1. Vision, Mission and Programme Educational Objectives (100)

1.1. Vision and Mission (5)

1.1.1. State the Vision and Mission of the institute and department (1)

(List and articulate the vision and mission statements of the institute and department)

Vision of the University

To become a Center of Excellence comparable to the best in the world for producing professionals who shall be leaders in technology innovation, entrepreneurship and management.

Mission of the University

- To develop as a benchmark University in emerging technologies;
- To provide state of the art teaching learning process and R&D environment; and
- To harness human capital for sustainable competitive edge and social relevance.

Vision of the Department

To become a Center of Excellence in the computer sciences and information technology discipline with a strong research and teaching environment that adapts swiftly to the challenges of the 21st century.

Mission of the Department

M1. To provide qualitative education and generate new knowledge by engaging in cutting-edge research and by offering state-of-the-art undergraduate, postgraduate and doctoral programmes, leading to careers as Computer and IT professionals in the widely diversified domains of industry, government and academia.

M2. To promote a teaching and learning process that yields advancements in state-of-the-art in computer science and information technology, resulting in integration of research results and innovations into other scientific disciplines leading to new technologies and products.

M3. To harness human capital for sustainable competitive edge and social relevance by inculcating the philosophy of continuous learning and innovation in Computer Science and Information Technology.

1.1.2. Indicate how and where the Vision and Mission are published and disseminated (2)

(Describe in which media (e.g. websites, curricula books) the vision and mission are published and how these are disseminated among stakeholders)

- University website: www.juit.ac.in
- Departmental page on the university website: http://www.juit.ac.in/computer-science-engineering-and-information-technology.
- Disseminated during student orientation programme.
- They are also prominently displayed on the departmental notice boards.

1.1.3. Mention the process for defining Vision and Mission of the department (2)

(Articulate the process involved in defining the vision and mission of the department from the vision and mission of the institute.)

- The HOD with the active participation of faculty members and based on the continuous feedback from stakeholders develops the vision and mission statement of the department in alignment with Vision and Mission of the University.
- These statements are discussed further among faculty members before finalization.
- The new vision and mission statements are sent to the Board of Studies of the department for approval.
- Finally the Vision and Mission are approved by the Academic Council and the Governing Council.

1.2. Programme Educational Objectives (15)

1.2.1. Describe the Programme Educational Objectives (PEOs) (2)

(List and articulate the programme educational objectives of the programme under accreditation)

PEO-1:

To provide student graduates with a solid foundation in mathematical, scientific and engineering fundamentals required to develop problem solving ability.

PEO-2:

To prepare student graduates for a successful career with effective communication skills, teamwork skills and work with values that meet the diversified needs of industry, academia and research.

PEO-3:

To train students in comprehending, analyzing, designing and creating novel products and technologies that provide solution frameworks to real world problems.

PEO-4:

To promote awareness among student graduates towards issues of social relevance and introduce them to professional ethics and practice.

PEO-5:

To inculcate in student graduates the ability to gain multidisciplinary knowledge through projects and industrial training, providing a sustainable competitive edge in R&D and meeting industry needs.

PEO-6:

To develop self-learning ability in graduates by inculcating the philosophy to continuously learn, innovate and contribute to creation of new knowledge for the benefit of the society at large.

PEO-7:

To inculcate in graduates the qualities of leadership for technology innovation and entrepreneurship.

1.2.2. State how and where the PEOs are published and disseminated (2)

(Describe in which media (e.g. websites, curricula books) the PEOs are published and how these are disseminated among stakeholders)

- University website: www.juit.ac.in
- Departmental page on the university website: http://www.juit.ac.in/computer-science-engineering-and-information-technology.
- Disseminated during student orientation programme.
- They are also prominently displayed on the departmental notice boards.

1.2.3. List the stakeholders of the programme (1)

(List stakeholders of the programme under consideration for accreditation and articulate their relevance)

1. Current and Prospective Students
2. Parents
3. Employees including ex- faculty and staff
4. Alumni
5. Faculty
6. Employers
7. Management

1.2.4. State the process for establishing the PEOs (5)

(Describe the process that periodically documents and demonstrates that the PEOs are based on the needs of the programme's various stakeholders.)

Our process for establishing and revising Program Educational Objectives (PEOs) is depicted in figure 1 below. Alumni inputs are obtained through extensive alumni surveys with follow-up email and telephone calls by the Department HOD and associated faculty.

Student input to our educational objectives is obtained in a number of traditional ways, including presentations at seminars, course and program surveys, and through focus groups conducted with graduating seniors by the Department HOD. This feedback is condensed and presented to faculty at the final faculty meeting. Students also participate in a course evaluation process at the end of each course.

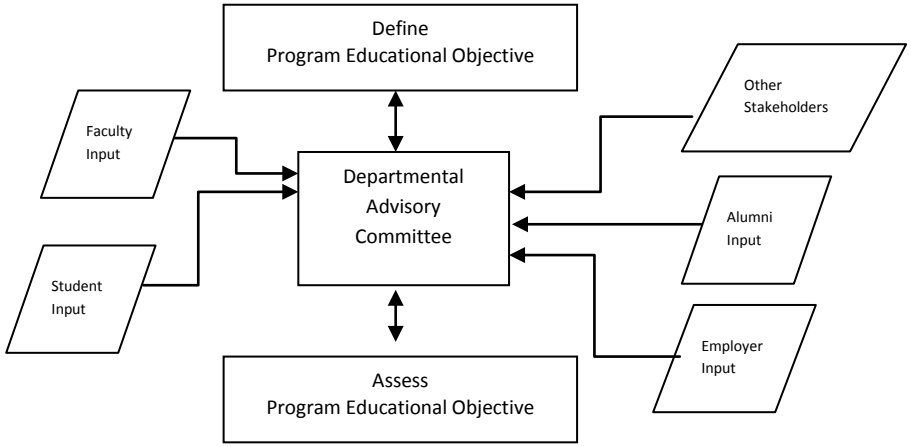


Fig 1: The process for establishing the PEOs

1.2.5. Establish consistency of the PEOs with the Mission of the institute (5)

(Describe how the Programme Educational Objectives are consistent with the Mission of the department.)
The table-1 below shows the correlation of PEOs with the departmental Missions. It indicates the correlation obtained is in the range of 86% to 100%.

There are three cornerstones of our department mission that are aligned with the PEOs namely, problem solving ability, proficient communication skills, provide solution frameworks, social responsibility, professional ethics, creating multi-disciplinary knowledge, self-learning ability and inculcating the qualities of leadership for technology innovation and entrepreneurship.

The consistency of each PEO's with the mission of department has been described in following paragraphs:

Our graduates are expected to master fundamentals so that they acquire proficiency in working across the breadth of engineering disciplines.

Problem solving ability imparted through a solid foundation in mathematical, scientific and engineering fundamentals is the one of the aspects of our department's program educational objectives and is implemented in order to facilitate our engineers' analytical skills. Our department will achieve this through the maintenance of statistics on the types of job functions our graduates are performing, their promotions and advancements, and their career paths from supporting to lead engineers.

Proficient communication is a value of JUIT's IT programme. Our goal is for our graduates to gain effective communication skills in oral, written and electronic media. We achieve this through the various HSS courses and group activities in every semester that focus on this aspect.

Leadership development is another objective of our program. We seek to groom our graduates so that they will be able to demonstrate teamwork and leadership skills that will allow them to participate effectively in a team environment. We achieve this by involving student participation in management of International conferences, seminars and workshops conducted by the department regularly. Students are also encouraged to participate in the management of various university professional, cultural, sports and other tech fests.

Professional preparation leading to capability-building for providing solution frameworks to real world problems is also an important institutional objective. JUIT is becoming leader in producing practicing professionals, both at the undergraduate and graduate level. Our undergraduate program has its roots as a technology program. At the graduate level, JUIT is a comprehensive university that offers five professional degrees. Our undergraduate program objectives emphasize the development of skills in computer programming, networking, software design and oral and written communication etc. that have a strong correlation with professional success.

Social responsibility is our final PEO. Our graduates will contribute to larger community goals through commitments to social-environmental awareness, entrepreneurship, and economic development. Our strategy to achieve this is to encourage students to take up number of projects or activities involving environmental issues, green computing, societal issues, community service and other related topics.

Finally, the ability of our graduates to compete in this globalized and competitive world, gaining multi-disciplinary knowledge, promoting self-learning ability and inculcating the qualities of leadership for technology innovation and entrepreneurship to create employment forms the backbone of our IT programme success to continuously strive for being in the forefront in these.

PEOs	Mission			
	M1	M2	M3	Weightage
PEO-1	H	M	H	89%
PEO-2	H	M	H	89%
PEO-3	H	H	H	100%
PEO-4	H	H	M	89%
PEO-5	H	H	M	89%
PEO-6	H	H	M	89%
PEO-7	M	H	H	89%
Weightage	95%	90%	86%	

Table-1: PEO and Mission Correlation

1.3. Achievment of Programme Educational Objectives (30)

1.3.1. Justify the academic factors involved in achievement of the PEOs (15)

(Describe the broad curricular components that contribute towards the attainment of the Programme Educational Objectives.)

The curriculum consists of Mathematics, Science, Programming, Humanities, Professional Core and Professional Electives as per the ratios given in the table-2 below. The correlation between these academic components with the PEOs has been given in the Table-2 below:

S. No.	Description	% of credits	No. Of Credits	PEO							
				PEO-1	PEO-2	PEO-3	PEO-4	PEO-5	PEO-6	PEO-7	Weightage
1	Mathematics	8.2	16	H	H	H	M	H	H	M	90%
2	Science	7.2	14	H	M	H	H	M	H	H	90%
3	Computing (common programming)	6.2	12	H	H	H	M	H	M	H	90%
4	Humanities	12.3	24	M	H	H	H	M	H	H	90%
5	Professional Core	56.9	111	H	M	H	M	H	H	H	90%
6	Professional Elective	9.2	18	H	M	H	M	H	H	M	86%
	Weightage			94%	83%	100%	89%	89%	94%	89%	

Table-2: Correlation between academic factors and PEOs

In addition to the curriculum, we focus on the following academic factors to achieve the PEOs:

- Conducting the various academic activities like technical festival, quizzes, and seminars to demonstrate student's technical and competitive skills.
- Organising international conferences by the department. Students participate as members of various organising committees. These international conference provide a good platform to interact with the various internationally renowned experts, researchers and keynotes.
- The department organises two IEEE International conferences, one every alternate year on Parallel Distributed and Grid Computing (PDGC) and the other on Image Information Processing(ICIIP). Conference links of recent events are given below:
  http://www.juit.ac.in/iciip_2013/
  http://juit.ac.in/pdgc-2014/
- Various career oriented workshops are organised by the department. Some of these are in collaboration with Indo-American society IUCEE.
- Students are motivated to write research reports of their final year project work.
- The faculty is involved in doing quality research. Most of our research articles are SCOPUS indexed.
- University has ranked 55 in SCOPUS international ranking in Indian university, which reflect the quality research work by our faculty members.
- Our department is a resource centre for spoken tutorial started by IIT Bombay to enhance the professional competences. The project is sponsored by MHRD, Government of India.

1.3.2. Explain how administrative system helps in ensuring the achievement of the PEOs (15)

(Describe the committees and their functions, working process and related regulations.)

The following committees provide inputs towards achievement of the PEOs:

- **Board of Studies**: The BOS ensures the relevance of the curriculum and syllabi with the mission and PEOs.
- **Departmental Advisory Committee**

This committee consists of the following individual positions manned by faculty members that handle specific tasks:

- Coordinator, B. Tech. Programme (HOD)
- Coordinator, M. Tech. Programme
- Coordinator, PhD programme
- All Professors and Associate Professors
- Project In-charge
- Placement activities In-charge(s)

1.4. Assessment of the achievement of Programme Educational Objectives (40)

1.4.1. Indicate tools and processes used in assessment of the achievement of the PEOs (25)

Describe the assessment process that periodically documents and demonstrates the degree to which the Programme Educational Objectives are attained. (10)

Include information on: (15)

a) A listing and description of the assessment processes used to gather the data upon which the evaluation of each programme educational objective is based. Examples of data collection processes may include, but are not limited to, employer surveys, graduate surveys, focus groups, industrial advisory committee meetings, or other processes that are relevant and appropriate to the programme;

b) The frequency with which these assessment processes are carried out.

Type of Assessment Tool	Assessment Tool	Assessment Criteria	Data Collection Frequency	Responsible Entity	Mapped PEO
Direct	Course performance	Number of Students Passed	Once every semester	Result processing(RP) unit of the institute	PEO-1, PEO-2, PEO-3, PEO-4, PEO-5, PEO-6, PEO-7
Indirect	Placement Record	Number of Students Placed	Once every year	Training and Placement Office of the institute	PEO-1, PEO-2, PEO-4, PEO-6
	Higher Studies Record	Number of Students opted for higher studies	Once every year	Department	PEO-1, PEO-2, PEO-3, PEO-5
	GATE Score	Number of students with valid GATE score	Once every year	Department	PEO-1, PEO-3, PEO-4, PEO-7
	Alumni Survey	Level of achievement	Once every year	Department	PEO-1, PEO-2, PEO-3, PEO-4, PEO-5, PEO-6, PEO-7

Table-3: Tools and processes used in assessment of the achievement of the PEOs

1.4.2. Provide the evidences for the achievement of the PEOs (15)

a) The expected level of attainment for each of the program educational objectives;
b) Summaries of the results of the evaluation processes and an analysis illustrating the extent to which each of the programme educational objectives is being attained; and
c) How the results are documented and maintained.

Program Educational Objectives	**Activities**						**Weightage**
	Project Assessments	**Participation in software contest**	**Technical and Social Club**	**Career Planning**	**Skill Match with industry requirements**	**Realigning focus on placements**	
PEO-1	H	M	H	H	H	M	89%
PEO-2	H	H	M	H	H	M	89%
PEO-3	M	H	M	H	H	H	89%
PEO-4	H	H	M	M	M	H	83%
PEO-5	M	M	H	H	M	H	83%
PEO-6	H	H	M	L	H	H	83%
PEO-7	H	H	H	M	M	M	83%
Weightage	90%	90%	81%	81%	86%	86%	

Table-4: Evidences for the achievement of the PEOs

Following activities are done to achieve the PEO's namely, problem solving ability, proficient communication skills, provide solution frameworks, social responsibility, professional ethics, creating multi-disciplinary knowledge, self-learning ability and inculcating the qualities of leadership for technology innovation and entrepreneurship.

