use of audio visual aids.
- It helps to impart in depth knowledge of advanced context.
- It facilitates the re-vision of current syllabi according to latest technologies.
- To make observations about students' learning process and strategies that will help them figure out how to improve.

b. Students on staff, curriculum as well as teaching-learning evaluation and what is the response of the department to the same?

The department obtains feedback from students on staff, curriculum and teaching-learning evaluation. The questionnaires are given to students at the end of the semester and at the end of the graduate program and various rubrics are being set for various questions and students are evaluated accordingly. Further, the department analyzes the feedback and measures are taken accordingly, some of them are

- Encouraging the faculty to attend for FDP's/ Seminars/ Guest lectures
- Encouraging the faculty for skill enhancement programme
- Including the new subjects as per the industry demand
- Use of new methods in teaching learning process as to develop better understanding of the course contents
- Measures to strengthen the Teaching Learning process

c. Alumni and employers on the programmes and what is the response of the department to the same?

The department obtains feedback from Alumni and employers through Alumni Survey and Industry Survey. Further, the department responses in the form of

- By identifying what kind of experience and skills are needed to obtain specific position in profession.
- By providing feedback through which department further provides suggestions to Punjab technical university directly or through board of studies members for further improvement in content of existing / introduction of new academic courses most relevant to current requirements.

31.List of distinguished Alumni of the Department

Sr. No.	Name	Designation, Department and Organization	Present Status
1.	Shruti Sharma	IAS Officer	Govt. of India
2.	Jagandeep Singh	Lean Six Sigma Black Belt - India Account Manager	Intel Technologies India Pvt. Ltd, No., Bangalore - 560103
3.	Harleen Kaur	Sr. Manager	Infosys, Hyderabad
4.	Beerinder Singh	DBA	Scotia Bank (Toronto)
5.	Tapsi Chhabra	Exec. Manager	British Council in New Delhi
6.	Vaibhav Batra	Asst. Manager	HCL Noida
7.	Prabhdeep Singh	Pathways Operation manager	Amazon.com
8.	Maninder Singh	Associate System Engineer	IBM – GBS(Global Business Services)
9.	Gurpreet Kaur	Chief Architect (Tivoli Solution)	IBM Canada
10.	Sandeep Kaur	SEM Executive	Red Alkemi, Chandigarh

32.Give details of student enrichment programmes(special lectures/workshops/seminar) involving external experts

Sr. No.	Name of Resource	Topic	Year
1.	T&P Cell, GNDEC, Ludhiana	Entrepreneurship Awareness Camp	2010
2.	STEP, Ludhiana	Ethical Hacking	2011
3.	IMS, Ludhiana	GD, PI and Interpersonal Skills	2012
4.	High Score educational services, NY	Higher education	2012
5.	Softcon Pvt. Ltd	Embedded Systems	2013
6.	DUCAT	Android Technology	2013

CSE WORKSHOPS

S.No	Title	Duration	Year
1	Event Named “Shimlapuri Mapping”	1 Day	2010
2	Event Named “OSS Awareness”	Half Day	2011

3	Event Named “Enslave Computer”	1 Day	2011
4	Event Named “Hack the Map”	Half Day	2011
5	Event Named “Taming Computer”	Half Day	2011
6	Wordpress Workshop	1 Day	2011
7	Drupal Workshop	Half Day	2011
8	Event Named “GIMP effects”	Half Day	2011
9	Workshop Session Linux installation Practical session	1 Day	2011

TECHNICAL CO-CURRICULAR ACTIVITIES

Inter-Departmental Competitions

Year 2013				
Sr. No.	Activity Name	Student Name	Position	Organized by
1.	Resonance in Atharva	Prince Kumar Mandi	3rd	GNDEC
2.	Sugandh Mitti Di	Vriti Aggarwal(Consolation prize) Tania Chhabra Manika Parash	Consolation	Chitkara University, Chandigarh
3.	Young Tycoons	Manika Parasher(1st prize	1st	Career Cafe, Ludhiana

Year 2012

Sr. No.	Activity Name	Organized By
1	Contraption Reloaded	Genesis 2012/GNDEC
2	Globe Tracer	Genesis 2012/GNDEC
3	Puzzled	Genesis 2012/GNDEC
4	Electromania	Genesis 2012/GNDEC
5	Mechnitude	Genesis 2012/GNDEC
6	Puzzled	Genesis 2012/GNDEC
7	Web Development	Genesis 2012/GNDEC

Year 2011

Sr. No.	Activity Name	Organized by
1.	Computer Proficiency Test	CC
2.	Quiz & Picture Puzzle	ISTE
3.	Enslave Computers	LUG
4.	Cross word	SCIE
5.	Enslave Computers	LUG
6.	ELOQUENCE Idol	ISTE
7.	Sustainable Green Energy	SCIE
8.	Gangwars	ISTE
9.	Play Scenario	ISTE
10.	Technopuzzles	SCIE
11.	Spectrum'11	ISTE,SCIE
12.	Crack the Code	CC

CC: Computer Club

SCIE: Students Chapter of Institute of Engineers

ISTE: Indian Society of Technical Education

LUG: Linux User Group

SAE: Society of Automobile Engineers

33.List the teaching methods adopted by the faculty for different programmes

- Use of ICT such as projectors for seminars
- Presentations on subject topics
- Manual as well as online notes providing to students
- Practical implementation of subject concepts in labs, wherever possible
- Tests, assignments, quizzes and discussions for different subject related topics

34.How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

The department ensures that programme objectives are constantly met and learning outcomes are monitored through the skill enhancement techniques, teaching learning system and career and guidance cell. The Program Education Objectives and Program Outcomes of the department are as follows:

Program Educational Objectives (PEO):

1. The graduates of Computer Science & Engineering Program will be prepared to gain employment as an IT professional.
2. The graduates of Computer Science & Engineering Program will function effectively as individuals and team members in the workplace, growing into highly technical or project management and leadership roles.

3. The graduates of Computer Science & Engineering Program, if they are inclined, will be able to continue their formal education and be accepted to relevant post- graduate degree programs and succeed in these studies.

Program Outcomes (PO):

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to design and conduct experiments, as well as to analyze and interpret data.
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. An ability to function on multi-disciplinary teams.
5. An ability to identify, formulates, and solves engineering problems.
6. An understanding of professional and ethical responsibility.
7. An ability to communicate effectively.
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. Recognition of the need for, and an ability to engage in life-long learning.
10. A knowledge of contemporary issues
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
12. An ability to effectively integrate IT-based solutions into the user environment.

To achieve these following measures are taken by the department:

- The department ensures the curriculum is designed to meet the program outcomes.
- The faculty ensures the syllabus is revised and is involved in improving student skills through quizzes, assignments, mini projects, mid-semester test and final major project.
- The course file is being made by all faculty members for their respective courses and HOD monitors the coverage of syllabus with the help of Course file and sees the academic schedules are intact.
- The performance of the students is analyzed time to time and slow learners are identified. Special classes are planned for the slow learners called as remedial classes.
- For every 20-25 students, one teacher is being allotted as advisor. These advisers counsel the students periodically (once in a week) and monitor their regularity, also address personal problems if any. They also help in guiding them regarding their future prospects. HOD of the department coordinates the counseling activity and sees that it is being done on a regular basis. Whenever the necessity occurs, the parents are called for and are advised to monitor their wards and take necessary actions.
- The entire faculty is involved in guiding the students for their project work which helps them in their future professional exposure.

35. Participation of students and faculty in extension activities

Students:

- Every year about 65 % of the students are participating in departmental and inter-

departmental curricular and co-curricular events conducted by College and in other colleges/ universities.

- About 80% of the faculty is participating in Faculty Development Programmes, Training Programmes, workshops, conferences and expert talks.

36.Beyond syllabus scholarly activities of the department

- Content Beyond syllabus is included in some subjects which are reflected in class time table as well.
- Projects are assigned to students in labs in addition to practicals suggested in syllabus.
- Educational tours are conducted for students.
- Classes for weaker students are held to improve the performance of students.
- Various technical events are conducted for improving technical skills of students

See Appendix-VI-VIII for reference

37.State Whether the Programme/ department is accredited / graded by other agencies. Give details.

Yes the programme is accredited with NBA and ISO.

- Date of 1st approval by AICTE with Reference No.765-65-208/EI/ET/97, Dated: Sept. 12, 1997.
- Accredited by NBA-AICTE in 2004 for 3 years F. No. NBA/ACCR-256/2003 Dated: 17/06/2004.
- Accredited by NBA-AICTE in 2008 for 3 years F. No. NBA/ACCR-256/2003 Dated: 19/07/2008
- Approval for the current academic year with Reference No.:North-West/1-396913781/2011/EOA, Dated: Sept. 01, 2011

38.Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

- Strengths:**
1. Department is having qualified and experienced staff.
 2. Department is accredited by National board of Accreditation (NBA) and ISO.
 3. Department is having publications in reputed National / International Journals, Conferences including IEEE conferences.
 4. Department is having well equipped labs for students.
 5. Department has got grants from DST.

- Weaknesses:**
1. Department has not conducted any STTP, FDP.
 2. Department is not having staff with doctorate.
 3. Department is not having any consultancy project.

- Opportunities:**
1. Computers have become a ubiquitous part of modern life, and new applications are introduced every day. The use of computer technologies is also commonplace in all types of organizations, in academic, research, industry, government, private and business organizations. As computers become even more pervasive, the potential for computer-related careers will continue to grow and the career paths in computer-related fields will become more diverse.
 2. Many computer science jobs are seeing significant growth due to businesses and organizations increasing their reliance on technology to improve their products and services..

- Challenges:**
1. To improve the quality of the students.
 2. To increase the placement percentage of the students
 3. To bring more grants from government agencies.
 4. To conduct STTP, FDP for the improvement of technical knowledge.

39. Future plans of the department:

1. To bring grants from AICTE and other funding agencies to improve the infrastructural facilities in the department.
2. To engage alumni of department for welfare and placement as well training of students.
3. To provide refresher courses of aptitude and analytical thinking to students for preparation of placement tests.
4. Conducting workshops and expert talks for students as well faculty to provide them exposure for latest technological advancement

Evaluative Report of IT Department

1. Name of the Department & Year of establishment : Information Technology, 2001

2. Names of Programmes/ courses offered : B. Tech. (IT)

3. Interdisciplinary courses and departments involved :

Maths : Applied science

TQM : Mechanical

Environmental Science: Civil

4. Examination system- Annual/ semester/ choice based credit system: Semester system

5. Participation of the department in the courses offered by other departments

FCPIT : Applied Science

Data Structures : Electronics Department

6. Number of teaching posts sanctioned and filled:

	Sanctioned	Filled
Professor	3	0
Associate Prof.	4	2
Assistant Prof.	15	15

7. Faculty Profile :

Name	Qualification	Designation	Specialization	No.of years of Experience	No.of Ph.D/M.Phil. students guided in last 4 years
Kulvinder Singh Mann	Ph.D.	Associate Professors	IT	8 years 6 months	NIL
Akshay Girdhar	M.Tech.	Associate Professors	IT	7 Years 6 months	NIL

Manpreet Singh	M.Tech.	Assistant Professors	CSE	8 Years 6 months	NIL
Kiran Jyoti	Ph.D.	Assistant Professors	CSE	8 Years 6 months	NIL
Ajay Shiv Sharma	M.Tech.	Assistant Professors	CSE	7 Years 4 Months	NIL
Raninder Kaur	M.Tech.	Assistant Professors	MS: Software System	6 Years 5 months	NIL
Amit Kamra	M.Tech.	Assistant Professors	IT	6 Years 5 months	NIL
Pankaj Bhambri	M.Tech.	Assistant Professors	CSE	8 Years 5 Months	NIL
Kamaljit Kaur	M.Tech.	Assistant Professors	CSE	8 Years 5 months	NIL
Parminder Kaur Wadhwa	M.Tech.	Assistant Professors	CSE	4 years 4 months	NIL
Manjot Kaur Gill	M.Tech.	Assistant Professors	CSE	4 years 4 months	NIL
Gurpreet Singh Grewal	M.Tech.	Assistant Professors	CSE	3 years 4 months	NIL
Ranjodh Kaur	M.Tech.	Assistant Professors	CSE	1 year 8 months	NIL
Harbhag Singh	B. Tech.	Assistant Professors	IT	1 year 4 months	NIL
Manpreet Kaur	M.Tech.	Assistant Professors	CSE	1 year 4 months	NIL
Anshu Aneja	B.Tech.	Assistant	IT	1 year 4	NIL

		Professors		months	
Priyanka Arora	M.Tech.	Assistant Professors	CSE	1 year 4 months	NIL

8.Percentage of classes taken by temporary faculty programme-wise information:

48.11%

9.Programme-wise Student Teacher Ratio: (16:1)

10.Number of academic support staff(technical) and administrative staff:

	Technical	Administrative
Sanctioned	6	3
Filled	3	1

11.Number of faculty with ongoing projects

Number of faculty with ongoing projects	: 02
Name of the Project	: MODROB
Funding Agency level	: National
Name of Funding Agency	: AICTE
Total grants received	: Rs.9Lakhs

12.Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE,DBT,ICSSR,AICTE etc.

Sr. No.	Name of Faculty	Project Title	Sponsoring Agency	Duration	Session	Amount
1.	Kulvinder Singh Mann, Kiran Jyoti	Computational Research Methodologies in Information Securities	TEQIP	1 week	2013-14	Rs 3,000,00/-
2.	Akshay Girdhar and Amit Kamra	Chief Coordinator of Modernization and Removal of Obsolescence Scheme (MODROBS) for the project titled	All India Council of Technical Education (AICTE), New Delhi		2011-12	Rs. 9,00,000/-

		“Upgradation of Existing Computer Network Lab” (Ref. No. 8024/RIFD/MOD-174/2011-12, Dated 05-12-2011).				
3.	Akshay Girdhar	Travel Grant to attend “5 th International Conference on Bioinformatics and Biomedical Engineering in China”	Department of Science & Technology (DST), New Delhi	3 days	2011-12	Rs. 59,035/-
4.	Akshay Girdhar and Amit Kamra	Two Days Symposium on “Challenge and Opportunities in Medical Image Processing”	All India Council of Technical Education (AICTE), New Delhi	1 Year	2011-12	Rs. 1,00000/-
5.	Kulvinder Singh Mann	Travel grant to International conference on recent researches in medicine and medical chemistry at KOS island Greece.	Guru Nanak Dev Engineering College, Ludhiana	7 days	2011-2012	Rs 80,000/-
6.	Akshay Girdhar and Manpreet Singh	National Conference on Emerging Principles and Practices of Computer Science and Information Technology	Guru Nanak Dev Engineering College, Ludhiana	2 days	2009-10	Sanctioned amount:- 3,80,000/- Purchased amount:- 1,95,701

13.Research facility/ centre:

Adequate hardware and software are available for research purpose like MATLAB with various toolboxes, MSDN Dream Spark, Qual Net Research Licence, DCT(Data Communication Trainer Kit),LTS(Local Trainer kit with imulator),B-Link4,NISS Software.

- State Recognition: Nil
- National Recognition: Nil
- International Recognition: Nil

14. Publications : The following are the major publications of the faculty in the last four years:

S. No.	Faculty	Paper/ Article Name	IJ/NJ /IC/ NC/S	Published by
1	Akshay Girdhar	Color Image Quantization based on Bacteria Foraging Optimization	IJ	IJCA-International Journal of Computer Applications
2	Akshay Girdhar	Enhanced Iris Recognition System – an Integrated Approach to Person Identification	IJ	IJCA-International Journal of Computer Applications
3	Akshay Girdhar	Enhanced Iris Recognition System – an Integrated Approach to Person Identification	IJ	IJCA-International Journal of Computer Applications
4	Akshay Girdhar	Lossless Image Compression Using Enhanced P-Trees	IJ	IJEIT-International Journal of Engineering & Information Technology
5	Akshay Girdhar	Region Based Adaptive Contrast Enhancement of Medical X-Ray Images	IC	Bioinformatics and Biomedical Engineering (IEEE Explore)
6	Akshay Girdhar	A Parallel Thinning Algorithm for Numeral Pattern Images in BMP format	IJ	IJAEA-International Journal of Advanced Engineering and Applications
7	Akshay Girdhar	Multimodel Approach in Biometrics	NC	Recent Innovations in Computing and Networking
8	Kulvinder Singh Mann	Integrated System for Information Retrieval in Medical Area	IC	Recent Researches in Medicine and Medical Chemistry
9	Kulvinder Singh Mann	A New Coherent and Extandable Model for Encoded Health Care Information System	IC	Recent Researches in Medicine and Medical Chemistry

10	Kulvinder Singh Mann	A Web based HL7 Validation System Architecture	IJ	IJITKM-International Journal of Information Technology and Knowledge Management
11	Kulvinder Singh Mann	A New Framework for Semantically Interoperable Hospital Information System	IJ	IJITKM-International Journal of Information Technology and Knowledge Management
12	Kulvinder Singh Mann	A Conceptual Framework for Assessment of Health Management Information System	NJ	JCIT-Journal of Computer and Information Technology
13	Kulvinder Singh Mann	An Information Modelling using E.H.R	IJ	IJCSC-International Journal of Computer Science and Communication
14	Kulvinder Singh Mann	Designing of Data Exchange Protocol by Integrating DICOM using HSL Standards to develop Data Exchange Gateway to Support Secure Data Flow	IJ	IJAET-International Journal of Advanced Engineering Technology
15	Kulvinder Singh Mann	Security of Data of E.H.R in a Grid Computing Environment	IJ	IJCA-International Journal of Computer Applications
16	Kulvinder Singh Mann	Use of XML in HL7	IJ	OJCST-Oriental Journal of Computer Science and Technology
17	Kulvinder Singh Mann	Use of XML in HL8	NC	Challenging in Emerging Computer Technologies
18	Kulvinder Singh Mann	Use of XML in HL7	NC	Challenges in Emerging Computer Technologies
19	Kulvinder Singh Mann	EHR Systems to Support Patient Care using DSS	NJ	JCIT-Journal of Computer and Information Technology
20	Kulvinder Singh Mann	Security of Data in a Grid Computing Environment	IJ	IJCA-International Journal of Computer Applications

	Kulvinder Singh Mann	Development of Coherent, Extendible Data Formats that Permit Structured Encoded Health Care Information to Support Patient Care	IC	Industrial Competitiveness
21	Kulvinder Singh Mann	Technology Management: Decision Support System as a Tool	IC	Industrial Competitiveness
22	Kulvinder Singh Mann	Estimating Supply and Requirement of an Electronic Health Record System	IC	Industrial Competitiveness
23	Kulvinder Singh Mann	Development of Data Formats for E.H.R Systems	IC	Industrial Competitiveness
24	Kulvinder Singh Mann	EHR Systems to Support Patient Care using DSS	IJ	IJUSPS-International Journal of Ultra Scientist of Physical Sciences
25	Kulvinder Singh Mann	Design of Knowledge Engine of SAGE in CDSS	IJ	IJCST-International Journal of Computer Science and Technology
26	Manpreet Singh	Cluster Algorithm using Distributed Processing for Human Protein Function Prediction	IJ	IJAIS-International Journal of Applied Information Systems
27	Manpreet Singh	Development of Predictor for Sequence Derived Features from Amino Acid Sequence using Associate Rule Mining	IJ	IJSCC-International Journal of Computer Science and Security
28	Manpreet Singh	Cluster Analysis Technique based on Bipartite Graph for Human Protein Class	IJ	IJCA-International Journal of Computer Applications
29	Manpreet Singh	Human Protein Function Prediction from Sequence Derived Features using See5	IJ	IJSER-International Journal of Scientific and Engineering Research
30	Manpreet Singh	Classifier for Human Protein Function Class Prediction	IJ	IJEIT-International Journal of Engineering and Information Technology
31	Manpreet Singh			