1. Project Assessments:

The project spans over both the semesters of the final year with particular emphasis on application of integrated leaning from the previously completed first, second, third years and the current running final year. This includes the involvement of each and every PEOs. The project report is submitted on successful completion of the project.

2. Participation in national software contest:

Our students regularly participate in various national level software competitions like TGMC conducted by IBM and competitions conducted by various colleges/universities. These activities help the students to achieve leadership, versatility and engagement.

3. Technical and Social Club:

JYC: A students club which has following committees that handles all technical and social activities.

- Cultural Club
- Murious
- Techfest
- Lefeistus

All these above listed activities cultivate ethics and leadership into the students.

4. Carrier Planning:

- **Foreign Language:** German and French language skills are imparted by external guest faculty for global placement opportunities.

-**Coaching for GATE and CAT:** To promote higher studies and better carrier avenues specialized coaching for GATE and CAT are provided.

Programme Evaluation Objective diversification is achieved through above listed activities.

5. Skill Match with industry requirements:

As per the requirements of the industry for placements industry oriented specific course in advance programming skills, specific vendor product based skills are imparted. This helps to enhance the technical skills of the student to compete outside world.

6. Realigning focus on placements:
A conscious effort is being made by the university in increasing the proportion of hiring of our student by core product companies rather than service Provider Company. Efforts are made to provide placements in core companies to achieve the PEOs.

1.5. Indicate how the PEOs have been redefined in the past **(10)**
(Articulate with rationale how the results of the evaluation of PEOs have been used to review/redefine the PEOs)

The process of PEOs redefining is shown in figure-2 below:

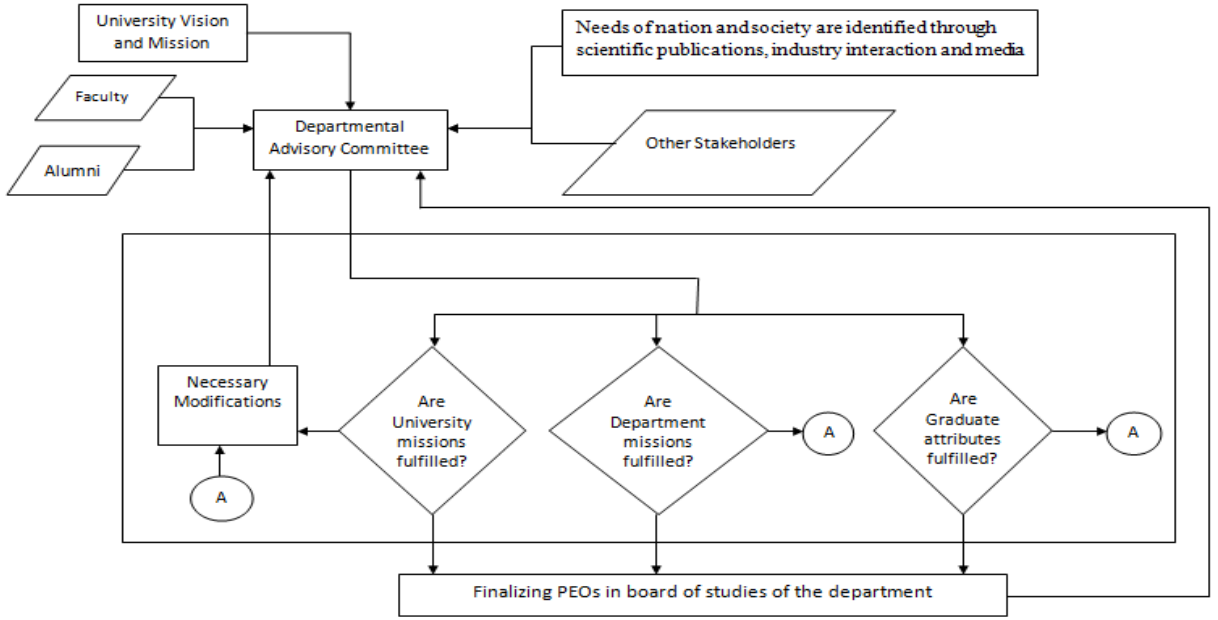


Fig. 2: Process of PEOs redefining

2. Programme Outcomes (225)

2.1. Definition and Validation of Course Outcomes and Programme Outcomes (30)

2.1.1. List the Course Outcomes (COs) and Programme Outcomes (POs) (2)

(List the course outcomes of the courses in programme curriculum and programme outcomes of the programme under accreditation)

PO-1: Ability to acquire and apply knowledge of science and engineering fundamentals in problem solving.

PO-2: Acquire in-depth technical competence in a specific information technology discipline.

PO-3: Ability to undertake problem identification, formulation and providing optimum solution .

PO-4: Ability to utilize systems approach to design and evaluate operational performance.

PO-5: Understanding of the principles of inter-disciplinary domains for sustainable development.

PO-6: Understanding of professional & ethical responsibilities and commitment to them.

PO-7: Ability to communicate effectively, not only with engineers but also with the community at large.

PO-8: Ability to function effectively as an individual and in a group with the capacity to be a team leader.

PO-9: Understanding of the social, cultural, global and environmental responsibilities as a professional engineer.

PO-10: Recognizing the need to undertake life-long learning, and possess/acquire the capacity to do so.

List of Course Outcomes B. Tech. IT: Appendix-A

2.1.2. State how and where the POs are published and disseminated (3)

(Describe in which media (e.g. websites, curricula books) the POs are published and how these are disseminated among stakeholders)

- On the departmental pages of the university website and can be accessed through:
- http://www.juit.ac.in/computer-science-engineering-and-information-technology .
- Disseminated during student orientation programme.
- They are also prominently displayed on the departmental notice boards.
- Departmental Seminar and Laboratories

2.1.3. Indicate processes employed for defining of the POs (5)

(Describe the process that periodically documents and demonstrates that the POs are defined in alignment with the graduate attributes prescribed by the NBA.)

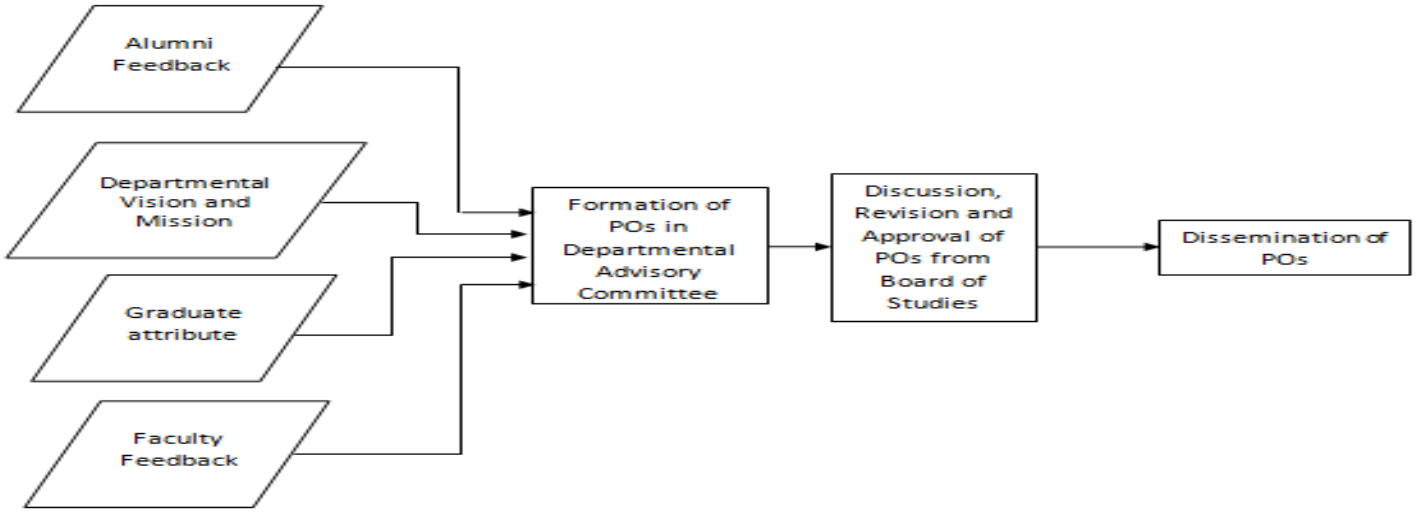


Figure-3: Process for Defining POs

- **Board of Studies**: The BOS ensures the relevance of the curriculum and syllabi with the mission and PEOs.

- **Departmental Advisory Committee**

This committee consists of the following individual positions manned by faculty members that handle specific tasks:

- Coordinator, B. Tech. Programme (HOD)
- Coordinator, M. Tech. Programme
- Coordinator, PhD programme
- All Professors and Associate Professors
- Project In-charge
- Placement activities In-charge(s)

2.1.4. Indicate how the defined POs are aligned to the Graduate Attributes prescribed by the NBA (10)

(Indicate how the POs defined for the programme are aligned with the Graduate Attributes of NBA as articulated in accreditation manual.)

The correlation of Graduate Attributes with POs is given in the Table -5 below:

GA	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	Weightage
Engineering Knowledge	H	H	H	M	H	H	H	H	H	M	93%
Problem Analysis	H	H	H	M	M	H	M	H	M	H	87%
Design / Development of Solution	H	H	H	H	H	H	H	M	M	M	90%
Investigating Complex problems	H	H	H	H	M	M	M	H	M	H	87%
Modern Tool Usage	H	H	H	M	M	H	H	H	M	H	83%
Engineer and Society	M	M	M	H	H	M	H	H	H	H	87%
Environment and Sustainability	H	M	M	M	H	H	L	H	M	M	77%
Ethics	H	M	M	M	H	M	H	M	M	H	83%
Individual and team Work	M	M	M	H	M	H	H	M	M	M	83%
Communication	H	M	M	H	M	H	L	H	H	H	80%
Project Mgmt and Finance	M	M	M	H	M	H	M	M	H	M	83%
Life Long Learning	M	M	M	M	H	H	M	H	H	H	83%

Weightage	86%	80%	80%	83%	83%	86%	78%	89%	83%	83%	

Table-5: Correlation between POs and Graduate Attributes

Graduates will be able to demonstrate command of a significant body of knowledge of sufficient depth, The PO's are defined in such a way so that it demonstrates following:

- *Graduates will be able to communicate effectively*
- *Graduates will be able to demonstrate a global perspective and intercultural competence in their professional lives.*
- *Graduates will have developed competencies in Computer Science and Engineering*
- *Graduates will be prepared for lifelong learning in pursuit of personal and professional development.*
- *Graduates will be effective problem-solvers, capable of applying logical, critical and creative thinking to a range of problems.*
- *Graduates will be encouraged to ethical action and social responsibility*
- *Graduates will be able to work collaboratively to achieve common goals*

2.1.5. Establish the correlation between the POs and the PEOs (10)

(Explain how the defined POs of the program correlate with the PEOs)

Program Educational Objectives	Program Outcomes										
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	Weightage
PEO-1	M	M	M	H	H	H	H	H	M	M	87%
PEO-2	M	M	M	H	H	H	H	H	H	H	90%
PEO-3	H	H	H	H	M	H	M	M	M	M	87%
PEO-4	H	H	H	H	M	M	M	H	M	H	87%
PEO-5	H	H	H	H	M	M	H	H	M	H	86%
PEO-6	H	H	H	H	H	H	H	H	M	M	91%
PEO-7	M	M	M	H	H	M	H	M	H	H	80%
Weightage	86%	86%	86%	100%	86%	86%	90%	81	81%	87%	

Table-6: Correlation between PEOs with POs

Course Component	Curriculum Content	Total Number of credits	POs										Weightage	PEOs							Weightage
			PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10		PEO-1	PEO-2	PEO-3	PEO-4	PEO-5	PEO-6	PEO-7	
Mathematics	8.2	16	H	H	H	M	M	H	H	M	M	M	85%	H	H	H	M	H	M	H	90%
Science	7.2	10	H	H	H	M	M	H	H	M	M	H	85%	M	H	H	H	M	H	H	90%
Computing	6.2	12	H	H	H	H	H	H	H	M	M	H	93%	H	H	H	M	H	M	H	90%
Humanities	12.3	24	M	M	H	M	H	M	H	H	H	M	85%	M	H	M	H	H	M	H	86%
Professional core	56.9	115	H	H	H	H	H	H	H	H	H	H	100%	H	M	H	M	H	H	H	90%
Professional Elective	9.2	18	H	H	M	H	H	H	M	H	H	M	89%	H	M	H	M	H	H	M	86%

Weightage	94%	94%	94%	89%	89%	94%	94%	83%	83%	83%		80%	80%	87%	80%	93%	80%	87%	

Table-7: Correlation of Academic factors with POs and PEOs

- The POs defined take into consideration the educational objectives in terms of the student's overall development.
- Students are being prepared for a future that is largely unknown.
- Changes in knowledge and professional practice are both occurring at a rapid rate so students need to know how to find and manage information to continue to learn and to satisfy employers' needs.
- Employers hold that disciplinary expertise is only one of a much larger set of components that determine the success of a new graduate in the workplace.
- Governments have expectations that universities will become more cost-effective by focusing on outputs of university education, who are ready to participate in the workplace.

2.2. Attainment of Programme Outcomes (40)

2.2.1. Illustrate how course outcomes contribute to the POs (10)

(Provide the correlation between the course outcomes and the programme outcomes. The strength of the correlation may also be indicated)

Course outcomes (Web Application Engineering)	Level of Attainment	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	Weightage
1. To review and understand the software Process	Familiarity	H	M	M	M	M	H	H	M	H	M	81%
2. To emphasize improvement in software Quality	Familiarity	H	H	H	M	H	H	H	H	M	M	88%
3. To practice software reuse and adoption of design patterns.	Computational skills	H	H	H	M	M	H	M	H	M	H	85%
4. To understand test driven software development the agile way.	Technical skills	H	H	H	M	M	M	H	M	H	H	81%
5.To gain hands on proficiency in Software Application frameworks	Technical skills	H	H	H	M	H	M	M	M	H	M	81%
6. To gain practical experience in Alternate methodologies like AOP, SOA.	Technical skills	H	H	H	H	M	H	H	M	M	H	89%
7. To gain practical experience in implementing web enterprise systems.	Assessment	H	H	H	H	M	H	H	M	M	L	89%
8. To acquire the knowledge of various distributed standards used in web enterprise architecture.	Assessment	H	H	H	M	M	H	H	H	H	H	89%
9. To explain configuration management using industry tools.	Assessment	H	H	H	H	H	H	H	H	M	L	93%

10. To explore Case Studies and technical papers on Professional software development tools and techniques for web applications.	Assessment	H	H	M	M	H	H	H	H	H	H	89%
Weightage		100%	96%	96%	80%	80%	89%	93%	81%	80%		

Table-8: Sample PO CO Mapping for Web Application Engineering Course (PO, CO mapping of all courses are given at Appendix-B)

The Information Technology curriculum encompasses courses from other disciplines such as Mathematics, Physics, Electronics and general and specialized IT related courses related to technical and professional aspects as stated in IEEE / ACM CC 2005 and IT 2008 curricula. The curriculum is designed to cover all program outcomes in order to achieve the POs. The courses of the curriculum collectively provide the means by which the students obtain the necessary background knowledge needed to ensure that the educational objectives are achieved. Each course has its learning objectives that are stated in its syllabus. To keep track of how and where programme outcomes are addressed in the curriculum, a mapping between the curriculum and programme outcome is made.