32	Manpreet Singh	Estimation of Adjoining Neighbor Grouping in Distributed Database	IJ	IJEIT-International Journal of Engineering and Information Technology
33	Kiran Jyoti	A New Method for Fingerprint Core Point Detection based upon Orientation Field	IJ	IJBB-International Journal of Biometrics and Bioinformatics
34	Kiran Jyoti	Data Clustering Approach to Industrial Process Monitoring, Fault Detection and Isolation	IJ	IJCA-International Journal of Computer Application
35	Kiran Jyoti	Investigation on Various ANN and PSO based data clustering techniques for industrial process application	IJ	IJCST-International Journal of Computer Science and Technology
36	Kiran Jyoti	Comparative Analysis of Fuzzy Clustering Algorithm for Industrial Process Monitoring	IC	Software and Computer Applications
37	Kiran Jyoti	Data Clustering: A Review	NC	Impact of Management and Technological Advancements in Technical Education and Industrial Sector
38	Kiran Jyoti	A Novel Method of Opinion Extraction for Product Opinions	IJ	IJFCST-International Journal in Foundation of Computer Science and Technology
39	Kiran Jyoti	A Novel Method for Image Compression	IC	Innovate-Lead-Success
40	Kiran Jyoti	Web Opinions: Former Stride to Opinion Mining	IC	Emergining Trends in Engineering and Technology
41	Kiran Jyoti	Polarity Decomposition of Feature based Web Opinion	NC	Latest Advancements in Science, Engineering and Research
42	Kiran Jyoti	Extraction and Decomposition of Feature based Web Opinions	S	National Seminar on Advances in Computer Applications
43	Raninder Kaur Dhillon	E-CRM: An Emerging Paradigm in Customer Relation Management	NC	INDIA-Inc.- Challenges Ahead

44	Raninder Kaur Dhillon	A Tajima Nei Method for detecting HIV	IJ	IJCSC-International Journal of Computer Science and Communication
45	Raninder Kaur Dhillon	Challanges in Bioinformatics	IC	Industrial Competitiveness
46	Raninder Kaur Dhillon	Characterization of Parathyroid Hormone using HMM Framework	IJ	IJCA-International Journal of Computer Applications
47	Amit Kamra	An Optimal Approach to Alleviate the Problem of Over-Segmentation	IJ	IJCSC-International Journal of Computer Science and Communication
48	Pankaj Bhambri	Finding the Nearest Neighbour in Biological Databases	IJ	IJAR-Indian Journal of Applied Research
49	Pankaj Bhambri	GENE Prediction	IJ	IJAR-Indian Journal of Applied Research
50	Pankaj Bhambri	Multiple Sequence Alignment of Different Species	IJ	IJAR-Indian Journal of Applied Research
51	Pankaj Bhambri	Analyzing the Phylogenetic Trees with Tree-Building Methods	IJ	IJAR-Indian Journal of Applied Research
52	Pankaj Bhambri	Distance based Phylogenetic Trees with Bootstrapping	IJ	IJCA-International Journal of Computer Applications
53	Pankaj Bhambri	A Novel Technique for Robust Image Segmentation	IJ	IJAET-International Journal of Advanced Engineering Technology
54	Pankaj Bhambri	Conceptual Translation as a Part of GENE Expression	IC	Advanced Computing and Communication Technologies (Sponsored by IEEE Delhi Section, IEEE Computer Society Chapter, Delhi Section and IETE Delhi Centre)
55	Pankaj Bhambri	GOR Method to Predict Protein Secondary Structure using Different Input Formats	IC	Advanced Computing and Communication Technologies (Sponsored by IEEE Computer Society Chapter, Delhi Section and IETE Delhi)

56	Pankaj Bhambri	Development of Phylogenetic Tree based on Kimura's Method	IC	Parallel, Distributed and Grid Computing (IEEE)
57	Pankaj Bhambri	Inharmonic Signal Synthesis & Analysis	IJ	Technia- International Journal of Computing Science and Communication Technologies
58	Pankaj Bhambri	Comparative Analysis of JAVA and AspectJ on the basis of Various Metrics	IC	Advanced Computing and Communication Technologies (IEEE Sponsored)
59	Pankaj Bhambri	Data Mining Model for Protein Sequence Alignment	IC	Advanced Computing and Communication Technologies (IEEE Sponsored)
60	Parminder Kaur Wadhwa	New Path to High Performance – The 4G Technology	NC	Emerging Principles and Practices of Computer Science and Information Technology
61	Manjot Kaur Gill	Using Cluster Analysis for Protein Structure Prediction	IJ	IJCA-International Journal of Computer Applications
62	Manjot Kaur Gill	Vector Quantization based Speaker Identification	IJ	IJCA-International Journal of Computer Applications
63	Anshu Aneja	Fingerprint Feature Extraction	IC	Emergining Trends in Computer Science and Information Technology
64	Priyanka Arora	A Review of Various Grid Middleware Technologies	IJ	IJARCSSE-International Journal of Advanced Research in Computer Science and Software Engineering
65	Priyanka Arora	Review of Grid Computing Applications: Meeting Compute/ Storage Demands	IC	Next Generation Computing and Information Systems
66	Priyanka Arora	Grid Monitoring Systems: A survey	IJ	International Journal of Advanced Computer Technology
67	Raninder Kaur Dhillon	Reducing Cloning in Software Models Using UML Parsing	IJ	International Journal of Engineering Research & Technology (IJERT)

15.Details of patents and income generated: Nil

16.Areas of consultancy and income generated:

Sr. No.	Name of Faculty	Nature of Work	Agency	Year	Amount (Rs.)
1.	Amit kamra, Harbhag Singh and Jagdeep Singh	Python yango	Institute	2012-2013	1 Lac 40 thousand
2.	Akshay Girdhar	Certificate Course in OOPs using C++	Institute	2011-2012	60,000
3.	Akshay Girdhar	Technical Committee Member of Online Counseling 2011 of PTU	Punjab Technical University, Jalandhar	2010-2011	1,04,000
4.	Akshay Girdhar and Parminder Kaur Wadhwa	Training on PHP & MySQL	Institute	2010-2011	45,000
5.	Kiran Jyoti and Kamaljit Kaur	Training on PHP & MySQL	Institute	2009-2010	91,000
6.	Akshay Girdhar	Technical Committee Member of Online Counseling 2010 of PTU	Punjab Technical University, Jalandhar	2009-2010	70,000

17.Faculty Recharging strategies

- Annual increments based on appraisal for faculty
- CAS(Career Advancement Scheme) for promotions
- Funding for attending National and International Conferences
- Facility of recommending books for Departmental Library
- Faculty Development Programmes for motivating the faculty

The following are the major Winter/Summer schools attened by the faculty:

S. No.	Course Name	From	To	Held At
1.	VB.NET	26.06.2006	02.07.2006	National Institute of Technical Teachers' Training & Research, Chandigarh
2.	Vision, Graphics and Image Processing	06.07.2007	10.07.2007	Indian Institute of Technology, Roorkee
3.	Educational Auditing and Feedback System for	12.01.2009	16.01.2009	Guru Nanak Dev Engineering College,

	Excellence in technical Institutions			Ludhiana
4.	Recent Advances And Future Trends in Image Processing	30.03.2010	30.03.2010	Punjabi University, Patiala
5.	Image Processing and Clinical Applications	16.07.2010	17.07.2010	University Institute of Engineering and Technology, Panjab University, Chandigarh
6.	A-VIEW Basics Workshop	20.05.2011	20.05.2011	Punjab Technical University, Jalandhar
7.	Fundamentals of Research Methodology	11.07.2011	15.07.2011	Guru Nanak Dev Engineering College, Ludhiana
8.	Workshop on DotNet Technologies	15.09.2011	15.09.2011	Guru Nanak Dev Engineering College, Ludhiana
9.	Relevance of Universal Human Values in Education	27.09.2011	27.09.2011	Punjab Technical University, Jalandhar
10.	Approval Process for the year 2012-2013	25.11.2011	25.11.2011	Panjab University, Chandigarh
11.	Challenges and Opportunities in Medical Image Processing Analysis and Applications	03.02.2012	04.02.2012	Guru Nanak Dev Engineering College, Ludhiana
12.	1 st World Summit on Accreditation	25.03.2012	27.03.2012	National Board of Accreditation, New Delhi
13.	ABET Accreditation Procedures, Policies and Practices	28.03.2012	28.03.2012	Netaji Subhash Institute of Technology, New Delhi
14.	NPTEL Workshop	09.01.2013	09.01.2013	Guru Nanak Dev Engineering College, Ludhiana
15.	Institutional Academic Workshop	25.04.2013	25.04.2013	Guru Nanak Dev Engineering College, Ludhiana
16.	Computational Tools for Engineers	29.07.2013	03.08.2013	Guru Nanak Dev Engineering College, Ludhiana
17.	Enhancing Leadership Skills	16.09.2013	16.09.2013	Guru Nanak Dev Engineering College,

			Ludhiana
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18.Student Projects

- Percentage of students who have done in-house projects including inter-departmental: 100%
- Percentage of students doing projects in collaboration with other universities/ industries / institutes: 0%

19.Awards recognition received at the national and international level by Faculty:

Prof. Kuvinder Singh Mann

- Member of Scientific and Technical Committee & Editorial Review Board on Humanities and Social Sciences of WASET (World Academy of science Engineering and Technology) since 2009.
- Appreciation from Canadian Education Consultancy Services (Government of Ontario Recognised).
- Signed MOU with Top companies of Canada for GNDEC for industrial training program from 2009-2010.

Prof. Pankaj Bhambri

- Awarded Best Teacher Award on 3 September, 2007 and Rashtriya rattan Award on 22 April, 2008.

Prof. Akshay Girdhar

- Nominated as Technical Expert by Hon'able Session's Judge (Ludhiana) in a Court Case.
- Involved in Punjab Technical University, Jalandhar's Online Counseling of Admissions to various courses consecutively for 2010 and 2011.
- Associate Editor of International Journal of Engineering and Information Technology with ISSN-0975-5292(Print) and ISSN-0976-0253(Online) from 2009 onwards.
- Member of Automation of Academics Department of Punjab Technical University, Jalandhar.
- Invited by different colleges for mock inspection of Accreditation Process (NBA).