2.2.2. Explain how modes of delivery of courses help in attainment of the POs (10)

(Describe the different course delivery methods/modes (e.g. lecture interspersed with discussion, asynchronous mode of interaction, group discussion, project etc.) used to deliver the courses and justify the effectiveness of these methods for the attainment of the POs. This may be further justified using the indirect assessment methods such as course-end surveys.)

Following are the Course Delivery Methods used in our department:

- Lectures
- Class presentations
- Tutorials
- Lab experimental work
- Participation in experiential exercises
- Role playing and Situational simulations
- Written Assignments
- eLearning: identifying online resources for self-learning
- Case Studies / White papers / Technical reports

- Topic specific research paper discussions

Course Delivery Methods	Attainment of POs	Justification
• Lectures • eLearning • Tutorials • Topic specific research paper discussions	PO-1, PO-2, PO-3, PO-4, PO-5, PO-6, PO-7, PO-8, PO-9, PO-10	• Information or teach students about a particular subject. • Lectures are used to convey critical information, history, background, theories and equations. • Lectures are used to relate engineering practice with ethical issues. • Lectures are also used to expose the students to contemporary issues and the need for life-long learning in the appropriate societal context.
• Presentations • Role playing and Situational simulations • Case Studies / White papers / Technical reports	PO-4, PO-5, PO-6, PO-7, PO-8, PO-9, PO-10	• Presentations are given to illustrate ideas and concepts in intricate graphics form. • Presentations give information with data relating to an issue. • Effectively communicate the working of actual engineering solutions and their impact.

Experimental Laboratory Work	PO-1, PO-2, PO-4, PO-5, PO-6, PO7, PO-9, PO-10	• Laboratory work demonstrates how theory can be verified by experiments through interpretation of results. • Experiments are normally done in groups so students learn to work in teams.
Group Tasks (Projects)	PO-1, PO-2, PO-3, PO-4, PO-5, PO-6, PO-7, PO-8, PO-9, PO-10	• Projects are taken in groups of 2-3 students. • Students are guided by faculty members.

2.2.3. Indicate how assessment tools used to assess the impact of delivery of course/course content contribute towards the attainment of course outcomes/programme outcomes (10)

(Describe different types of course assessment and evaluation methods (both direct and indirect) in practice and their relevance towards the attainment of POs.)

Assessment Method	**Course assessment & Evaluation Method**	**Relevance to the Attainment of POs with mapping**	**Explanation**
Direct	University Examination (Mid and End Sem.)	PO-1, PO-2, PO-3, PO-4, PO-6, PO-7, PO-8, PO-9, PO-10	Same as tests but with a much larger scope and covering wider syllabus.
Direct	Assignments	PO-1, PO-2, PO-3, PO-4, PO-6, PO-9, PO-10	Assignments carry a bigger problem nearer to reality that cannot be done in the classroom. Such problems normally require the knowledge of mathematics, science and engineering and all other related aspects.

Direct	Presentations	PO-1, PO-2, PO-6, PO-7, PO-8, PO-9, PO-10	Since presentations carry questions and answers that usually lead to wider discussions, they give to the students ideas related to contemporary issues, and a realization that learning is a continuous process.
Direct	Quiz-Tests	PO-1, PO-2, PO-3, PO-4, PO-6, PO-7,	Tests basically test the understanding and use of scientific and engineering techniques for problem solving.
Direct	Project based Learning	PO-1, PO-2, PO-3, PO-4, PO-6, PO-7, PO-8, PO-9, PO-10	Here students apply knowledge related to a topic, develop a project and present it.

Table-9: Course assessment and evaluation methods and contribution to PO

All the theory, practical and project courses are directly related to one or more than one POs. Performance in various courses reflects the extent of achievement of POs.

The undergraduate program of the department is based on continuous evaluation system and credit based. Evaluation is conducted by the subject teacher throughout the semester. Each subject contains three main components for evaluation:

- **Course Work and Teacher Assessment (25 marks)**
  In this component, home assignments, tutorials, problem solving, group discussions, quiz and projects, etc are given and evaluated regularly.
- **Mid Semester Examination(30 marks)**
  Mid semester examination is conducted within 7-8 weeks after the start of teaching of each semester.
- **End semester Examination(45 Marks)**
  End semester examination is conducted at the end of semester.

Evaluation of impact of the each course is observed through grading system. After the end semester examination, evaluation of each subject is carried out and finally grading is awarded as per given marking range.

Grading	Marks Range
A+	80-100
A	Relative
B+	Relative
B	Relative
C+	Relative
C	Relative
D	Relative
F	less than 30

2.2.4. Indicate the extent to which the laboratory and project course work are contributing towards attainment of the POs (10)

(Justify the balance between theory and practical for the attainment of the POs. Justify how the various project works (a sample of 20% best and average projects from total projects) carried as part of the programme curriculum contribute towards the attainment of the POs.)

All lab experiments are designed to achieve course objectives which in turn are in sync with the POs. Project based learning provides additional application orientation to the subjects. Final year projects provides significant learning and ability to develop systems and apply the knowledge in the real world which directly and significantly contribute to attainment of POs. The various lab courses included are listed below:

- Introduction to Computer and C Programming Lab.
- Data Structures Lab.
- Database System Lab.
- Object Oriented Programming Lab.
- Operating System Lab.
- Software Engineering Lab.
- Multimedia Development Lab.
- Basic Electronics Lab.
- Basic Electrical Circuit lab.
- Computer Graphic Lab.
- Software Testing and Debugging lab.
- Physics lab.
- Digital Electronics Lab.
- Unix Lab.
- Java Programming Lab
- Computer Organization Lab.

- Signals and Systems Lab.
- Algorithm Lab.
- Communication System Lab.
- Web Technology lab.
- Computer Networks Lab.
- Compiler Design Lab
- System and Network Programming Lab.

Course Type	Major Contribution to PO
Theory Courses	PO-1, PO-2, PO-3, PO-4, PO-6, PO-7, PO-8, PO-9
Practical Courses	PO-1, PO-2, , PO-7, PO-8, PO-9
Course based Projects	PO-1, PO-2, PO-3, PO-4, PO-6, PO-7, PO-8, PO-9, PO-10
Major Projects	PO-1, PO-2, PO-3, PO-4, PO-6, PO-7, PO-8, PO-9, PO-10

Table-10: Major Contribution to PO

	Programme Outcomes										
Course Title	**PO-1**	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**Weightage**
Introduction to Computer and Programming Lab	H	H	H	M	M	H	H	H	M	H	89%
Data Structures Lab	H	H	H	H	M	H	H	H	M	H	93%
Object oriented programming Lab	H	H	H	H	M	H	H	H	H	H	96%
Database Systems Lab	H	H	H	H	H	H	H	H	H	H	100%
Algorithms Lab	H	H	H	M	M	M	M	H	M	M	81%
Operating Systems Lab	H	H	H	M	M	M	M	H	M	M	81%
Software Engineering Lab	H	H	H	H	H	H	H	H	H	H	100%
Software Testing & Debugging lab	H	H	H	H	M	M	M	M	M	M	81%
Computer Networks Lab	H	H	H	H	H	H	H	H	H	H	100%
Computer Graphics Lab	H	H	H	H	H	M	M	M	M	M	85%
Compiler Design Lab	H	H	H	H	M	M	M	M	M	M	81%
Computer Organization Lab	H	H	H	H	H	M	M	M	H	M	89%
Java Programming Lab	H	H	H	H	H	M	M	M	M	M	85%
Unix programming Lab	H	H	H	H	H	M	M	M	H	M	89%

Mutimedia Development lab	H	H	H	M	M	H	H	H	M	H	89%
Basic Electrical Circuit lab	H	H	H	H	M	H	H	H	M	H	93%
Web Tech. Lab.	H	H	H	H	M	H	H	H	H	H	96%
System and Network Prog. lab	H	H	H	H	H	H	H	H	H	H	100%
Digital Electronics lab.	H	H	H	M	M	M	M	H	M	M	81%
Communication System Lab	H	H	H	M	M	M	M	H	M	M	81%
Physics lab	H	H	H	H	H	H	H	H	H	H	100%
Basic Electronics lab	H	H	H	H	M	M	M	M	M	M	81%
Weightage	100%	100%	100%	92%	82%	82%	82%	87%	82%	82%	

Table-11: Lab Courses Contribution to PO

2.3. Evaluation of the attainment of the Programme Outcomes (125)

2.3.1. Describe assessment tools and processes used for assessing the attainment of each PO (25)

Describe the assessment process that periodically documents and demonstrates the degree to which the Programme Outcomes are attained.

a) A listing and description of the assessment processes used to gather the data upon which the evaluation of each the programme educational objective is based. Examples of data collection processes may include, but are not limited to, specific exam questions, student portfolios, internally developed assessment exams, senior project presentations, nationally-normed exams, oral exams, focus groups, industrial advisory committee;
b) The frequency with which these assessment processes are carried out.

Tools can be divided into two categories

- Direct Assessment and
- Indirect Assessment

The tools such as tests, assignments, examinations etc. are utilized to design the questions that relate to specific course outcomes in each course. Presentations are aimed towards wider scope of the subject including its impact on society and environment as a whole. The question/answer at the presentation make the scope even wider and relate with the course and programme outcomes such as PO-6, PO-7, PO-8, PO-9 and PO-10 and give the student a feel that things are almost never complete, thus the need for continuous independent life-long learning is emphasized. The above elements put together result in a grade in each course. The grade A+,A,B+,B,C+,C,D are pass grades, which indicate the level of attainment of the programme outcome related to that course. Thus the grades in courses along with a mapping of course outcomes and programme outcomes will result in a measure of the *direct attainment* of each programme outcome in the form of a percentage.

Another element included in the assessment of attainment of programme outcomes is the opinion of exiting graduates about the attainment of each programme outcome. This survey is taken near the end of the winter semester of the final year. Besides, a survey on the attainment of each programme outcome is also taken from the recent alumni, employers and performance in tests such as GATE, GRE which gives us an idea about the strength, weakness of each PO, thus providing a basis for revision of POs. They all contribute equally towards *indirect attainment* of PO's.

Overall Attainment of POs:

Both direct and indirect assessment tools are used for evaluation of attainment of POs. For the overall attainment, 70% & 30% weightage are given to **direct and indirect assessment** respectively for this report. Details of the procedure adopted is given below:

- **Direct Assessment Tools**

The undergraduate program of the department is credit based with continuous evaluation system. Evaluation is conducted by the subject teacher throughout the semester. Each subject contains three main components for evaluation:

Course Work:

- **Teacher Assessment:** In this component, home assignments, tutorials, problem solving, group discussions, quiz, etc are given and evaluated regularly.
- **Mid Semester Examination:** Mid semester examination is conducted within 7-8 weeks after the start of teaching of each semester. The syllabus of the exam conducted covers around 30-50 % of the total course content.
- **End semester Examination:** End semester examination is conducted at the end of semester. Complete syllabus is covered in this examination. Major Weightage of marks is given to this component.
- **Practical Courses:** In these courses, continous evaluation is done through viva-voce, presentation, report submission and laboratory quiz.
- **Course based Projects**: Projects are assigned in every course to promote project based learning, and the same is evaluated by the teacher.

The weight distribution of components are given in the following table:

Subject Type	Assessment Components	Weightage (%)
Theory	Internal Assessment	25
	Mid Sem Exam	30
	End Sem Exam	45
Lab	Internal Assessment	30
	Mid Sem Exam	20
	End Sem Exam	30
	Project	15
	Lab Record	05

After the end semester examination, combined evaluation of each subject is carried out and finally grading is awarded as per given marking range.

Grading	Marks Range
A+	80-100
A	Relative
B+	Relative
B	Relative
C+	Relative
C	Relative
D	Relative
F	less than 30

All the theory and practical courses are directly related to one or more than one POs. Performance in various courses reflects the extent of achievement of POs.

Component	Frequency
Teacher Assessment	Continuous
Mid Semester Examination	Once in a Semester
End semester Examination	Once in a Semester

Attainment of POs

Evaluation of attainment of POs for Direct Assessment Tools is carried out as follows;

- For each course, two groups are created for attainment of course outcomes, i.e. **PASS** (for grades A+,A,B+,B,C+,C,D) & **FAIL** (for grade F)
- For **PASS** category, 100 % CO achievement is considered whereas for **FAIL** category, 0 % CO achievement is considered.
- Since all the COs is mapped with POs. Therefore calculated CO achievements are used to evaluate the degree of attainment of POs. An arithmetic average value is used for this calculation.

Grade	Result	CO Achievement %
A+,A,B+,B,C+,C,D	Pass	100
F	Fail	0

Indirect Assessment Tools

Course Outcome Feedback: After the end of every semester, feedback is taken for individual subject with reference to their course outcomes.

Graduate Exit Feedback: In the last semester i.e. 8th semester, feedback is taken by the student of last year. Achievement of POs and graduate attributes (GA) are taken as criteria in the feedback.

Alumni Feedback: Alumni, particularly who has graduated within the 3-4 years of current academic year, feedback is taken with reference to the achievement of POs.

Industrial Feedback: Students who has undergone vocational/summer training and internship in the industries as well as who got the jobs in the industries. Feedback is taken from the industries for the performance of students. (This feedback is not yet taken). A verbal feedback is taken from industry persons when our faculty meets them at any conference or when they come to our institute for giving lectures or training.

International / National Level Examination: In this component, various examinations (national and international level) like GATE, NET, CAT, GRE, IELTS, TOEFL are taken in to consideration for students performance and evaluation.

Component	Frequency
Course Outcome Feedback	End of Semester
Exit Student Feedback	Annually
Alumni Feedback	Annually
Industrial Feedback	Annually
Inter/ National Examination	Annually

Attainment of POs:

In the feedback form, grading is given (normally 1-10). Students/Alumni fill the form as per grading system. Average of these grades are calculated and taken as basis for evaluation of attainment of POs.

In examinations (Internationally/Nationally, of repute), number of students qualified out of number of students appeared is considered for evaluation of attainment of POs. In the attainment of POs, all the mentioned tools are used for evaluation of attainment of POs.

The feedback collected at the end of semester is submitted to the registrar for updating data on the web kiosk and generated feedback is communicated to all the faculty members.

2.3.2. Indicate results of evaluation of each PO (50)

a) The expected level of attainment for each of the program outcomes;

b) Summaries of the results of the evaluation processes and an analysis illustrating the extent to which each of the programme outcomes are attained; and

c) How the results are documented and maintained.

The results are maintained on LAN so that the students can have access to their respective performances.
A minimum of 80% of attendance is required for students to appear in final exam. The result is divided into mid-semester and final-semester and internal assessment.
As the students have regular access to their performance, they can improve accordingly hence helping them in attaining the POs.
We maintain a soft copy & hard copy of every semester's performance. There is online documentation on www.juit.ac.in. So the results remain fair and public.
Also the parents can monitor their ward's performance by accessing our web portal. The web portal is available 24x7.

		Assessment Tools							
		Academic Performance	Higher Studies	Placement	Professional and Ethical	Exit Survey	Course Feedback	Alumni feedback	Weightage
Programme Outcome	PO-1	H	H	H	M	H	H	H	95%
	PO-2	H	H	H	M	H	H	M	90%
	PO-3	H	H	H	M	M	H	H	90%
	PO-4	H	M	M	H	H	H	H	90%
	PO-5	M	M	M	H	H	H	H	86%
	PO-6	H	H	H	M	H	M	H	90%
	PO-7	M	M	H	H	H	H	H	90%
	PO-8	M	M	H	H	H	H	H	90%
	PO-9	M	M	H	H	H	H	H	90%
	PO-10	H	H	M	H	M	M	M	81%
	Weightage	85%	81%	93%	85%	96%	96%	96%	

Table-12: Evaluation of POs

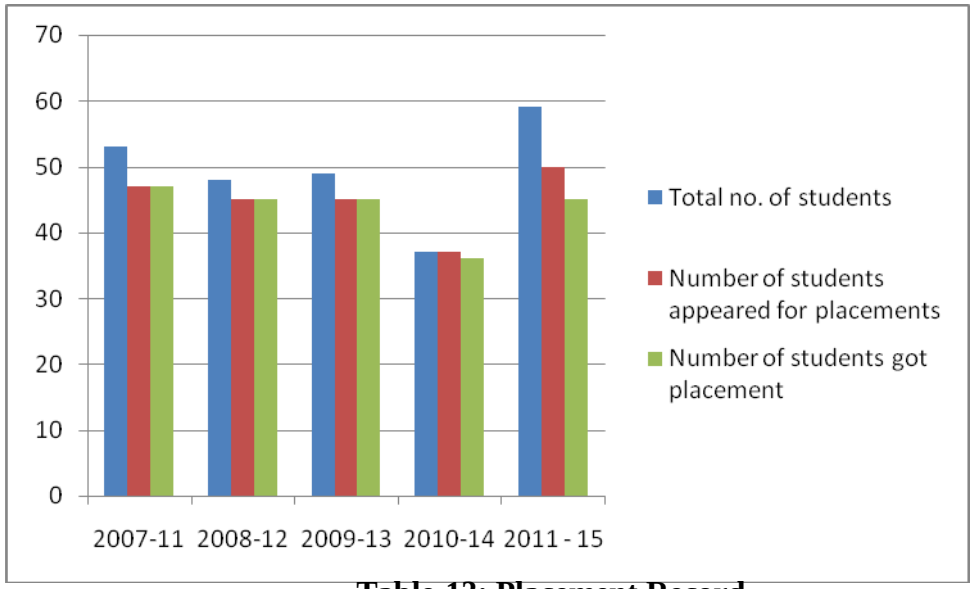


Table-13: Placement Record

Batch	Total No of Students	No of Job offered	%age placement
2007-2011	53	47	89
2008-2012	48	45	94
2009-2013	49	45	92
2010-2014	37	36	97
2011-2015 (Oct 2014)	59	45	76

Table-14: Placement Record

2.4. Use of evaluation results towards improvement of the programme **(30)**

2.4.1. Indicate how the results of evaluation used for curricular improvements (5)

(Articulate with rationale the curricular improvements brought in after the review of the attainment of the POs)

Based on the evaluation and review of the attainment of POs, modification are done in the programme curriculum, aspects such as increase or decrease in the components of theory, practical, project work, communication skills courses and elective courses are considered. In addition, attempt is made to introduce new courses, labs, experiments, exercises for project work, etc on the basis of external interaction with the industry and academia at seminars or conferences.

Some of the improvements that have been carried out in the past are listed below:

- Some new experiments have been added in the lab courses.
- A new lab course titled Advanced Programming in C, C+ was introduced in 2013.
- New elective courses have been added from time to time.
- OOPs programming course was strengthened by including JAVA.
- CUDA Lab was introduced to focus on parallel computing

2.4.2. Indicate how results of evaluation used for improvement of course delivery and assessment (10)

(Articulate with rationale the curricular delivery and assessment improvements brought in after the review of the attainment of the POs)

Based on the evaluation of the attainment of POs and along with the results and analysis of the student feedback about each course, the methods of course delivery and assessment are reviewed. The assessment methods are reviewed such as increase or decrease in the assignments, talks, presentations, quizzes, projects etc. Some of the improvements carried out in the past are listed below:

- In the continuous assessment system, number of surprise quizzes has been increased to 4.
- Online submission of assignments has been implemented selectively.
- Course description is regularly revised to include the state of art and attainment of POs.
- Course-wise feedback system has been introduced, where feedback is obtained from the students.
- Projects are introduced for each course to promote project based learning.

2.4.3. State the process used for revising/redefining the POs (15)

(Articulate with rationale how the results of the evaluation of the POs have been used to review/redefine the POs in line with the Graduate Attributes of the NBA.)

Based on the feedback of the stakeholders the departmental Advisory Committee considers the improvements and obtains the approval of the BOS. The process is depicted diagrammatically in figure 4 below.

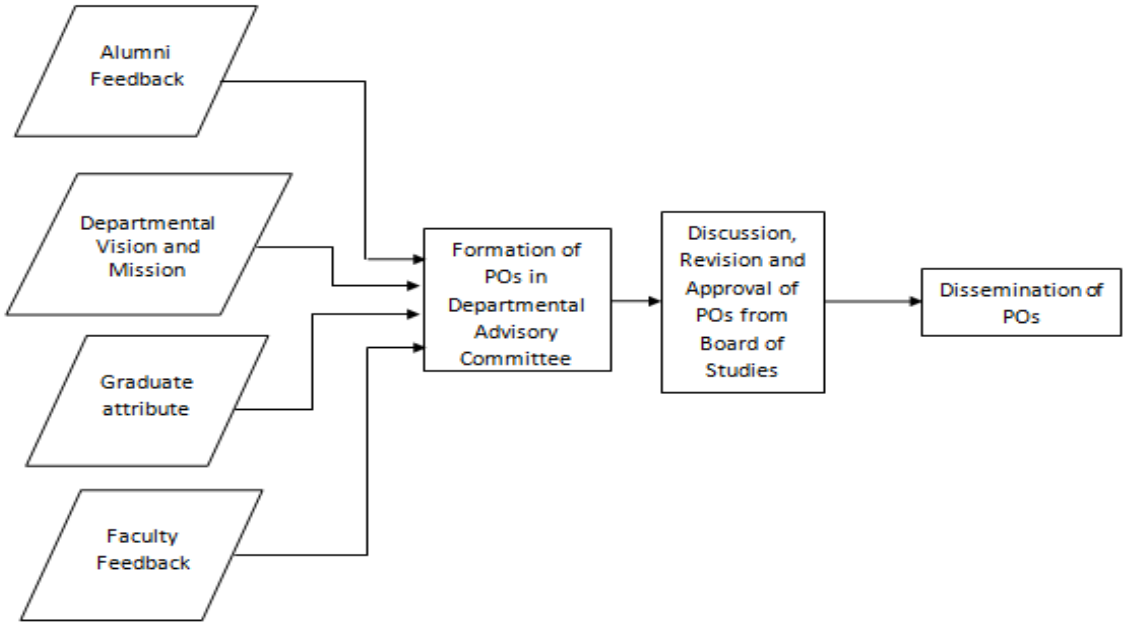


Fig-4: Process for defining and redefining the POs

3. Programme Curriculum (125)

3.1. Curriculum (20)

3.1.1. Describe the Structure of the Curriculum (5)

Course Code	Course Title	Number of contact hours*				Credits
		Lecture (L)	Tutorial (T)	Practical (P)	Total Hours	
10B11PD111	Presentation and Communication Skill	3	0	0	4	3
10B11MA111	Mathematics-I	3	1	0	4	4
10B11PH111	Physics-I	3	1	0	4	4
10B11EC111	Basic Electrical Circuits	3	1	0	4	4
10B11CI111	Introduction to Computer and Programming	3	1	0	4	4
10B17PH171	Physics Lab-1	0	0	1	2	1
10B17EC171	Electrical Circuits Lab	0	0	1	2	1
10B17CI171	Computer Programming Lab	0	0	2	4	2
10B11PD211	Professional Dev – II	3	0	0	3	3
10B11MA211	Discrete Maths	3	1	0	4	4

10B11PH211	Physics-II	3	1	0	4	4
10B11EC211	Basic Electronic Devices and Circuits	3	1	0	4	4
10B17PH271	Physics Lab-II	0	0	1	2	1
10B17EC271	Basic Electronics Lab	0	0	1	2	1
10B11CI211	Data Structures	3	1	0	4	4
10B17CI271	Data Structures and Computer Programming Lab	0	0	2	4	2
10B11PD311	Managerial Economics	3	0	0	3	3
10B11MA201	Mathematics-II	3	1	0	4	4
10B11EC412	Digital Electronics	3	1	0	4	4
10B11CI311	Object Oriented Programming	3	1	0	4	4
10B11CI312	Database Systems	3	1	0	4	4
10B17EC472	Digital Electronics Lab	0	0	1	2	1
10B17CI371	Objected Oriented Programming Lab	0	0	1	2	1

10B17CI372	Database Systems Lab	0	0	1	2	1
10B17CI307	Unix Programming Lab	0	0	1	2	1
10B11PD411	Professional Dev – IV	3	0	0	3	3
10B11GE411	Environmental Studies	3	0	0	3	3
10B11CI421	Computer Organization	3	1	0	4	4
10B11CI481	Computer Organization Lab	0	0	1	2	1
10B11EC301	Signals and Systems	3	1	0	4	4
10B17EC307	Signals and Systems Lab	0	0	1	2	1
10B11MA411	Probability Theory and Random Processes	3	1	0	4	4
10B11CI411	Fundamentals of Algorithms	3	1	0	4	4
10B17CI471	Algorithms Lab	0	0	1	2	1
10B28CI408	Multimedia Development Lab I	0	0	1	2	1
10B11PD511	Social and Legal Issues	3	0	0	3	3

10B11EC513	Communication Systems	3	1	0	4	4
10B11CI511	Operating Systems	3	1	0	4	4
10B11CI512	Software Engineering	3	1	0	4	4
10B17EC573	Communication Systems Lab	0	0	1	2	1
10B17CI571	Operating Systems Lab	0	0	1	2	1
10B17CI572	Software Engineering Lab	0	0	1	2	1
10B28CI581	Web Technology Lab	0	0	1	2	1
10B1WCI515	Software Testing and Debugging	3	1	0	4	4
10B1WCI575	Software Testing and Debugging Lab	0	0	1	2	1
10B22CI521	Web Application Engineering	3	1	0	4	4
10B11PD611	Professional Dev – VI	3	0	0	3	3
10B11PH611	Material Science	3	1	0	3	4
10B11CI611	Computer Networks	3	1	0	4	4

10B17CI671	Computer Networks Lab	0	0	1	2	1
11B1WCI611	Computer Graphics	3	1	0	4	4
11B1WCI671	Computer Graphics Lab	0	0	1	2	1
10B22CI621	Information Systems	3	1	0	4	4
10B22CI623	Java Programming	3	1	0	4	4
10B17CI672	Java Programming Lab	0	0	1	2	1
10B28CI681	Information Systems Lab	0	0	2	4	2
10B22CI622	Data Mining	3	1	0	4	4
10B11PD711	Professional Dev – VII	3	0	0	3	3
10B1WCI7*	DE-1	3	0	0	3	3
10B1WCI7*	DE-2	3	0	0	3	3
10B1WCI7*	DE-3	3	0	0	3	3

CS*	Project Part-1	0	0	0	20	10
10B11PD811	Professional Dev – VIII	3	0	0	3	3
10B1WCI8*	DE-4	3	0	0	3	3
10B1WCI8*	DE-5	3	0	0	3	3
10B1WCI8*	DE-6	3	0	0	3	3
CS*	Project Part-2	3	0	0	20	10
				Total	241	195

*Seminars, project works may be considered as practical

3.1.2. Give the Prerequisite flow chart of courses (5)

(Draw the schematic of the prerequisites of the courses in the curriculum)

	SEM-1	
CODE	Subjects	cr
10B11PD111	Presentation and Communication Skills	3
10B11PMA11	Mathematics-I	4
10B11PH111	Physics-I	4
10B11CI111	Introduction to Computers and Programming	4
10B17EC111	Basic Electrical Circuits	4
10B17EC171	Basic Electrical Circuits Lab	1
10B17PH171	Physics Lab-I	1
10B11PD117	Computer Programming Lab	2
10B19GE199	Institutional Orientation	0
	Total	23

	SEM-2	
CODE	Subjects	cr
10B11PD211	Group and Cooperative Processes	3
10B11MA211	Discrete Mathematics	4
10B11EC211	Basic Electronics	4
10B11PH211	Physics-II	4
10B11CI211	Data Structures	4
10B17PH271	Physics-II Lab	1
10B17EC271	Basic Electronics Lab	1
10B17CI271	Data Structures and Computer Programming Lab	2
10B19GE199	Departmental Orientation	0
	Total	23