- Students : Praveen Kumar was selected in Google Summer of Code by Google Inc., USA in 2011-12

20. Seminars/Conferences/Workshops organized and the source of funding(national/international)with details of outstanding participants, if any

Sr. No.	Title	Nature	Funding Agency	Year
1.	Computational Research methodologies in Information Securities	FDP	TEQIP-II	2014

2	Challenge and Opportunities in Medical Image Processing	Seminar	AICTE, New Delhi	2012
3	Emerging Principles and Practices in Computer Science and Information Technology	Conference	Institute, HP India Pvt. Ltd., Gigabyte Networks, HFCL Infotel Ltd. & Religare Technova	2009

21.Student Profile programme wise:

Course	Batch	Applications received	Selected	Pass Percentage	
			Male	Female	Male
B.Tech.	2009-2013	750	40	56	85 92

22.Diversity of Students

Name of Course	Percentage of students from the college	Percentage of students from the state	Percentage of students from other states	Percentage of students from other countries
B.Tech.	Not applicable	85%	15%	Nil

23.Students cleared competitive examination:

Batch 2008-2012: GATE- 4, GRE-3

Batch 2007-2011: GATE- 2, GRE-1

24.Student progression:

Student progression	Percentage against enrolled		
	2007-2011	2008-2012	2009-2013
UG to PG	17	34	15
PG to M.Phil.	--	--	--
PG to Ph.D.	--	--	--
Ph.D. to Post-Doctoral	--	--	--
Employed			
Campus selection	22	9	27
Other than campus recruitment			4
Entrepreneurs			

25. Diversity of staff

Percentage of faculty who are graduates	
of the same university	88.24%
from other universities within the state	Nil
from other universities from other states	11.76%
from universities outside the country	Nil

26. Number of faculty who were awarded Ph.D., D.Sc., and D. Litt. During the assessment period: 3

- Dr. Kulvinder Singh Mann
- Dr. Kiran Jyoti
- Dr Manpreet Singh

27. Present details about infrastructural facilities:

- a) **Library:** 461 Books
- b) **Internet Facilities for Staff and Students:** 40Mbps wired and Wireless connectivity in Staff Rooms, Laboratories , Hostel and faculty flats.
- c) **Total No of Class Rooms:** Four
- d) **Class Rooms with ICT Facility:** 03
- e) **Student and Research Laboratories:**

S. No.	Lab Name
1.	Computer Networks Lab
2.	Hardware Lab
3.	Operating System Lab – I
4.	DBMS Lab – I
5.	Project Lab – I
6.	Web Development Lab

28. Number of post graduate students getting financial assistance from the university:
Nil**29. Was any need assessment exercise undertaken before the development of new program? If so, highlight the methodology:**

Yes, it is done by taking

- Feedback from students (studying as well as pass-out)
- Feedback from Alumni of the Department

- Feedback from Companies in which students get placed
- Feedback from faculty

These feedbacks are taken online from time to time and a committee is formed which analyses these feedbacks which then plans for modification of course or introduction of new course.

30. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

The department takes feedback from faculty and utilizes in

- Identifying the academic gaps in the curriculum
- Identifying the need in improving the course contents by updating the syllabus
- Identifying the need for including new courses in the curriculum
- Identifying the pitfalls in the teaching learning process
- Strengthening the teaching learning process

b. Students on staff, curriculum as well as teaching-learning evaluation and what is the response of the department to the same?

The department obtains feedback from students on staff, curriculum and teaching-learning evaluation. The questionnaires are given to students at the end of the semester and at the end of the graduate program and various rubrics are being set for various questions and students are evaluated accordingly. Further, the department analyzes the feedback and measures are taken accordingly, some of them are

- Encouraging the faculty to attend for FDP's/ Seminars/ Guest lectures
- Encouraging the faculty for skill enhancement programme
- Including the new subjects as per the industry demand
- Use of new methods in teaching learning process as to develop better understanding of the course contents
- Measures to strengthen the Teaching Learning process

c. Alumni and employers on the programmes and what is the response of the department to the same?

The department obtains feedback from Alumni and employers through Alumni Survey and Industry Survey. Further, the department responses in the form of

- Conducting various aptitude tests, group discussions for skill enhancement
- Various technical events are being organized by societies for improving skills of the students

31. List of distinguished Alumni of the Department

1. Ishaan Malhotra - Tata Consultancy Service (TCS)
2. Priyanka Sharma- Tata Consultancy Service (TCS)
3. Kanika Batra - Auritas Technologies
4. Nitish Sharma - HCL Technologies
5. Sanjeet Kaur - HCL Infosystems Ltd.

6. Daljeet Singh - Computer Sciences Corporation India Ltd.
7. Manisha Aneja - Computer Sciences Corporation India Ltd.
8. Samir Kumar - Tata Consultancy Service (TCS)
9. Gurveer Singh - L & T Infotech
10. Gurinder Singh - SYNTEL, Pune
11. Santosh - DLF Pramerica Ltd.

32. Give details of student enrichment programmes(special lectures/workshops/seminar) involving external experts

IT WORKSHOPS

Title	Duration	Year	Number of students enrolled
Workshop by Microsoft	1 Day	2013	54
Workshop on AMCAT	Half Day	2013	36
Workshop on Android Technology and Robotics	1 Day	2012	15
Workshop on Embedded Systems	Half Day	2012	20
Event named ‘Let Us C Your Design’	Half Day	2012	21
Workshop on Web Designing and Animation	1 Day	2012	15
Workshop on PHP/JS/FLASH	Half Day	2011	22
Workshop on Ethical Hacking	Half Day	2011	20
Workshop on New Technologies	1 Day	2010	20
Workshop on “Creating J2MEE Applications”	1 Day	2010	22
Workshop by CMC Noida	2 Days	2010	46
Workshop by SLR Infotech	Half Day	2009	25
Workshop by Weexcel on Training and Placement	Half Day	2009	36
Workshop by SLR Chandigarh	Half Day	2009	28

IT Seminars and Guest Lectures

Sr. No.	Name of Resource	Topic
1	Brig. Baljeet Singh	Placement and Higher Studies
2	Training and Placement Cell	Aptitude Test
3	Training and Placement Cell	One semester Industrial training
4	Dr Tarlochan Singh	Higher Education Prospects in and outside India after B.Tech.
5	GTech Softwares	Aptitude test/FLASH
6	Stella Edge Solution	PHP/JS/FLASH
7	Iota Solution Softwares	Complementary level Exposure and Training Orientation
8	Microsoft	Cloud Computing and Current market trends

33. List the teaching methods adopted by the faculty for different programmes

- Use of ICT such as projectors for seminars
- Presentations on subject topics
- Manual as well as online notes providing to students
- Practical implementation of subject concepts in labs, wherever possible
- Tests, assignments, quizzes and discussions for different subject related topics

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

The department ensures that programme objectives are constantly met and learning outcomes are monitored through the skill enhancement techniques, teaching learning system and career and guidance cell. The Program Education Objectives and Program Outcomes of the department are as follows:

Program Educational Objectives (PEO):

1. The graduates of Information Technology Engineering Program will be prepared to gain employment as an IT professional.
2. The graduates of Information Technology Engineering Program will function effectively as individuals and team members in the workplace, growing into highly technical or project management and leadership roles.
3. The graduates of Information Technology Engineering Program, if they are inclined, will be able to continue their formal education and be accepted to relevant post- graduate degree programs and succeed in these studies.

Program Outcomes (PO):

- a. An ability to apply knowledge of mathematics, science, and engineering.
- b. An ability to design and conduct experiments, as well as to analyze

- and interpret data.
- c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
 - d. An ability to function on multi-disciplinary teams.
 - e. An ability to identify, formulate, and solve engineering problems.
 - f. An understanding of professional and ethical responsibility.
 - g. An ability to communicate effectively.
 - h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
 - i. Recognition of the need for, and an ability to engage in life-long learning.
 - j. A knowledge of contemporary issues
 - k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
 - l. An ability to effectively integrate IT-based solutions into the user environment.

To achieve these following measures are taken by the department:

- The department ensures the curriculum is designed to meet the program outcomes.
- The faculty ensures the syllabus is revised and is involved in improving student skills through quizzes, assignments, mini projects, mid-semester test and final major project.
- The course file is being made by all faculty members for their respective courses and HOD monitors the coverage of syllabus with the help of Course file and sees the academic schedules are intact.
- The performance of the students is analyzed time to time and slow learners are identified. Special classes are planned for the slow learners called as remedial classes.
- For every 20-25 students, one teacher is being allotted as advisor. These advisers counsel the students periodically (once in a week) and monitor their regularity, also address personal problems if any. They also help in guiding them regarding their future prospects. HOD of the department coordinates the counseling activity and sees that it is being done on a regular basis. Whenever the necessity occurs, the parents are called for and are advised to monitor their wards and take necessary actions.
- The entire faculty is involved in guiding the students for their project work which helps them in their future professional exposure.

35. Participation of students and faculty in extension activities

Students:

- Computer Society of India (CSI) and Linux User Group (LUG) conduct various activities for improving technical skills of students. Refer Appendix VIII
- Training & Placement cell organises various seminars and expert talks from

companies to make students aware of current industry trends. Refer Appendix VII

Faculty:

- Kiran Jyoti is the incharge of CSI under whose guidance various CSI events take place.
- Harbhag Singh is the incharge of LUG under whose guidance various LUG events take place.
- Kulwinder Singh Mann and Anshu Aneja are the incharges of T & P cell under whose guidance various technical events take place.

36.Beyond syllabus scholarly activities of the department

- Content Beyond syllabus is included in some subjects which are reflected in class time table as well.
- Projects are assigned to students in labs in addition to practicals suggested in syllabus.
- Educational tours are conducted for students.
- Classes for weaker students are held to improve the performance of students.
- Various technical events are conducted for improving technical skills of students

**37.State Whether the Programme/ department is accredited / graded by other agencies.
Give details.**

Yes the programme is accredited with NBA and ISO certified.