	SEM-3	
CODE	Subjects	cr
10B11PD311	Managerial Economics	3
10B11MA201	Mathematics-II	4
10B11EC412	Digital Electronics	4
10B11CI311	Object Oriented Programming	4
10B15CI312	Database Systems	4
10B17EC472	Digital Electronics Lab	1
10B17CI371	Object Oriented Programming Lab	1
10B17CI372	Database Systems Lab	1
10B17CI307	Unix Programming Lab	1
	Total	23

	SEM-4	
CODE	Subjects	cr
10B11PD411	Financial Management	3
10B11MA411	Probability Theory and Random Processes	4
10B11EC301	Signals and Systems	4
10B22CI421	Computer Organization	4
10B11CI411	Fundamentals of Algorithms	4
10B17EC307	Signals and Systems Lab	1
10B28CI481	Computer Organization Lab	1
10B17CI471	Algorithms Lab	1
10B28CI408	Multimedia Development Lab I	1
10B11GE411	Environmental Studies	3
	Total	26

	SEM-5	
CODE	Subjects	cr
10B11PD511	Social and Legal Issues	3
10B11EC513	Communication Systems	4
10B11CI511	Operating Systems	4
10B11CI512	Software Engineering	4
10B22CI521	Web Application Engineering	4
08B51CI101	Software Testing and Debugging	4
08B51CI701	Software Testing and Debugging Lab	1
10B17EC573	Communication Systems Lab	1
10B17CI571	Operating Systems Lab	1
10B17CI572	Software Engineering Lab	1
10B28CI581	Web Technology Lab	1
	Total	28

	SEM-6	
CODE	Subjects	cr
10B11PD611	Project Management	3
10B11CI611	Computer Networks	4
10B22CI621	Information Systems	4
10B11PH611	Material Science	4
10B22CI622	Data Mining	4
10B22CI623	JAVA Programming	4
10B17CI672	JAVA Programming Lab	1
10B17CI671	Computer Networks Lab	1
10B28CI681	Information Systems Lab	1
10B28CI608	Multimedia Development Lab II	1
10B28CI682	Data Mining Lab	1
	Industrial Training	0
	TOTAL:	28

	SEM-7	
CODE	Subjects	cr
	PD Elective – I	3
	DE-I	3
	DE-II	3
	DE-III	3
10B19CI791	Project Part I	10
	Total	22

	SEM-8	
CODE	Subjects	cr
	PD Elective – II	3
	DE-IV	3
	DE-V	3
	DE-VI	3
10B29CI892	Project Part II	10
	Total	22

Table-15: CSE Course Curricula

List of Electives in 7th Semester (atleast one subject from each bucket)		
10B1WCI735	Network Security and Cryptography Techniques	Bucket 1
13B1WCI731	ARM based Embedded System Design	
10B1WCI736	Principles of Programming Languages	
12B1WCI732	Biometric Recognition Techniques	
10B1WMA731	Optimisation Techniques	
10B1WMA732	Numerical Techniques	
10B1WCI737	Image Processing Techniques	Bucket 2
12B1WCI733	Adv JAVA	
10B1WCI733	Graph Algorithms and Applications	
11B1WCI731	Software Agents	
10B1WPH731	Nano Science and Technology	
10B1WPH732	Optical Fibre Communication	
10B1WPH733	Thin Film Technology	
10B1WCI731	Artificial Intelligence	Bucket 3
10M11CI111	Advanced Data Structures	
10M11CI112	Advanced Computer Networks	
10M11CI113	Advanced Database Systems	
10M11CI114	High performance Computer Architecture	
12B1WCI734	C# and VB.NET	
11B1WCI832	Information Retrieval & Data Mining	

List of Electives in 8th Semester (atleast one subject from each bucket)		
11B1WCI836	Network Management	Bucket 1
11B2WCI851	E-Commerce	
11B1WCI834	Parallel Processing	
07B81CI403	Thin Film Technology	
11B1WPH834	Biosensors	
13B1WPH831	Computational Physics	
11B1WPH831	Wireless Networks	
11B1WMA831	Partial Differential Equations	Bucket 2
11B1WMA832	Linear Programming and Applications	
13B1WMA131	Fundamentals of OR	
13B1WMA132	Integral Transforms	
11B1WCI833	Parallel Computing Algorithms	
11B1WCI831	Embedded Systems and Applications	
11B1WCI835	Storage Networks	
13B1WCI832	Human Computer Interaction	Bucket 3
10M11CI211	Advanced Algorithms	
10M11CI212	Advanced Operating Systems	
10M11CI213	Advanced Software Engg	
11B1WCI832	Information Retrieval and Data mining	
12B1WCI831	Cloud Computing	
13B1WCI831	Service Oriented Architecture	

Table-16: List of Electives

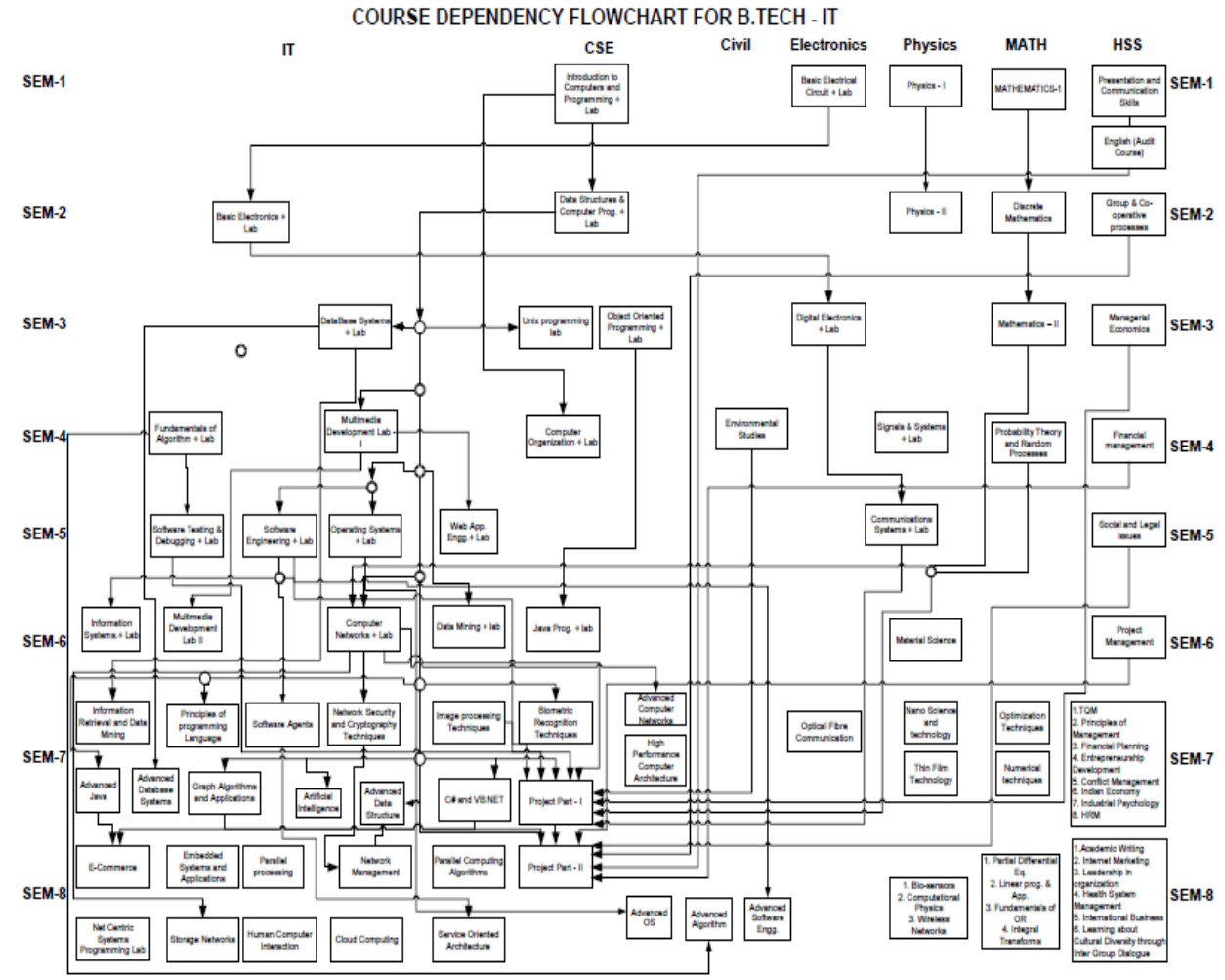


Table-17: Prerequisite Chart

3.1.3. Justify how the programme curriculum satisfies the program specific criteria (10)

(Justify how the programme curriculum satisfies the program specific criteria specified by the American professional societies relevant to the programme under accreditation)

Our structure of the curriculum has both breadth and depth across the range of engineering topics implied by the title of the program. The curriculum also include probability, statistics, descrete mathematics, differential and integral calculus; sciences (defined as physics); and engineering topics (including computing science) necessary to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components. The course also contains 8 Humanities and Social Sciences courses (one per semester) that include inputs on communication skills, management, psychology and legal aspects.

Knowledge Areas

The attempt has been made to design and realign the the curriculum as per the guidelines ACM/IEEE curricula using CC 2005, IT 2008 and CS2013 curricula. The CS2013 Body of Knowledge is organized into a set of 18 Knowledge Areas (KAs), corresponding to topical areas of study in computing. The Knowledge Areas are:

- AL - Algorithms and Complexity
- AR - Architecture and Organization
- CN - Computational Science
- DS - Discrete Structures
- GV - Graphics and Visualization
- HCI - Human-Computer Interaction
- IAS - Information Assurance and Security
- IM - Information Management
- IS - Intelligent Systems
- NC - Networking and Communications
- OS - Operating Systems
- PBD - Platform-based Development
- PD - Parallel and Distributed Computing
- PL - Programming Languages
- SDF - Software Development Fundamentals
- SE - Software Engineering
- SF - Systems Fundamentals

● SP - Social Issues and Professional Practice

The curricula consist of 195 credits which are distributed as under:

- Theory courses 149 credits
- Lab Courses 26 Credits
- Project 20 Credits

The above credits require a students engagement of 241 hours.

3.2. State the components of the curriculum and their relevance to the POs and the PEOs (15)

Course Component	Curriculum Content	Total Number of credits	POs											PEOs							
			PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	Weightage	PEO-1	PEO-2	PEO-3	PEO-4	PEO-5	PEO-6	PEO-7	Weightage
Mathematics	8.2	16	H	H	H	M	M	H	H	M	M	M	85%	H	H	H	M	H	M	H	90%
Science	7.2	10	H	H	H	M	M	H	H	M	M	H	85%	M	H	H	H	M	H	H	90%
Computing	6.2	12	H	H	H	H	H	H	H	M	M	H	93%	H	H	H	M	H	M	H	90%
Humanities	12.3	24	M	M	H	M	H	M	H	H	H	M	85%	M	H	M	H	H	M	H	86%
Professional core	56.9	115	H	H	H	H	H	H	H	H	H	H	100%	H	M	H	M	H	H	H	90%
Professional Elective	9.2	18	H	H	M	H	H	H	M	H	H	M	89%	H	M	H	M	H	H	M	86%
Weightage			94%	94%	94%	89%	89%	94%	94%	83%	83%	83%		80%	80%	87%	80%	93%	80%	87%	

Table-18: Curriculum and their relevance to the POs and the PEOs

3.3. State core engineering subjects and their relevance to Programme Outcomes including design experience (10)

(Describe how the core engineering subjects in the curriculum are giving the learning experience with the complex engineering problems) (50)

Course Title	Programme Outcomes										
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	Weightage
Introduction to Computer and Programming	H	H	H	M	M	H	H	H	M	H	90%
Data Structures	H	H	H	H	M	H	H	H	M	H	93%
Object Oriented Programming	H	H	H	H	M	H	H	H	H	M	93%
Database Systems	H	H	H	H	H	H	H	H	H	M	97%
Fundamentals of Algorithms	H	H	H	M	H	M	M	H	H	M	80%
Operating Systems	H	H	H	M	M	M	M	H	M	M	80%
Software Engineering	H	H	H	H	H	H	H	H	H	M	97%
Information Systems	H	H	H	H	M	M	M	H	M	M	83%
Computer Networks	H	H	H	H	H	H	H	H	H	M	97%
Computer Graphics	H	H	H	H	H	M	M	M	M	M	83%
Data Mining	H	H	H	H	M	M	M	M	M	M	80%
Web Application Engineering	H	H	H	H	M	M	H	H	M	M	80%
Computer Organisation and Architecture	H	H	H	H	M	M	M	M	M	H	83%
Total	100%	100%	100%	87%	81%	82%	82%	82%	82%	82%	

Table-19: Relevance to Programme Outcomes with Core Subjects

An Undergraduate CSE program is geared towards imparting basic knowledge of 18 Knowledge Areas defined in CS2013. The Knowledge Areas are:

- AL - Algorithms and Complexity
- AR - Architecture and Organization
- CN - Computational Science
- DS - Discrete Structures
- GV - Graphics and Visualization
- HCI - Human-Computer Interaction
- IAS - Information Assurance and Security
- IM - Information Management
- IS - Intelligent Systems
- NC - Networking and Communications
- OS - Operating Systems
- PBD - Platform-based Development
- PD - Parallel and Distributed Computing
- PL - Programming Languages
- SDF - Software Development Fundamentals
- SE - Software Engineering
- SF - Systems Fundamentals
- SP - Social Issues and Professional Practice

Experimental labs play a vital role towards building a good understanding of the theoretical concepts and also to test any innovative idea. The students are exposed to basic experimental skills in Computing, software development and data analysis / interpretation through various lab courses in virtually all the core areas.

Effective communication plays a vital role in the efficient functioning of an individual or a team on a small scale and the entire organization on the larger scale. As an exercise towards development of communication skills (written as well as oral), students undergo a compulsory course on communication skills in which they have to give oral presentations and submit brief reports on various topics

identified for them. Economics and management plays a pivotal role in the success of any engineering project. Students are made aware of the key concepts and analysis methods in these important areas in a compulsory course on Economics and Management.