38.Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

1. Department is having Qualified and Experienced Staff
2. Department is accredited by National Board of Accreditation (NBA) and ISO certified.
3. Department is having publications in many good International /National Journal and Conferences including IEEE conferences.
4. Department is having well equipped labs for students.
5. Department has got grants from DST, AICTE and MODROB.

Weaknesses:

1. Department is not having regular Post Graduation Course.
2. Department has not conducted any STTP, FDP in the department.
3. Department is having less number of seats as compared to other departments in the college.
4. Department is having less staff with doctorate.
5. Department is not having any consultancies project.

Challenges:

1. To improve quality of the students.
2. To start Regular Post Graduation Courses
3. To increase the intake of students.

4. To increase the placement percentage of the students.
5. To bring more grants from government agencies.

39. Future plans of the department:

1. To conduct more short term training programs and conferences.
2. To increase intake of students.
3. Plan to start full time post graduation courses in the department.
4. To start evening shift of IT.

Evaluative Report of the Department

1. Name of the Department & its year of establishment- **Business Administration , 2007**
2. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.) – **Masters- M.B.A**
3. Interdisciplinary courses and departments involved- **Applied Sciences**
4. Annual/ semester/choice based credit system- **Semester system**
5. Participation of the department in the courses offered by other departments-
Human resource management and economics
6. Number of teaching posts sanctioned and filled
(Professors/Associate Professors/Asst. Professors)

	Sanctioned	Filled
Professor	1	1
Associate Professors	2	1
Asst. Professors	4	3

7. 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 in the last 4 years
Dr.Sukhdev Singh	Ph.D	Professor	Finance	31	4
Dr.Parampal Singh	Ph.D	Associate Professor	Marketing	16	-
Mrs.Amanjot Kaur Gill	MCBA, Pursuing Ph.D	Assistant Professor	HRM	12	-
Er.H.S.Dhall	MBA, Pursuing Ph.D	Assistant Professor	Marketing	8	-
Dr.Navdeep Kaur	Ph.D	Assistant Professor	Marketing	6	-

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students guided in the last 4 years
Mrs.Amarpreet Kaur	MBA	Assistant Professor	HRM	5	-

8. .Percentage of classes taken by temporary faculty – programme-wise information

35%

9.Programme-wise Student Teacher Ratio

Programme-wise	Student Teacher Ratio
MBA	20:1

10.Number of academic support staff (technical) and administrative staff: sanctioned and filled

Number of academic support staff	sanctioned	filled
Technical staff	1	Nil
Administrative staff	1	1

11.Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise. NIL

12.Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received

AICTE SPONSORED FDP – Sanctioned grant –Rs.5, 00,000 (2012)

13.Research facility / centre with

- state recognition
- national recognition
- international recognition

PhD Program with Punjab Technical University, Jalandhar

14.Publications:

Numbers of papers published in peer reviewed journals

National Journals - 18

International Journals - 5

Monographs-Nil

Chapter(s) in books-3

Books with ISBN numbers with details of publishers-

S No	Name of the faculty	Title of the Book	Publishers	Year	ISBN No
1	Dr Sukhdev Singh	Financial Accountancy	Kalyani Publishers	2010	978-81-6082-8
2	Parampal Singh	Service Marketing: (M.Com Punjab University)	Kalyani Publishers	2014	978-93-272-3667-5
3	Parampal Singh	Marketing of services: (Dibrugarh University)	Kalyani Publishers	2013	978-93-272-1832-9
4	Parampal Singh	Book on Marketing of Services (Calicut University)	Kalyani Publishers	2012	978-93-272-1832-9
5	Parampal Singh	Marketing Of Services (Calicut University)	Kalyani Publishers	2012	978-93-272-1832-9
6	Parampal Singh	Marketing Of Services (Punjabi University)	Kalyani Publishers	2011	978-81-272-7029-2
7	Parampal Singh	Principles Of management (west Bengal university)	Kalyani Publishers	2010	978-81-272-6487-1
8	Parampal Singh	Public Relations	Kalyani Publishers	2009	978-81-272-5824-5
9	Parampal Singh	Principles of management	Kalyani Publishers	2009	978-93-272-1505-2
10	Parampal Singh	Services Marketing (MDU Rohtak	Kalyani Publishers	2008	978-81-272-6725-4
11	Parampal Singh	Service Marketing (PTU)	Kalyani Publishers	2008	978-81-272-6028-6
12	Parampal Singh	Quality Mangement	Kalyani Publishers	2008	978-81-272-6968-5
13	Parampal Singh	Principles and Practice of Management	Kalyani Publishers	2007	978-81-272-4781-1

15.Details of patents and income generated - NIL

16.Areas of consultancy and income generated -NIL

17.Faculty recharging strategies

- a. Annual increments based on appraisal for faculty
- b. CAS(Career Advancement Scheme) for promotions
- c. Funding for attending National and International Conferences
- d. Facility of recommending books for Departmental Library
- e. Faculty Development Programmes for motivating the faculty

18.Student projects

- percentage of students who have done in-house projects including inter-departmental- NIL
- percentage of students doing projects in collaboration with industries/institutes-100% Students do their projects in collaboration with different industries. The students have to undergo compulsory industrial training of 6-8 weeks.

19.Awards / recognitions received at the national and international level by

- Faculty -Nil
- Doctoral / post doctoral fellows- Nil
- Students - Nil

20.Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

The Department conducts one Faculty Development Programme every year sponsored by different funding agencies.

21.Student profile course-wise:

Name of the Course	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.B.A.	85	35	25	82	86

22.Diversity of students

Name of the Course	% of students from the College	% of students from the State	% of students from other States	% of students from other countries
M.B.A.	10%	95%	5%	—

23.How many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations?

NIL

24.Student progression

Student progression	Percentage against enrolled
UG to PG	Not applicable
PG to M.Phil.	Not applicable
PG to Ph.D.	0%
Ph.D. to Post-Doctoral	0%
Employed <ul style="list-style-type: none">• Campus selection• Other than campus recruitment	45% 25%
Entrepreneurs	—

25.Diversity of staff

Percentage of faculty who are graduates	
of the same parent university	0%
from other universities within the State	100%
from other universities from other States	0%

26.Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period.

One

27.Present details about infrastructural facilities

a) Library

The departmental library caters to the needs of the students of MBA programme. It has text and reference books.

b) Internet facilities for staff and students

Internet facility is available for the staff and students of the department.

c) Total number of class rooms

3 class rooms

d) Class rooms with ICT facility

one

e) Students' laboratories

One

f) Research laboratories

Nil

28.Number of students of the department getting financial assistance from College.

NIL

29.Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

Yes. NBA and ISO as per their standard methodology.

30.Does the department obtain feedback from

(a) faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

Department utilizes the feedback from faculty as:

- It helps in the better teaching exercise by the use of audio visual aids.
- It helps to impart in depth knowledge of advanced context.
- It facilitates the re-vision of current syllabi according to latest technologies.
- To make observations about students' learning process and strategies that will help them figure out how to improve.

(b) students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?

Department utilizes the same as:

- It helps in improvement of teaching methods.
- It involves students in meaningful learning and encourages faculty as well as students to adopt deep approaches of learning.
- To provide rich detailed descriptive feedback about course contents.
- It helps to employ advanced learning techniques.

(c) alumni and employers on the programmes and what is the response of the department to the same?

Department utilizes the feedback from alumni and employers:

- By identifying what kind of experience and skills are needed to obtain specific position in profession.
- By providing feedback through which department further provides suggestions to Punjab technical university directly or through board of studies members for further improvement in content of existing / introduction of new academic courses most relevant to current requirements.

31.List the distinguished alumni of the department (maximum 10)

- Inderjit Singh, Assiatant Director, Ministry of Finanace
- Ranjit Kaur, PSPCL, Punjab
- Karandeep Singh, Honda Scooters India Ltd.
- Akash Suri, Marketing Head, Unikid
- Aditya Bansal, DLF
- Sarabdeep Singh, Sonalika Tractors
- Nevideta Sharma, SIEL, Ludhiana
- Ramandeep Singh, Coca Cola
- Neeraj Gupta, Muthoot Finance
- Sonika Sharma, Apollo Hospital

32.Give details of student enrichment programmes (special lectures /workshops / seminar) with external experts.

Expert lectures are organized regularly to update the students and drawing experts from industry & academia.

33.List the teaching methods adopted by the faculty for different programmes.

Teaching Methods:

- Lectures
- Power Point Presentations
- Group discussions
- Tutorials
- Assignments
- Quiz
- Industrial Visits

Tools:

- LCD Projector

Faculty is also taking the help of Internet in the preparation of their lectures with the inclusion of latest developments in the field of management

34.How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

- Weekly tutorials are conducted.
- Monthly sessionals are conducted to meet the preset goals.
- Monthly assessment of student's communication skills via group discussions,

seminars and presentations.

- End semester examinations to check the overall development of student in current semester.
- Feedback form are collected from students and analyzed to constantly monitor the performance of teaching staff and taking appropriate action.

35.Highlight the participation of students and faculty in extension activities.

All the teachers are involved in the planning and execution of various extension activities. A wide range of activities are available at the department and college level. Students also take part in NSS/NCC programs conducted from time to time.

36.Give details of “beyond syllabus scholarly activities” of the department.

The department organizes special lectures and seminars on various topics useful for the students in their professional lives which are not included in their syllabus. Some Personality development programs are being organized in the department from time to time.

37.State whether the programme/ department is accredited/ graded by other agencies. Give details.

ISO certified

38.Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

STRENGTH:

- Highly qualified and experienced staff
- Fully equipped laboratories
- Class rooms well equipped with audio-visual aids
- Placement opportunities
- Very conducive environment for studies

WEEKNESSES

- Contribution to the research from the department is less.
- Participation in consultancy project is lacking.
- Few research publications
- No patents

- Course work needs upgradation in tune with industry

OPPORTUNITIES:

- Vibrant Indian economy
- Demand for qualified MBA degree holders is bound to grow
- Opportunities exist in specialized fields of management
- Using new advanced software
- Prospects for Research and consultancy activities

CHALLENGES:

- To attract quality of the students.
- To increase the placement percentage of the students.
- To garner more grant from government agencies
- Student research projects
- To conduct more FDPs

39.Future plans of the department.

- Better grooming of the students
- Enhanced Contribution towards research and development
- As per the requirements of the industry, introduction of the new course options
- Revision of the curriculum on regular basis
- Give more practical orientation to the programme
- Better interface with the Industry for employability of students.

Evaluative Report of the Department

1. Name of the Department: **Master of Computer Applications**
 & Year of Establishment: **2009**
2. Names of programs offered: **PG (MCA)**
3. Interdisciplinary programs and department involved:
Maths, Communication Skills: **Applied Science**
Accounting and Financial Management: **M.B.A**
4. Examination System: **Semester**
5. Participation of the department in the courses offered by other departments: Yes,
 Computer Science Department
6. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asstt. Professors/others)

	Sanctioned	Filled
Professors	00	00
Associate Professors	00	00
Asstt. Professors	05	05

7. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance.

Name	Qualification	Designation	Specialization	Experience	No.of Ph.D students guided
Dinesh Anand	MCA, M.Phil	Asst Prof.	Networking	Eight years	Nil
Daljeet Singh	M-Tech (CSE)	Asst Prof.	Software Engineering	Three years	Nil
Gurdeep Singh Hyher	B-Tech (CSE) M-Tech (IT)	Asst Prof.	Natural Language Processing	Three years	Nil
Mandeep Kaur	M-Tech (CSE)	Asst Prof.	Natural Language Processing	Three years	Nil
Inderjit Singh	M-Tech (IT)	Asst Prof.	Networks security	Eight years	Nil

8. Percentage of classes taken by temporary faculty- program- wise information: 80%
 9. Program –wise Student Teacher Ratio. **1:23**

10. Number of academic support staff(technical) and administrative staff:

	Sanctioned	Filled
Administrative	02	01
Technical	03	01

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise. **Nil**

12. Departmental projects funded by DST-FST; DBT, ICSSR, etc.; total grants received **Nil**

13. Research facility / centre with

- State recognition
- National recognition
- International recognition : **Nil**

14. Publications:

- Number of papers in peer reviewed journals (national / international) **07**

15. Detail of patent income generated **Nil**

16. Area of consultancy and income generated **Nil**

17. Faculty recharging strategies:

Faculty is encouraged to participate in the Faculty Development Programs for updating the knowledge.

S. No	Name of The Faculty	Programmes Attended	Name Of The Organizing Institution	Days
1	Dinesh Anand	Cloud Computing	BGIT-Sangrur-	1WEEK
2	Dinesh Anand	Advancements in Wireless Technology	Rayat-Bahra	2Weeks
3	Dinesh Anand	Wireless and Wi-Max Issues	SLIET	2weeks

4	Dinesh Anand	Recent advances and Future Trends in Digital Image Processing	Punjabi university	1day
5	MandeepKaur	Strenghtening the research methodology	GNDEC	1WEEK
6	MandeepKaur	Learning content management system	GNDEC	2days
5	Daljeet Singh	Strenghtening the research methodology	GNDEC	1WEEK
6	Daljeet singh	Learning content management system	GNDEC	2days
7	Gurdeep Singh	Strenghtening the research methodology	GNDEC	1WEEK
8	Gurdeep singh	Learning content management system	GNDEC	2days

18. Student projects

Percentage of students who have done in-house projects including inter-departmental

—

100%

Percentage of students doing projects in collaboration with
industries / institutes -0%

19. Awards / recognitions received at the national and international level by

> Faculty -**NIL**

> Doctoral / post doctoral fellows-**NIL**

>Students-**NIL**

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any. Academic Year 2011-2012

NIL

21. Student profile course-wise:

Name of the Course	Academic Year	Applications received	Selected Male Female	Pass Male percentage Female
MCA	2011-2012	60	26 25	85 92
MCA	2012-2013	65	23 32	70 90
MCA	2013-2014	45	7 25	60 90

22. Diversity of student

Name of the Course	% of students from the College	% of students from the State	% of students from other States	% of students from other countries
MCA	Not applicable	85%	15%	0

a) Many students have cleared Civil Services, Defense Services, NET, SLET, GATE and any other competitive examinations? -One

24. Student progression

Student progression	Percentage against enrolled
UG to PG	Not applicable
PG to M.Phil.	Not applicable
PG to Ph.D.	0
Ph.D. to Post-Doctoral	0
Employed	
> Campus selection	55
> Other than campus recruitment	15
> Entrepreneurs	0

25 Diversity of staff

Percentage of faculty who are graduates	
Of the same parent university	67
from other universities within the State	33
from other universities from other States	0

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period-**NIL**

27. Present details about infrastructural facilities

a) Library

Departmental Library shared with CSE is having all text books and other reference books for quick reference.

b) Internet facilities for staff and students Yes

c) Total number of class rooms : 02

d) Class rooms with ICT facility : 01

e) Students' laboratories

Department has 4 laboratories related to different subject of Computer applications.

f) Research laboratories -0

28. Number of post graduate students getting financial assistance from university. : Nil

29. Was any need assessment exercise undertaking before the development of new program(s)? If so, give the methodology.

Yes, as per the guidelines of NBA, ISO.

30. Does the department obtain feedback from

a) Faculty on curriculum as well as teaching –learning-evaluation? **Yes**

The department utilizes it by including better teaching methodologies and introducing the revisions in the curriculum.

b) Student on staff, curriculum as well as teaching – learning –evaluation? **Yes**

Multipoint Evolution Performa is designed to take the evaluation from the student in the middle of each semester. It is utilized for the better teaching learning process.

c) Alumni and employers on the programmes offered and how does the department utilize the feedback?

Yes. The feedback is used to improve the quality of teaching, infrastructure and employment opportunities.

31. List the distinguished alumni of the department:

The first batch of MCA passed out in 2013. All the passout students have got jobs in different organizations.

32. Give details of student's enrichment programmes (special lectures/ workshops / seminar) with external experts

1. Mr. Rishab from the school of Life Skills organized an interactive workshop on Self Management and Communication Skills for the benefit of post graduate students of Guru Nanak Dev Engg. College, Ludhiana. The power point presentation punctuated with practical approaches/suggestions went down very well with the students who were immensely benefitted.
2. **Techno Campus** organized workshop of MCA department students on **Windows Application development C# in Windows (Visual Studio 2012)** in MBA Seminar hall on 27th Sept, 2013.
3. Final year MCA students have participated in Finishing school organized by T&P department on Aptitude test and Soft skill Training from 09/09/2013 to 04/10/2013 in Training and Consultancy Cell of College.

4. Workshop on Aptitude Test by TIME Institutes

TIME Institutes Ludhiana organized workshop on aptitude test for students of MCA department on 19/10/2012, all the students of MCA department appeared for this aptitude test. The session concluded with an interactive round with students clarified their doubts.

5. Workshops on Communication Skills organized for MCA Students

Mr.Harmanjot Singh, power plant engineer at SEL Manufacturing Co. Ltd. organized an interactive workshop on Self Management and Communication Skills for the benefit of post graduate students of Guru Nanak Dev Engineering College, Ludhiana. The power point presentation punctuated with practical approaches/suggestions went down very well with the students who were immensely benefitted. It was followed by Interactive session with the students.

6. Aptitude and Technical Test by GTECH SOFTWARES

GTECH software's organized aptitude/technical test for students of MCA department on 18/10/2012 and all the students of MCA department appeared for this aptitude/Technical test. The test was successfully conducted under the guidance of Prof. K.S. Mann, Dean T&P with Prof.

7. Grooming Session from British Council

Grooming session was organized on Personality Development and Group Discussion on 06/03/2013 in T&P Conference Hall.

33. Teaching methods adopted by the faculty for different programmes.

- Use of ICT such as projectors for seminars in teaching learning methods
- Presentation on subject topics
- Manual as well as online providing notes to students
- Practical implementation of subject concepts in labs, wherever possible

34. How does the department ensure the programme objective is constantly met and learning outcomes monitored?

- Weekly tutorials are conducted

- Daily assessment of student learning by considering his/her activeness in the classroom.
- Monthly sectional are conducted to meet the present goals
- Monthly assessment of student's presentations and communication skills through group discussion seminar and viva voice.
- End semester exam are conducted to check the overall development of student in that semester.
- Annual feedback forms are collected from students and analyzed to constantly monitor the performance of teaching staff and facilities been provided.

35. Highlight the participation of the student' and faculty in extension activities.

All the teachers are involved in the planning and execution of various extension activities. A wide range of activities are available at the department and college level. Students also take part in NSS/NCC programs conducted from time to time.

36. Give details of “beyond syllabus scholarly activities” of the department.

- Content beyond syllabus is included in some subjects which are reflected in class time table as well.
- Project are assigned to students in labs in addition to practices suggested in syllabus
- Education tours are conducted for students

Classes for weaker students held to improve the performance of students.

37. State whether the programme / department is accredited/graded by other agencies.

: **ISO certified**

38. Detail any five Strengths, Weakness, Opportunities and Challenges (SWOC) of the department

Strengths:

- Department is having Qualified and Experienced staff.
- Department is accredited by National Board of Accreditation (NBA) and (ISO) certified.
- Department is having publications in many good International/ National Journal and Conferences including IEEE conferences.
- Department is having well equipped labs for students.
- Department has got grants from DST, AICTE and MODROB.

Weakness:

- Department is not having regular Post Graduation Course.
- Department has not conducted any STTP, FDP in the department.
- Department is having less number of seats as compared to other department in the college.
- Department is not having staff with doctorate.

- Department is not having any consultancies project.