3.4. Industry interaction/internship (10)

(Give the details of industry involvement in the programme such as industry-attached laboratories and partial delivery of courses and internship opportunities for students)

Students are required to complete 6 weeks of industrial training in the form of summer projects after their sixth semester during the 3rd year curriculum. Students have to pursue a detailed project in the specific company in the areas of computer software and hardware through a specially designed project. The project enables the student to understand the business process and makes them ready for the corporate careers ahead. This project work is supplemented by literature survey and library research. Students are expected to study and analyze the IT initiatives of the company in addition to the company's operations, and then develop a software solution for the company. Students are also encouraged to participate in industrial orientation programme from time to time. On completion of the industrial training, a student is required to submit a training report which is evaluated and satisfactory/unsatisfactory grade is awarded.

The experiments of disciplines like Data Structure, Database Systems, Operating Systems, Computer Networks, Information Systems, Software Testing & Debugging, and Software Engineering etc. are designed by having the feedback from the alumni's. Laboratories of these disciplines are equipped with latest hardware's and software's. Students are trained in such an environment that they don't face any problem of adaptation during their training and job period.

Many of the elective subjects are designed and floated to the students in the seventh and eighth semester of the final year curriculum. These elective subjects attempt to meet the current requirement from the industry and provide the entry level of knowledge to the students. The curriculum of these subjects is prepared after thorough examination of the requirements. Some of the major elective subjects are Network security and cryptography techniques, Software agents, Advanced Java, Storage networks, Cloud computing, and Service oriented architecture etc. These areas are highly in demand in the industry and their curriculum is prepared accordingly so that students and industry both can be benefitted.

In house training is also provided to the students by industry personnel. The duration of such training varies from 15 days to 1 month. The third year and final year students are asked to undergo such trainings. In last few years, many organizations like Accenture, Infosys, Wipro, HCL, and IBM etc have organized a number of training sessions on Database Management Systems, C++, JAVA, Web technologies, Software Engineering, and Code engineering etc and provided a detailed and thorough understanding of development and implementations covering difficult aspects.

Our students have been accepted at various major organization like CAIR-DRDO Bangalore, Infosys, Accenture, Wipro, HCL, and IBM etc. for the summer and winter internship to the students.

3.5. Curriculum Development (15)

3.5.1. State the process for designing the programme curriculum (5)

(Describe the process that periodically documents and demonstrates how the programme curriculum is evolved considering the PEOs and the POs)

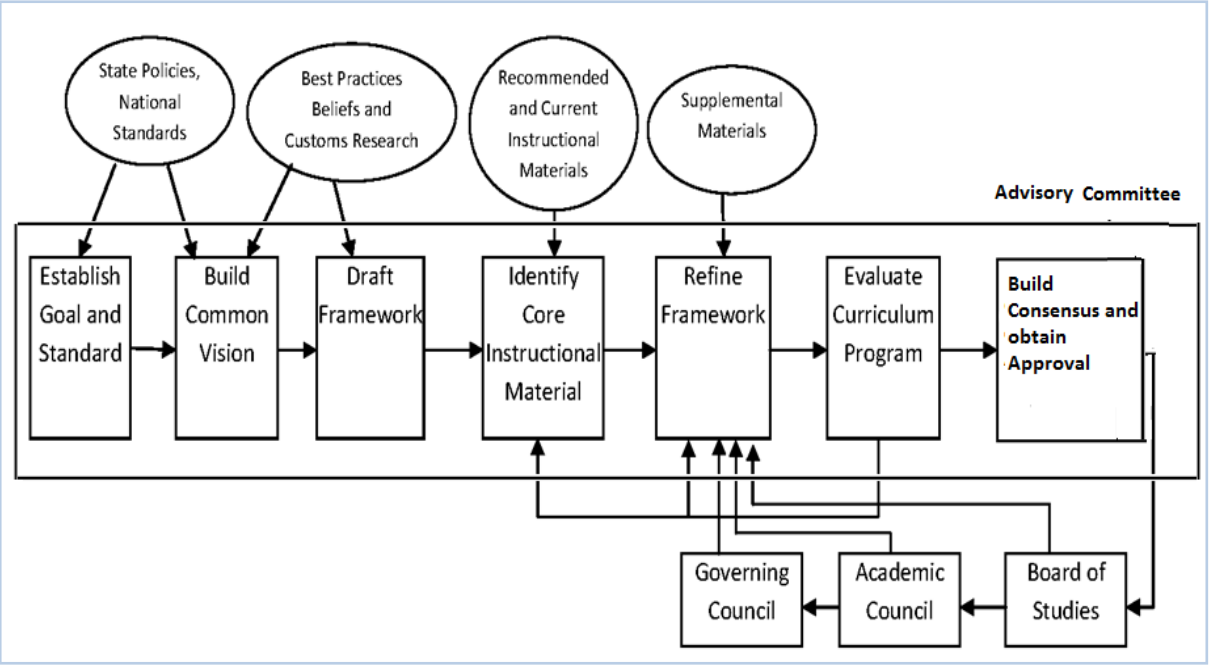


Fig-5: Process for designing the Programme Curriculum

Based on the feedback from the stakeholders the departmental Advisory Committee develops the curriculum and seeks the approval of the BOS, Academic Council. The following points are kept as guidelines for the entire curriculum design process:

- CC 2005 / IT 2008 / ACM/IEE CS Curricula
- Policy made by the University
- Consideration of existing curriculum of reputed institutes in India and abroad.
- Model AICTE Curriculum
- Expertise and resources available in the department.

Their recommendation is considered and approved by the BOS (board of studies) of the department. The approved curriculum is send to University Academic Council for their final endorsement.

The faculty in the department is loosely divided into 7 groups and the groups design new courses in their areas:

1	Ubiquitous Computing
2	Machine Intelligence
3	Databases and Distributed Systems
4	Systems and Network Security
5	Computer Systems and Networks
6	Software Engineering and Information Systems
7	Algorithms and Parallel Computing

3.5.2. Illustrate the measures and processes used to improve courses and curriculum (10)

(Articulate the process involved in identifying the requirements for improvements in courses and curriculum and provide the evidence of continuous improvement of courses and curriculum)

Same procedure, as mentioned above in 3.5.1, is followed for improvement of curriculum and courses. The basis for the improvement comes primarily from the international research scenario in various disciplines of Computer Science & Engineering. This input is given by the faculty members, many of whom are involved in high quality research work. In addition, the needs of the industry obtained through feedback from discussions held with the experts from industry and discussion with the employers who come for placement at the TPO is also taken into consideration.

3.6. Course Syllabi (5)

(Include, in appendix, a syllabus for each course used. Syllabi format should be consistent and shouldn't exceed two pages.)
The syllabi format may include:

- Department, course number, and title of course

- Designation as a required or elective course
- Pre-requisites
- Contact hours and type of course (lecture, tutorial, seminar, project etc.)
- Course Assessment methods(both continuous and semester-end assessment)
- Course outcomes
- Topics covered
- Text books, and/or reference material

Syllabus is attached in Appendix-C and details are given in table, chart below:

S. No.	Description	% of credits	Credits
1	Mathematics	8.2	16
2	Science	7.2	14
3	Computing	6.2	12
4	Humanities	12.3	24
5	Professional Core	56.9	111
6	Professional Electives	9.2	18
	Total	**100**	**195**

Table-21: Academic Components in the Curriculum

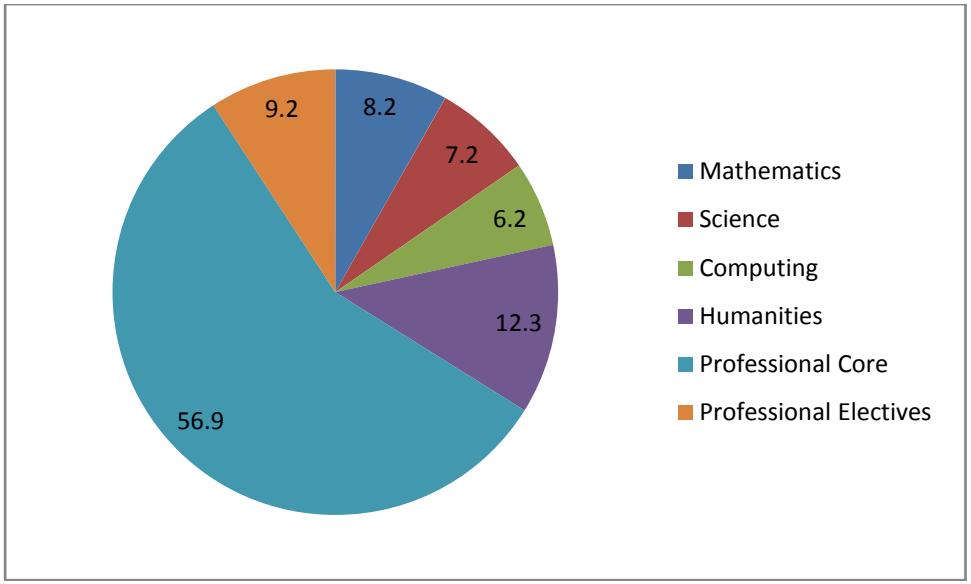


Chart-22: Academic Components in the curriculum

4. Students' Performance (75)

Admission intake in the programme

Item	CAY	CAY*m*1	CAY*m*2	CAY*m*3	CAY*m*4
Sanctioned intake strength in the programme (*N*)	60	60	60	60	60
Total number of admitted students in first year *minus* number of students migrated to other programmes at the end of 1st year (*N*1)	22	25	59	37	49
Number of admitted students in 2nd year in the same batch via lateral entry (*N*2)	0	0	0	0	0
Total number of admitted students in the programme (*N*1 + *N*2)	22	25	59	37	49

4.1. Success Rate (20)Provide data for the past seven batches of students

Year of entry (in reverse	Number of Students admitted in 1st year	Number of students who have

chronological order	+ admitted via lateral entry in 2nd year (N1 + N2)	successfully completed*			
		1st year	2nd year	3rd year	4th year
CAY	22				
CAYm1	25	21	-	-	-
CAYm2	59	58	53	-	-
CAYm3	37	28	36	36	-
CAYm4 (LYG)	49	38	37	42	49
CAYm5 (LYGm1)	48	38	40	42	43
CAYm6 (LYGm2)	53	40	41	45	49

*successfully completed implies zero backlogs

Success rate= 20 × mean of success index (SI) for past three batches

SI= (Number of students who graduated from the programme in the stipulated period of course duration)/ (Number of students admitted in the first year of that batch and admitted in 2nd year via lateral entry)

Item	LYG (CAYm4)	LYGm1 (CAYm5)	LYGm2 (CAYm6)
Number of students admitted in the corresponding First Year + admitted via lateral entry in 2nd year	49	48	53
Number of students who have graduated in the stipulated period	49	43	49
Success index (SI)	1	0.89	0.92

Average SI =0.94

Success rate = 20 × Average SI =18.8

4.2. Academic Performance (20)

API	=	Academic performance index
	=	Mean of cumulative grade point average (CGPA) of all successful students on a 10- point CGPA system

Or	=	(Mean of the percentage of marks of all successful students)/10

Assessment = 2 × API

Item	LYG	LYGm1	LYGm2
Mean of cumulative grade point average (CGPA) of all successful students on a 10- point CGPA system	6.66	6.81	6.79
Assessment = 2 × API	13.32	13.62	13.58

Average Assessment for Three Years=13.50

4.3. Placement and Higher Studies (20)

Assessment Points = 20 × (x + 1.25y)/N

where, x = Number of students placed

y =Number of students admitted for higher studies with valid qualifying scores/ranks, and

N =Total number of students who were admitted in the batch including lateral entry subject to maximum assessment points = 20.

Item	LYG	LYG*m*1	LYG*m*2
Number of admitted students corresponding to LYG including lateral entry (N)	49	47	52
Number of students who obtained jobs as per the record of placement office (x1)	29	47	52
Number of students who found employment otherwise at the end of the final year (x2)	8	0	0
$x = x1 + x2$	37	47	52
Number of students who opted for higher studies with valid qualifying scores/ranks (y)	5	1	1
Assessment points	17.65	20	20

Number of students who opted for higher studies with valid qualifying scores/ranks (y)

Average assessment points =19.21

4.4 Professional Activities (15)

4.4.1 Professional societies / chapters and organising engineering events (3)

(Instruction: The institution may provide data for past three years).

Following are the events organized every years:

- Software reverse engineering
- Web designing
- The amazing race
- Virtual robotics
- Race to resurrection
- Syndicath 2.0

Following are the societies:

- IEEE Student Chapter

4.4.2 Organisation of paper contests, design contests, etc. and achievements (3)

(Instruction: The institution may provide data for past three years).

Following contests are organized every year:

- Autodozer,
- Online codez
- Debugging
- Android, Photoshop,

4.4.3. Publication of technical magazines, newsletters, etc. (3)

(Instruction: The institution may list the publications mentioned earlier along with the names of the editors, publishers, etc.).

Magazine Name	Editor name	Publisher name
Login	Shruti Shrivastav	JUIT
Reverie	Shruti Shrivastav Nikita Gupta, Anshul Vasu, Apeksha Chauhan, Kanika Rana	JUIT
Alvida	Anshul Vasu	JUIT

4.4.4. Entrepreneurship initiatives, product designs, and innovations (3)

(Instruction: The institution may specify the efforts and achievements.)

For the above the efforts made by university:

- Mini-courses/Workshops/Speaker events to provide students from different institutions and other regional higher education institutions, training in entrepreneurial skills, creativity, leadership, and industry-specific knowledge;
- The Mentor Program to match students in the JUIT entrepreneurship program with local entrepreneurs to expand experiential learning and create stronger ties with the local community;
- The Market Research, Prototyping, and Planning initiative to provide JUIT students with modest financial resources to explore the feasibility of new venture ideas; and
- The Experiential Learning Internships/Externships to provide undergraduate and graduate students with the opportunity to expand in-class learning with hands-on exposure to the entrepreneurial process

4.4.5. Publications and awards in inter-institute events by students of the programme of study (3)

(Instruction: The institution may provide a table indicating those publications, which fetched awards to students in the events/conferences organised by other institutes. A tabulated list of all other student publications may be included in the appendix.)