Opportunities:

- Demand of MCA degree holders is growing
- Using new advanced software
- Prospectus for research activities
- Scope of consultancy projects
- Huge opportunities in specialized fields of computer applications

Challenges:

- To improve quality of the students
- To increase the intake of students
- To increase the placement percentage of students
- To bring more grants from government agencies.
- To conduct more FDPs

39. Future plans of the department

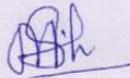
1. Department will plan to conduct more short term training programmes, conferences.

Declaration by the Head of the Institution

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

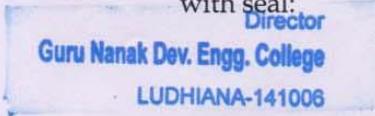
This SSR is prepared by the institution after internal discussions, and no part thereof has been outsourced.

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



Signature of the Head of the institution

with seal:



Director

Guru Nanak Dev. Engg. College

LUDHIANA-141006

Place: LUDHIANA
Date: 20-5-2014

List of Annextures

1. NBA Accreditation Letter (2004)
2. NBA Accreditation Letter (2008)
3. NBA Acreditation (Applied)
4. Proof for Grant-in-aid Institution (Original and Translated letter)
5. Audit report of Performance auditor of TEQIP-II (Reprot-1)
6. AAudit report of Performance auditor of TEQIP-II (Reprot-2)



राष्ट्रीय प्रत्यायन मंडल (रा.प्र.म.)
NATIONAL BOARD OF ACCREDITATION (NBA)

(constituted under clause 10(U) of AICTE Act, 1987)

F. No. NBA/ACCR -256/2003

Dated 17/06/2004

Dr. P. N. RAZDAN
Member Secretary

To
The Principal
Guru Nanak Dev Engg College,
Ludhiana-141 006.

Sir,
Sub : NBA Accreditation to your institutional programmes

This is with reference to your proposal for accreditation of the following programmes and the NBA accreditation visit to your institution. The report of the accreditation visit was considered by the Sectoral Committee and subsequently by the National Board of Accreditation in its meeting held on **June 11, 2004**. Based on the recommendations of the Board, I am directed to convey the Accreditation Status of following under-graduate degree level programme(s) in Engg / Technology.

S.NO.	Name of Programme(s)	Accreditation Status	Period of validity w.e.f. 11-06-2004
1.	B.E. Mechanical Engg	Accredited	3 Years
2.	B.E. Electronics & Communication Engg	Accredited	3 Years
3.	B.E. Electrical Engg	Accredited	3 Years
4.	B.E. Computer Science & Engg	Accredited	3 Years
5.	B.E. Civil Engg	Accredited	3 Years

(Total number of programmes Accredited vide this letter – Five)

The Accreditation Status awarded to the various programmes of your Institution does not imply accreditation to the College/Institution as a whole. The full name of the Programme accredited and the period of validity of accreditation, as well as the date from which the award is effective, should be quoted unambiguously whenever it is used.

The Status awarded to the above programmes of your College/Institution are on the presumption that the Institute would maintain the current standards in future. If there are any changes that would effectively alter the status (such as, major changes in faculty availability or changes in the management structure, etc), the same shall be communicated to the Member Secretary NBA, with an appropriate explanatory note.

Yours sincerely

Razdan

(P.N. Razdan)

- C.C – (i) The Vice Chancellor, Punjab Technical University, Jallandhar
(ii) The Secretary Govt. of Punjab, Chandigarh.
(iii) The N.W.R.O Chandigarh.

11/05/2004
22/6/04

(P.N. Razdan)

Original - AICTE M/P
Copy (ii) HODs (Ac) S.S. SSS. R.P.B/S
(iii) Deans (Ac) S.S. SSS. R.P.B/S

अखिल भारतीय तकनीकी शिक्षा परिषद, इंदिरा गांधी खेल परिसर, इन्द्रप्रस्थ एस्टेट, नई दिल्ली - 110002
All India Council for Technical Education, Indira Gandhi Sports Complex, I. P. Estate, New Delhi -110 002

दूरभाष / Phone : (Off). + 91-11-23392595, 23392562, 23392581

फैक्स / Fax : +91-11-23392595 ई-मेल / E-mail : razdan_123@rediff.com
visit us at <http://www.nba-aictc.ernet.in>



अधिल भारतीय तकनीकी शिक्षा परिषद्

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

(भारत सरकार का एक सांविधिक निकाय) (A STATUTORY BODY OF THE GOVT. OF INDIA)

राष्ट्रीय प्रत्यायन मंडल (R.A.P.M.)

NATIONAL BOARD OF ACCREDITATION (NBA)

(Constituted Under Clause 10(u) of AICTE act. 1987)

Dr. (Mrs.) Tabassum Naqvi Haider
Director – Quality Assurance

F.No. NBA/ACCR-256/2003
July 19, 2008

To

The Principal,
Guru Nanak Dev Engineering College,
Gill Park, Gill Road,
Ludhiana – 141 006 (Punjab)

Sub: NBA Decision on Accreditation Status of Programmes offered by your Institution.

Dear Sir/Madam:

With reference to your application for accreditation of the following programme (s) and the Expert Committee visit to your institution, the report of the visit team was considered by the various Sectoral Committees and subsequently by the National Board of Accreditation in its meeting held on 19.07.2008. Based on the recommendations of the Board, I am pleased to communicate the Accreditation Status of the following programme (s) from your Institution.

SI.No.	Name of UG Programme	Accreditation Status	Period of validity w.e.f. 19.07.2008
1.	Electrical Engineering	Accredited	3 Years
2.	Information Technology	Accredited	3 Years
3.	Civil Engineering	Accredited	3 Years
4.	Mechanical Engineering	Accredited	3 Years
5.	Production Engineering	Accredited	3 Years
6.	Electronics & Communication Engg.	Accredited	3 Years
7.	Computer Science & Engineering	Accredited	3 Years

(Total number of programmes Accredited vide this letter – Seven).

The Accreditation status awarded to the above programmes of your institution does not imply accreditation to the College / Institution as a whole. Complete name of the Programme(s) Accredited and its period of validity, as well as the date from which the award is effective, should be quoted unambiguously whenever it is used. The accreditation status of the above programmes is subject to periodic review by the NBA Secretariat and will be changed if major deficiencies are identified on surveillance. You are also requested to comply with the mandatory disclosure of pertinent information as per the proforma placed in the AICTE website with respect to accredited programmes of your institution. The same information should also appear in the website and information bulletin of your institution clearly indicating the date of publication of the same.

Contd....2

चौथा तल, ईस्ट टावर, एन.बी.सी.सी. प्लैस, भीष्म पितामह मार्ग, प्रगति विहार, लोधी रोड़, नई दिल्ली-110003
4th Floor, East Tower, NBCC Place, Bhisham Pitamaha Marg, Pragati Vihar, Lodhi Road, New Delhi-110003
Phone : 011-24369633, 24369623 Telefax : 24369624, EPBAX : 24369619 - 22

The status awarded to the above programmes of your college / Institution is on the presumption that the programmes would maintain the current standards in future. If there are any changes that would effectively alter the status (such as, major changes in faculty strength or changes in the organizational structure, etc.), the same shall be communicated to the undersigned, with an appropriate explanatory note. A comprehensive report submitted by the Chairman of the expert committee who visited your institution and the distribution of marks/points awarded for each programme against the accreditation parameters are enclosed for further necessary action at your end to overcome the shortcomings observed in each programme. If you are not satisfied with the decision of the Board, you may forward your appeal application with requisite fee within thirty days of receipt of this communication.

Let me also take this opportunity to congratulate all those who have contributed to the quality enhancement of programmes that secured accreditation by NBA.

With best wishes,

Yours Truly,

(Tabassum Naqvi)

C.C : (i) **The Vice Chancellor**
Punjab Technical University,
REC Post Office
Jalandhar - 144 001 (Pb.)

(ii) **The Director,**
Directorate of Technical Education
and Industrial Training, Punjab,
Plot No. 1-A, Sector-36-A,
Chandigarh

(iii) **The NWRO, AICTE,**
North-Western Regional Office,
Plot No. 1310, Sector 42-B,
Chandigarh-160036

(iv) **Accreditation File**

(v) **Guard File**

(Tabassum Naqvi)



ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਇੰਜੀਨੀਅਰਿੰਗ ਕਾਲਜ
Guru Nanak Dev Engineering College
(Punjab Govt Aided Status)
NBA Accredited ISO-9001:2008 Certified

No. RK-50/3633
Dt 6/12/2011

The Member Secretary,
National Board of Accreditation
All India Council for Technical Education
4th Floor, East Tower, NBCC Place,
Bhisham Pitamaha Marg, Pragati Vihar,
New Delhi – 110 003

original - RK
PA - nos
PA -
AB
DNDCL

Sir,

We request you to consider the following Programme (s) of our Institution for Accreditation:

- | | | |
|---|--|---|
| 1. Name of the Institution | : | Guru Nanak Dev Engineering College, Ludhiana |
| 2. Full Postal Address of Institution | : | Guru Nanak Dev Engg. College
Gill Park, Gill Road, Ludhiana-141006
Punjab |
| 3. (a) Tel.No. 0161-2490339 | : | (b) E-mail : director@gndec.ac.in |
| 4. Fax No. | : | 0161-2502700 |
| 5. Name of University/Board affiliated to : | : | Punjab Technical University, Jalandhar |
| 6. Nature of Programmes | : | UG (Engg./Tech.) |
| (I) HCE | : | Under-Graduate Programme (First Shift) |
| (II) HME | : | B.Tech. (Civil Engg.) |
| (III) HEE | : | B.Tech.(Mechanical Engineering) |
| (IV) PE & EC | : | B.Tech. (Electrical Engineering) |
| (V) HCSE | : | B.Tech.(Electronics & Comm. Engg.) |
| (VI) HIT | : | B.Tech. (Computer Sc. & Engg.) |
| (VII) HASC | : | B.Tech. (Information Tech.) |
| (VIII) HMBA | : | B.Tech. (Production Engg.) |
| (IX) H.W/Shop | : | |
| (X) MCA | We are enclosing four copies and one CD of information contained in The Accreditation | |
| (XI) HPED | Formal Part-I and Part-II (one of each Programme/Discipline), along with the various enclosures as required. | |

Received 7/12/2011
National Board of Accreditation
New Delhi

DDM.-902013

Amount - 13,000/-



ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਇੰਜੀਨੀਅਰਿੰਗ ਕਾਲਜ
Guru Nanak Dev Engineering College
(Punjab Govt Aided Status)
NBA Accredited ISO-9001:2008 Certified

-2-

We have paid the Accreditation fees (by Crossed demand draft no. 902013, as mentioned in your mail dated 19th September, 2011).

Date 5.12.2011

Amount Rs. 13.00 Lakh

Bank Punjab & Sind Bank

Branch Gill, Ludhiana

Yours sincerely,

Signature of the Head of Institution

Date: 5.12.2011

Place: Ludhiana

SEAL

Director,

Guru Nanak Dev. Engg. College,

LUDHIANA-141006



ਪੰਜਾਬ ਪੰਜਾਬ PUNJAB

TRUE ENGLISH TRANSLATION

07AA 123724

From: Director Technical Education and
Industrial Training Department, Punjab
(Technical Education Wing) Chandigarh.

To: Director
Guru Nanak Dev Engineering College,
Ludhiana.

Memo no. 3070/E.C.C./2010, dated: 15/10/10

Subject: Status of Guru Nanak Dev Engineering College, Ludhiana,
in regard to recognition of College under section 2(f) of the
UGC Act, 1956.

Reference: Your letter no. 2076, dated: 30/08/2010 on the subject cited
above.

It is certified that Guru Nanak Dev Engineering College,
Ludhiana, is a Grant-in-Aid Institute. This letter is issued in reference to the
request of the Institute for the above cited subject, to send information to
University Grants Commission.

This is for your information and further necessary action.

TRUE TRANSLATION FROM
PUNJABI, HINDI URDU INTO ENGLISH

Sd/-
Additional Director
for Director, Technical Education and
Industrial Training Department, Punjab

NOTARY PUBLIC LUDHIANA/PB INDIA

18 OCT 2010

ਵੱਲੋਂ

ਡਾਇਰੈਕਟਰ ਤਕਨੀਕੀ ਸਿੱਖਿਆ ਅਤੇ
ਊਦਯੋਗਿਕ ਸਿਖਲਾਈ ਵਿਭਾਗ, ਪੰਜਾਬ
(ਤਕਨੀਕੀ ਸਿੱਖਿਆ ਵਿੰਗ), ਚੰਡੀਗੜ੍ਹ।

ਸੇਵਾ ਵਿੱਚ

ਡਾਇਰੈਕਟਰ,
ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਇੰਜੀਨੀਅਰਿੰਗ ਕਾਲਜ,
ਲੁਧਿਆਣਾ।

ਮੀਮੋ ਨੰ: ੩੦੨੦/ਈ.ਸੀ.ਸੀ./2010 ਮਿਤੀ: 15/08/10

ਵਿਸ਼ਾ:-

Status of Guru Nanak Dev Engineering College, Ludhiana in
regard to recognition of college under section 2 (f) of the UGC
Act, 1956.

ਹਵਾਲਾ:-

ਆਪ ਦਾ ਪੱਤਰ ਨੰ: 2076 ਮਿਤੀ 30-08-2010 ਉਪਰੋਕਤ ਵਿਸ਼ੇ ਤੇ।

ਇਹ ਤਸਦੀਕ ਕੀਤਾ ਜਾਂਦਾ ਹੈ ਕਿ ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਇੰਜੀਨੀਅਰਿੰਗ ਕਾਲਜ, ਲੁਧਿਆਣਾ
ਇੱਕ ਗ੍ਰੰਟ ਇੰਡ ਸੰਸਥਾ ਹੈ। ਇਹ ਪੱਤਰ ਸੰਸਥਾ ਵੱਲੋਂ ਉਪਰੋਕਤ ਹਵਾਲਾ ਅਧੀਨ ਪੱਤਰ ਦੇ ਸਨਮੁੱਖ
ਯੂਨੀਵਰਸਿਟੀ ਗ੍ਰੰਟ ਕਮਿਸ਼ਨ ਨੂੰ ਸੂਚਨਾ ਭੇਜਣ ਲਈ ਜਾਰੀ ਕੀਤਾ ਜਾਂਦਾ ਹੈ।

ਇਹ ਆਪ ਦੀ ਸੂਚਨਾ ਅਤੇ ਅਗਲੇਹੀ ਕਾਰਵਾਈ ਹਿੱਤ ਹੈ।

ਵਧੀਕ ਡਾਇਰੈਕਟਰ,
ਵਾ: ਡਾਇਰੈਕਟਰ, ਤਕਨੀਕੀ ਸਿੱਖਿਆ ਅਤੇ
ਊਦਯੋਗਿਕ ਸਿਖਲਾਈ ਵਿਭਾਗ, ਪੰਜਾਬ।

PERFORMANCE AUDIT FORMS
INSTITUTION PERFORMANCE PROFILE

AUDIT VISIT NUMBER: 2

(Circle number of the visit, as appropriate)

NAME OF PERFORMANCE AUDITOR: Prof. Sandeep Grover
 DATES OF PERFORMANCE AUDIT: 16th & 17th October, 2013
 NAME OF INSTITUTION WITH LOCATION: Guru Nanak Dev Engineering College, Ludhiana

PIP REF	INSTITUTION PERFORMANCE PROFILE	OVERALL EVALUATION GRADES
COMPONENT 1: IMPROVING THE QUALITY OF EDUCATION IN SELECTED INSTITUTIONS		
STRENGTHENING INSTITUTIONS TO IMPROVE LEARNING OUTCOMES AND EMPLOYABILITY OF GRADUATES		
1.1	SCALING UP POSTGRADUATE EDUCATION AND DEMAND-DRIVEN RESEARCH AND DEVELOPMENT AND INNOVATION	1
1.2	ESTABLISHING CENTRES OF EXCELLENCE	2
1.2.1	FACULTY DEVELOPMENT FOR EFFECTIVE TEACHING (PEDAGOGICAL TRAINING)	NA
1.3	CAPACITY BUILDING TO STRENGTHEN MANAGEMENT	2
COMPONENT 2: IMPROVING SYSTEM MANAGEMENT		
2.1	IMPLEMENTATION OF GOOD GOVERNANCE	1
2.1.1	PROJECT MANAGEMENT, MONITORING AND EVALUATION	1
2.2	INSTITUTION PERFORMANCE PROFILE GRADES AND GRADE DESCRIPTORS	1
<p>1 Significant evidence of good practice in the quality and standards achieved (Assessment identifies clear supporting evidence for at least 75% of the relevant practices can be considered good practice)</p> <p>2 Some evidence of good practice in the quality and standards achieved (Assessment identifies clear supporting evidence that at least 50% of the relevant practices can be considered good practice)</p> <p>3 Good practice not widespread or not in place (Institutions may specify the expected date of completion if there are concrete plans in place for implementation.)</p>		

NOTE: SUPPORTING EVIDENCE - PERFORMANCE AUDITORS WILL PROVIDE A BULLET POINT LIST OF THE STRONGEST, CLEAREST EXAMPLES OF EVIDENCE IN SUPPORT OF EVALUATION GRADES ON ALL ANNEX 4 FORMS.

The grade descriptors have two elements: one relating to the amount and nature of the evidence for a given practice; and one relating to the quality of the practice about which the evidence is gathered. So, for example, a grade of 1 means both that the evidence is clear and that it amounts to 75% or more of the total evidence found; and, that the practice is good.

Table A: Summary Performance Audit Evaluation Number-1

Name of Performance Auditor : Prof. Sandeep Grover, Professor, YMCA University of Science and Technology, Faridabad

Dates of Performance Audit : 19-21 April, 2013

Name of Institution with location : Guru Nanak Dev Engineering College, Ludhiana-141006

S. No.	Area of Performance Audit	Remarks
1.	Project Implementation	<ul style="list-style-type: none"> The institution has secured autonomous status from UGC. Academic and other infrastructure is good and the institution is in process of procuring equipments and LR's under TEQIP. The institution has started giving scholarship to NON-GATE scholars but new M.Tech. programmes as per IDP are yet to start. Faculty is being sponsored for the FDP's but a concrete plan needs to be in place. The institution has a separate consultancy cell, which is doing a good work. Industry interaction is there but needs improvement.
2.	Implementation of Institutional Reforms	<ul style="list-style-type: none"> Student feedback system is in place Four funds have been established with appropriate sizes. The institution has a policy for offering incentives to faculty for FDP's and consultancy work
3.	Administrative and Managerial Efficiency Improvement	<ul style="list-style-type: none"> The senior functionaries have adequate administrative but limited financial power The institution is aware and responsive to the needs of stakeholders. It has a separate maintenance cell. The institution is utilizing its resources in a proper way and has various systems in order.
4.	Qualitative Improvements related to Education and Research	<ul style="list-style-type: none"> The institution is in process of making full use of autonomous status and has qualified and adequate faculty (few vacancies) as per norms. Teaching aids are being used and students are in general satisfied. The institution has started a good practice

Total No. of Pages : (14)

21/4/13

		<ul style="list-style-type: none"> of showing answer sheets to the students Faculty members are doing a good work by getting consultancy and other research projects from bodies like AICTE, UGC, DST and have also filed three patents. However the institution should immediately apply for accreditation of eligible process.
5.	Institutional Governance	<ul style="list-style-type: none"> The institution is very old and has governance system in order since inception. However it should ensure that the regular meetings are held and participation from nominees of regulatory bodies is continuous. Detailed annual report should be published and be submitted to BOG.
6.	Support to Weak UG Students	<ul style="list-style-type: none"> The institution has sizable number of students from rural sector. Hence more stress should be given to activities like finishing schools and PDP's Remedial classes activity has been initiated. T&P efforts are there but more fruitful results are required.

Note:

For Table A, the Summary of Performance Audit Evaluation, is to be filled in by the Performance Auditor from the overall qualitative assessment for the Tables 1 to 6 as given ahead in this format for Performance Audit Report.