Students have participated in technical events of following reputed institutions and won the various awards:

Name of the Students	Event and Place	Prize Won
Salil Sekhri	Technical, BITS PILANI	3rd (CODE WRITING)
Kailash Sharma	Technical Fest, JIIT NOIDA	2nd (QUIZ)
Harshvardhan Chand	Technical Fest IIT KANPUR	3rd (CODE)
Naveen Garg	Techfest, PEC CHANDIGARH	3rd (QUIZ)
Akhil Gupta	ROBOTICS EVENT NIT KURUKSHETRA	3rd (Robot Making)

5. Faculty Contributions (175)

List of Faculty Members: Exclusively for the Programme / Shared with other Programmes

(2013-2014)

Name of the faculty member	Qualification, university, and year of graduation	Year of Passing	Designation	Date of Joining the Institution	Distribution of teaching load (%)			Number of research publications in journals and conferences since joining	IPRs	R&D and consultancy work with amount
					1st yEAR	UG	PG			
Vivek Sehgal	Ph.D.	2010	Associate. Professor	1-Aug-03	0	100	0	0	0	0
Ravindara Bhatt	M.Tech	2005	Assistant Professor-II	3-Jul-06	0	78	22	1	0	0
Brig. (Retd.) S.P. Ghrera	Ph.D.	2012	Professor and HOD	12-Sep-06	0	78	22	1	0	0
Nitin Rakesh	Ph.D.	2012	Assistant Professor-SG	8-Jul-08	00	100		2	0	0
Komal Mahajan	M.S.	2012	Assistant Professor-I	20-july 2012		100	0	1	0	0
Ansuyia Makroo	M.S.	2012	Assistant Professor-I	19-july-2012		100	0	1	0	0
Wajid	M.Tech	2009	Assistant Professor-II	4-Jul-09	0	25	0	1	0	0

Dr. Pradeep Chauhan	Ph.D	2009	Asso. Professor	28-June-2008	0	25	0	38	0	0
Dr. Shruti Jain	PH.D	2012	Assistant Professor-SG	15-April-2008	0	50	0	20	0	0
Triambica Gautam	MBA	1998	Assistant Professor-II	4-Aug-2007	0	100	0	5	0	0
Dr. Rajesh Kumar	Ph.D	2010	Assistant Professor-II	Apri-2004	100	0	0	15	0	0
Neha Aggarwal	MBA	2010	Assistant Professor-II	22-july-2010	50	25	25	3	0	0
Dr. Rakesh Bajaj	Ph.D	2010	Assistant Professor-SG	1-May-2003	0	100	0	25	0	0

List of Faculty Members: Exclusively for the Programme / Shared with other Programmes

(2012-2013)

Name of the faculty member	Qualification, university, and year of graduation	Year of Passing	Designation	Date of Joining the Institution	Distribution of teaching load (%)			Number of research publications in journals and conferences since joining	IPRs	R&D and consultancy work with amount
					1st yEAR	UG	PG			
Vivek Sehgal	Ph.D.	2010	Asstt. Professor-II	1-Aug-03	0	100	0	8	0	0
Ravindara Bhatt	M.Tech	2005	Asstt. Professor-II	3-Jul-06	0	78	22	1	0	0
Brig. (Retd.) S.P. Ghrera	Ph.D.	2012	Professor and HOD	12-Sep-06	0	78	22	1	0	0
Nitin Rakesh	Ph.D.	2012	Assistant Professor-SG	8-Jul-08	00	80	20	5	0	0
Ravinder Ahuja	M.Tech	2011	Assistant Professor-I	30-June-2012	0	100	0	9	0	0
Ramanpreet Kaur	M.Tech	2009	Assistant Professor-I	June-2012	0	100	0	1	0	0
Wajid	M.Tech	2009	Assistant Professor-II	4-Jul-09	0	50	0	1	0	0

Dr. Shruti Jain	PH.D	2011	Assistant Professor-SG	15-April-2008	0	50	0	20	0	0
Triambica Gautam	MBA	1998	Assistant Professor-II	4-Aug-2007	0	100	0	5	0	0
Dr. Rajesh Kumar	Ph.D	2010	Assistant Professor-II	Apri-2004	100	0	0	15	0	0
Neha Aggarwal	MBA	2010	Assistant Professor-II	22-july-2010	50	25	25	3	0	0
Dr. Rakesh Bajaj	Ph.D	2010	Assistant Professor-SG	1-May-2003	0	100	0	25	0	0

List of Faculty Members: Exclusively for the Programme / Shared with other Programmes

(2011-2012)

Name of the faculty member	Qualification, university, and year of graduation	Year of Passing	Designation	Date of Joining the Institution	Distribution of teaching load (%)			Number of research publications in journals and conferences since joining	IPRs	R&D and consultancy work with amount
					1st yEAR	UG	PG			
Vivek Sehgal	Ph.D.	2010	Asstt. Professor-II	1-Aug-03	0	100	0	5	0	0
Ravindara Bhatt	M.Tech	2005	Asstt. Professor-II	3-Jul-06	0	78	22	1	0	0
Brig. (Retd.) S.P. Ghrera	Ph.D.	2012	Professor and HOD	12-Sep-06	0	78	22	2	0	0
Nitin Rakesh	M.Tech	2012	Assistant Professor-II	8-Jul-08	00	80	20	5	0	0
Arvind Kumar	M.Tech	2009	Assistant Professor-II	1-Aug-2011	0	75	25	1	0	0
Wajid	M.Tech	2011	Assistant Professor-I	4-Jul-09	0	50	0	1	0	0
Dr. Shruti Jain	PH.D	2011	Assistant Professor-II	15-April-2008	0	50	0	20	0	0
Triambica Gautam	MBA	1998	Assistant	4-Aug-2007	0	100	0	5	0	0

			Professor-II							
Dr. Rajesh Kumar	Ph.D	2010	Assistant Professor-II	Apri-2004	100	0	0	15	0	0
Neha Aggarwal	MBA	2010	Assistant Professor-I	22-july-2010	50	25	25	3	0	0
Rakesh Bajaj	Ph.D	2010	Assistant Professor-II	1-May-2003	0	100	0	25	0	0

List of Faculty Members: Exclusively for the Programme / Shared with other Programmes

(2010-2011)

Name of the faculty member	Qualification, university, and year of graduation	Year of Passing	Designation	Date of Joining the Institution	Distribution of teaching load (%)			Number of research publications in journals and conferences since joining	IPRs	R&D and consultancy work with amount
					1st yEAR	UG	PG			
Vivek Sehgal	Ph.D.	2010	Asstt. Professor-II	1-Aug-03	0	100	0	3	0	0
Ravindara Bhatt	M.Tech	2005	Asstt. Professor-II	3-Jul-06	0	78	22	1	0	0
Brig. (Retd.) S.P. Ghrera	Ph.D.	2012	Professor and HOD	12-Sep-06	0	78	22	0	0	0
Nitin Rakesh	M.Tech	2012	Assistant Professor-II	8-Jul-08	00	80	20	2	0	0
Arvind Kumar	M.Tech	2009	Assistant Professor-II	1-Aug-2011	0	75	25	1	0	0
Wajid	M.Tech	2011	Assistant Professor-I	4-Jul-09	0	50	0	1	0	0
Dr. Shruti Jain	PH.D	2011	Assistant Professor-II	15-April-2008	0	50	0	20	0	0

Triambica Gautam	MBA	1998	Assistant Professor-II	4-Aug-2007	0	100	0	5	0	0
Dr. Rajesh Kumar	Ph.D	2010	Assistant Professor-II	Apri-2004	100	0	0	15	0	0
Neha Aggarwal	MBA	2010	Assistant Professor-I	22-july-2010	50	25	25	3	0	0
Rakesh Bajaj	Ph.D	2010	Assistant Professor-II	1-May-2003	0	100	0	25	0	0

(Instruction: The institution may complete this table for the calculation of the student-teacher ratio (STR). Teaching loads of the faculty member contributing to only undergraduate programme (2nd, 3rd, and 4th year) are considered to calculate the STR.)

5.1. ***Student-Teacher Ratio (STR) (20)***

STR is desired to be 15 or superior

Assessment = 20 × 15/STR; subject to maximum assessment of 20

STR = $(x + y + z)/N1$

where, x = Number of students in 2nd year of the programme

y = Number of students in 3rd year of the programme

z = Number of students in 4th year of the programme

$N1$ = Total number of faculty members in the programme (by considering fractional load)

Year	x	y	z	$x + y + z$	$N1$	STR	Assessment (max. = 20)
CAY$m2$	28	37	42	107	11	9.72	20
CAY$m1$	58	36	42	136	12	11.33	20
CAY	21	53	36	110	13	8.46	20
				Average assessment			20

For Item nos. 5. 2 to 5. 8, the denominator term (N) is computed as follows:

N = Maximum {$N1$, $N2$}

$N1$ = Total number of faculty members in the programme (considering the fractional load)

$N2$ = Number of faculty positions needed for student-teacher ratio of 15.

Year	$N1$	$N2$	N = Max. ($N1$, $N2$)
CAY$m2$	11	8	11
CAY$m1$	12	10	12
CAY	13	8	13

5.2. ***Faculty Cadre Ratio (20)***

Assessment = 20 × CRI

where, CRI = Cadre ratio index

= $2.25 \times (2x + y)/N$; subject to max. CRI = 1.0

where, x = Number of professors in the programme

y = Number of associate professors in the programme

Year	x	Y	N	CRI	Assessment
CAYm2	1	0	11	0.20	4
CAYm1	1	0	12	0.37	7.4
CAY	1	2	13	0.69	13.8
Average assessment					8.4

5.3. ***Faculty Qualifications (30)***

Assessment = 6 × FQI

where, FQI = Faculty qualification index

= $(10x + 6y + 2z0)/N2$

such that, $x + y + z0 \leq N2$; and $z0 \leq z$

where, x = Number of faculty members with PhD

y = Number of faculty members with ME / M Tech

z = Number of faculty members with B.E / B. Tech

	x	y	z	N	FQI	Assessment
CAYm2	4	7	0	11	7.45	44.7
CAYm1	6	6	0	12	8	48
CAY	7	6	0	13	8.15	48.9
	Average assessment					47.2

5.4. Faculty Competencies correlation to Programme Specific Criteria (15)

(Provide evidence that program curriculum satisfies the applicable programme criteria specified by the appropriate American professional associations such as ASME, IEEE and ACM. You may list the programme specific criteria and the competencies (specialisation, research publication, course developments etc.,) of faculty to correlate the programme specific criteria and competencies)

The department has highly qualified faculty to support our programme and provide future direction. All faculty members hold post graduate degree from institution of repute such as NITs, IITs and Universities abroad and posses a minimum of two to three years of experience. Many of the faculty members hold PhD degree and have teaching and research experience of decades having served in institution of national and international repute. In additional to the departmental faculty, our programme is supported by a highly qualified faculty in sciences and humanities.

Our department has formed a number of research groups based on the individual faculty profiles and programme requirements as well as the interdisciplinary research avenues. These research groups besides providing focus on research projects, encourage group interaction, develop new courses and labs and provide future direction for teaching and research activities. Listed below are seven research groups that are currently active in the department covering most of the topics listed in IEEE/ACM curriculum.

The various research groups are:

Research Groups & topics	
1. Ubiquitous Computing	Dr Yashwant Singh Mr. Punit Gupta Ms. Reema Aswani Mr. Ravindara Bhatt Ms. Nishtha Ahuja Ms. Ansuyia Makroo Ms. Komal Mahajan Mr. Shailendra Shukla, Dr. P.K. Gupta Dr Sakshi Babbar Dr. RMK Sinha Dr. Vivek Sehgal (coordinator)
a. Embedded systems	
b. Internet of things	
c. Pervasive computing	
d. Context aware computing	
e. Smart devices	
f. Interactive white boards	
g. Natural user interface	
h. RFID	
i. Human Computer Interaction	
j. Wearable devices	
2. Machine Intelligence	Dr.Pooja Jain Ms. Reema Aswani Dr. Pardeep Kumar Mr. Amit Kumar Singh Dr. Rajni Mohana Ms. Sanjana Singh Mr. Suman Saha Dr. RMK Sinha (coordinator)
a. Computer Vision, Graphics and Image Processing	
b. Robotic intelligence	
c. Natural language and Speech processing	
d. Expert systems and knowledge based systems	
e. Evolutionary computing	
f. Machine learning	
g. Pattern recognition and classification	
h. Biometrics	
i. Information retrieval and unstructured data mining	
j. Intelligence gathering based on social media	
k. Soft computing	

3. Databases and Distributed Systems	Ms. Reema Aswani Dr. Pardeep Kumar Ms. Sanjana Singh Ms. Ansuyia Makroo Ms. Komal Mahajan Mr. Suman Saha Dr. Deepak Dahiya (coordinator)
a. DBMS	
b. Big data	
c. Distributed databases	
d. Data warehousing	
e. Data mining	
f. Social media data analysis (trends, rumors, gossips)	
4. Systems and Network Security	Dr. Hemraj Saini Ms. Ramanpreet Kaur Mr. Arvind Kumar Mr. Amit Kumar Singh Ms. Sanjana Singh Mr. Amol Vasudeva Mr. Shailendra Shukla Dr Yashwant Singh Dr. S P Ghrera (coordinator)
a. Cryptography	
b. Network security	
c. Information security	
d. Fraud and identity theft	
e. Malware, Spyware, Worms, Viruses	
f. Cyber laws	
5. Computer Systems and Networks	Dr. Hemraj Saini Mr. Punit Gupta Ms. Nishtha Ahuja Dr. Deepak Dahiya Mr. Ravindara Bhatt Dr. P.K. Gupta Dr. Vivek Sehgal Mr. Amol Vasudeva Mr. Shailendra Shukla Dr S P Ghrera Mr. Arvind Kumar
a. Computer Architecture	
b. Compilers	
c. Operating Systems	
d. Grid computing	
e. High performance computing	
f. Mobile Computing	
g. Cloud computing	
h. Heterogeneous Networks	
i. Wireless Sensor Networks	

j. Networks protocols	Ms Ruchi Verma Dr Yashwant Singh Dr Nitin Chanderwal (coordinator)
k. Green Computing	
l. Storage Networks	
m. Networks management	
n. Software Defined Networking	
6. Software Engineering and Information Systems	Dr. Deepak Dahiya Dr. Rajni Mohana Ms. Ansuyia Makroo Ms.Komal Mahajan, Dr. Pooja Jain Mr. Punit Gupta Dr. P.K. Gupta (coordinator)
a. Software Architecture & Frameworks	
b. Service Oriented Architecture	
c. Aspect Oriented Programming	
d. Agile Methodology	
e. Software Agents	
f. Software Testing	
g. File Systems	
h. Information systems management	
7. Algorithms and Parallel Computing	Mr. Suman Saha Mr. Amol Vasudeva Mr. Arvind Kumar Mr. Punit Gupta Mr. Shailendra Shukla (coordinator)
a. Combinatorial algorithms	
b. Randomized algorithms	
c. Parallel and Distributed Algorithms	
d. Distributed Synchronization	
e. Self-stabilizing Algorithms	
f. Automata	
g. Theory of Computation	
h. Programming languages	

5.5. Faculty as participants/resource persons in faculty development/training activities (15)

(Instruction: A faculty member scores maximum five points for a participation/resource person.)

Participant/resource person in two week faculty development programme: 5 points Participant/resource person in one week faculty development programme: 3 Points

		Max. 5 per faculty			
Name of the faculty		2011-12	2012-13	2013-14	CAY
Dr. Yashwant Singh		5	5	5	
Dr. Nitin		3	0	0	
Prof. Deepak Dahiya		5	5	5	
Dr. Pardeep Kumar		3	0	0	
Mr Amol Vasudeva		3	0	0	
Prof. S.P.Ghrera		5	5	5	
Rajesh Siddavattam		5	0	0	
R K Bajaj		5	0	0	
G Singh		3	0	0	
PK Gupta		3	3	3	
Dr. Hemraj Saini		0	0	5	
Arvind Kumar		0	0	3	
Ramanpreet		0	0	3	
	Sum	37	18	29	
N (Number of faculty positions required for an STR 15)		26	24	24	
Assessment = 3 × Sum/*N*		4.27	2.25	3.62	
				Average assessment	3.38

Find Table in Appendix-D

5.6. Faculty Retention (15)

Assessment = 3 × RPI/*N*
where RPI = Retention point index
= Points assigned to all faculty members

where points assigned to a faculty member = 1 point for each year of experience at the institute but not exceeding 5.

Item	CAYm3	CAYm2	CAYm1	CAY
Number of faculty members with experience of less than year (x0)	0	1	2	0
Number of faculty members with 1 to 2 years experience (*x*1)	3	1	0	2
Number of faculty members with 2 to 3 years experience (*x*2)	2	2	1	0
Number of faculty members with 3 to 4 years experience (*x*3)	1	2	2	1
Number of faculty members with 4 to 5 years experience (*x*4)	2	1	2	2
Number of faculty members with more than 5 years experience (*x*5)	3	4	5	8
N	11	11	12	13
RPI = *x*1 + 2*x*2 + 3*x*3 + 4*x*4 + 5*x*5		35	41	53
Assessment		9.45	10.25	12.23
	Average assessment			10.64

5.7. Faculty Research Publications (FRP) (20)

Assessment of FRP = 4 × (Sum of the research publication points scored by each faculty member)/*N*

(Instruction: A faculty member scores maximum five research publication points depending upon the *quality* of the research papers and books published in the past three years.)

The research papers considered are those i.e. (i) which can be located on Internet and/or are included in hard-copy volumes/proceedings, published by reputed publishers, and (ii) the faculty member's affiliation, in the published papers/books, is of the current institution.

Include a list of all such publications and IPRs along with details of DOI, publisher, month/year, etc.

List of Publication is included in Appendix-E

Name of the faculty (contributing to FRP)	FRP points (max. 5 per faculty)			
	CAY*m*3	CAY*m*2	CAY*m*1	CAY
Vivek Sehgal	5	5	5	2
Ravindara Bhatt	1	0	0	0
Brig. (Retd.) S.P. Ghrera	1	2	2	1
Nitin Rakesh	5	5	5	2
Komal Mahajan	0	0	0	1
Ansuyia Makroo	0	0	0	1
Wajid	0	0	1	0
Dr. Pradeep Chauhan	5	5	5	2
Dr. Shruti Jain	5	5	5	2
Triambica Gautam	0	0	0	0
Neha Aggarwal	1	1	4	0
Dr. Rakesh Bajaj	2	5	5	1
Ramanpreet Kaur	0	0	3	1
Ravinder Ahuja	0	0	0	0
Arvind Kumar	0	0	0	0

Dr. Rajesh Kumar	2	2	5	0
Sum	27	33	43	13
N (Number of faculty positions required for an STR of 15)		0	0	0
Assessment o f FRP = 4 × Sum/*N*		12	14.33	4
		Average assessment		10.11

5.8. Faculty Intellectual Property Rights (FIPR) (10)

Assessment of FIPR = 2 × (Sum of the FIPR points scored by each faculty member)/*N* (Instruction: A faculty member scores maximum five FIPR points each year. FIPR includes awarded national/international patents, design, and copyrights.)

Name of faculty member (contributing to FIPR)		FIPR points (max. 5 per faculty member)		
		CAY*m*2	CAY*m*1	CAY
.....		NIL	NIL	NIL
	Sum	NIL		
	N			
Assessment of FIPR = 2 × Sum/*N*				
	Average assessment			Nil

5.9. Funded R&D Projects and Consultancy (FRDC) Work (20)

Assessment of R&D and consultancy projects = 4 × (Sum of FRDC by each faculty member)//N
(Instruction: A faculty member scores maximum 5 points, depending upon the amount.) A suggested scheme is given below for a minimum amount of Rs. 1 lakh:

Five points for funding by national agency, Four points for funding by state agency,

Four points for funding by private sector, and

Two points for funding by the sponsoring trust/society.

Name of faculty member (contributing to FRDC)		FRDC points (max. 5 per faculty member) 2011-12	2012-13	2013-14
G Singh		5	5	NIL
Sunil Kumar Kha		5	5	5
	Sum	10	10	10
	N	26	24	24
Assessment of FRDC = 4 × Sum/N		1.54	1.67	1.67
		Average Assessment		1.62

*Three faculty members namely Dr. Yashwant Singh, Dr. Rajni Mohana and Dr. Hemraj Saini has submitted the research proposal to DST, DRDO and department of IT Government of India, result awaited.

5.10. Faculty Interaction with Outside World (10)

FIP = Faculty interaction points

Assessment = 2 × (Sum of FIP by each faculty member)/*N*

(Instruction: A faculty member gets maximum five interaction points, depending upon the type of institution or R&D laboratory or industry, as follows)Five points for interaction with a reputed institution abroad, institution of eminence in India, or national research laboratories,

Three points for interaction with institution/industry (not covered earlier).

Points to be awarded, for those activities, which result in joint efforts in publication of books/research paper, pursuing externally funded R&D / consultancy projects and/or development of semester-long course / teaching modules.

Name of faculty member (contributing to FIP)	FIP		
	2011-12	2012-13	2013-14
Ansuyia Makroo	0	0	5
Dr. Nitin	5	0	0
Prof. Deepak Dahiya	5	5	5
G Singh	5	3	0
Sunil Kha	5	5	5
Komal Mahajan	0	0	5
Sum	20	13	20
N	26	24	24
Assessment of FIP = 2 × Sum/N	1.53	1.08	1.67
Average assessment			1.42

*Dr. Nitin, First Tier Bank Professor (Distinguished Adjunct Professor), University of Nebraska at Omaha, Omaha, USA, (December 2010 to May 2011).

*Prof. Deepak Dahiya, Intelligent Agents Lab, School of CS and IT, RMIT University, Melbourne, Australia as Visiting Researcher (May to July 2011).

6. Facilities and Technical Support (75)

Description of classrooms, faculty rooms, seminar, and conference halls: (Entries in the following table are sampler entries)

Room description	No.of Rooms	Usage	Shared/ exclusive	Capacity	Rooms equipped with PC, Internet, Book rack, meeting space, etc.
No. of Lecture Theatres	3	1st, 2nd, 3rd and 4th year classes	Shared	200	Yes (Book rack no)
No. of Classrooms	8	1st, 2nd, 3rd and 4th year classes	Shared	72	Yes (Book rack no)
Tutorial rooms	7	1st, 2nd, 3rd and 4th year classes	Shared	40	Yes (Book rack no)
No. of Seminar rooms	1	M. Tech / PhD seminars	Shared	1	Yes
No. of Meeting rooms	1	Departmental Meetings	Shared	1	Yes
No. Of auditorium	1	Conference	Shared	1500	Yes
No. of Faculty rooms	30	Faculty offices	Exclusive	30	PC and internet

6.1. Classrooms in the Department (20)

6.1.1. Adequate number of rooms for lectures (core/electives), seminars, tutorials, etc., for the program (10)

(Instruction: Assessment based on the information provided in the preceding table.)

Adequate numbers of rooms for lectures core/electives), seminars, tutorials, etc., for the program are available as given in the table.

6.1.2. Teaching aids-multimedia projectors, etc. (5)

(Instruction: List the various teaching aids available)

All lecture theatres, classrooms and tutorial rooms are equipped with

i. LCD Projector

ii. Net connected PC

iii. White board

iv. Audio system in large sized lecture theatres

v. Table top projector

6.1.3. Acoustics, classroom size, conditions of chairs/benches, air circulation, lighting, exits, ambience, and such other amenities/facilities (5)

(Instruction: Assessment based on the information provided in the preceding table and the inspection thereof.)

Acoustics	Excellent
Classroom size	Adequate
Condition of chair/benches	Well maintained
Air circulation	Excellent
lighting	Excellent
Exits	Adequate
Ambience	Excellent
Audio Visual aids	Well maintained

6.2. Faculty Rooms in the Department (15)

6.2.1. Availability of individual faculty rooms (5)

(Instruction: Assessment based on the information provided in the preceding table.)

All faculty members have been provided individual rooms. All the rooms have internet connection.

6.2.2. Room equipped with white/black board, computer, Internet, and such other amenities/facilities (5)

(Instruction: Assessment based on the information provided in the preceding table)

All the faculty members are provided with individual cabins with appropriate furniture-3 cushioned chairs, one large table, one computer table, one almirah, one side cabinet with drawers. Adequate lighting and fans are provided. One PC with internet connection is provided to each faculty member. Printing facility is also provided.

6.2.3. Usage of room for counselling/discussion with students (5)

(Instruction: Assessment based on the information provided in the preceding table and the inspection thereof.)

Discussion/Counselling of a few students are done in the faculty cabins. For bigger groups, classroom/tutorials rooms/group discussion rooms are used. The following table is required for the subsequent criteria.

The following table is required for the subsequent criteria:

Laboratory description in the curriculum	Exclusive use / shared	Space, number of students	Number of experiments	Quality of instruments	Laboratory manuals
Introduction to computers and C programming language	Shared	30	20	Excellent	Available
Data Structure & Computer Programming Lab	Shared	30	11	Excellent	Available
Algorithms Lab	Shared	30	20	Excellent	Available
Multimedia Development Lab 1	exclusive	30	5	Excellent	Available
Object Oriented Programming Lab	Shared	30	28	Excellent	Available
Computer Networks Lab	exclusive	30	16	Excellent	Available
Compiler Design Lab	Shared	30	11	Excellent	Available
Unix Programming Lab	exclusive	30	18	Excellent	Available
Operating System Lab	Shared	30	20	Excellent	Available
Software Testing & Debugging Lab	Shared	30	10	Excellent	Available
Software System Lab1	Shared	30	20	Excellent	Available
System & Network Programming Lab	Shared	30	19	Excellent	Available
Software Engineering Lab	Shared	30	11	Excellent	Available
Computer Graphics Lab	exclusive	30	19	Excellent	Available
Data Mining Lab	Shared	30	10	Excellent	Available
MicroProcessors & Controller Lab	exclusive	30	12	Excellent	Available
Information Systems Lab	Shared	30	10	Excellent	Available

6.3. Laboratories in the Department to meet the Curriculum Requirements and the POs (25)

6.3.1. Adequate, well-equipped laboratories to meet the curriculum requirements and the POs (10)

(Instruction: Assessment based on the information provided in the preceding table.)

All the labs in the department are very well equipped with hardware and software has required to conduct all the experiments as per the curriculum and beyond. Listed below are laboratories dedicated to different tasks and facilities:

Lab	Functions
CL1	B.TECH PROJECT LAB ECE
	M.TECH PROJECT LAB ECE
	CONTROL SYSTEM
	SIMULATION LAB
CL2	BIO- INFORMATICS LAB
CL3	DIGITAL SIGNAL PROCESSING LAB
	COMPUTER PROGRAMMING LAB
	JAVA PROGRAMMING LAB
CL4	MULTIMEDIA DEVELOPMENT LAB-3
	MICROPROCESSOR AND CONTROLLERS LAB
	SIGNALS AND SYSTEMS
CL5	DBMS LAB
	COMPUTER PROGRAMMING LAB
	MULTIMEDIA DEVELOPMENT LAB-1
CL6	OOSP LAB
	SOFTWARE TESTING AND DEBUGGING LAB
	SOFTWARE SYSTEM LAB-1
	ALGORITHM LAB
CL7	B.TECH PROJECT LAB CSE AND IT
	M.TECH PROJECT LAB CSE AND IT
	RESEARCH LAB

CL8	COMPUTER PROGRAMMING LAB
	JAVA PROGRAMMING LAB
	WEB TECHNOLOGY LAB
CL9	ORACLE
	UNIX LAB

6.3.2. Availability of computing facilities in the department (5)

(Instruction: Assessment based on the information provided in the preceding table.)
We have 572 computers installed in different labs details of which are given in Appendix-F

6.3.3. Availability of laboratories with technical support within and beyond working hours (5)

(Instruction: Assessment based on the information provided in the preceding table.)
We have well qualified trained technical support staff available during working hours and beyond (as and when required). Students working on independent projects are permitted to use the laboratories beyond working hours.

6.3.4. Equipment to run experiments and their maintenance, number of students per experimental setup, size of the laboratories, overall ambience, etc. (5)

(Instruction: Assessment based on the information provided in the preceding table.)

Equipment maintenance=Excellent,
Number of students per experimental setup=one,
Size of the laboratories= Excellent,
Overall ambience= Excellent

6.4. Technical Manpower Support in the Department (15)

Name of the technical staff	Designation (pay-scale)	Exclusive / shared work	Date of joining	Qualification		Other technical skills gained	Responsibility
				At Joining	Now		
Sh Ashok Kishtwal	Sr. Lab Tech. (11000-700-25000)	Exclusive	16/09/2005	3 yrs. Diploma in Electronics Engineering, B.com,	A.M.I.E.T.E (Computer Science & Engineering)	MATLAB, 'C' Programming, Microprocessors & Microcontroller Programming Lab	C Programming Lab.
Sh. Hardeep Rana	Lab Tech. (8000-500-18000)	Shared	1/10/2006	B.com,MS-CIT,one year computer software Diploma,	M.C.A (pursuing)		Maintainance of Softwrae and Computer Systems.
Sh. Vineet Paliwal	Jr. Lab Asstt. (4500-250-9500)	Shared	21/01/2011	B.com, RHCT,MCP, Hardware and Networking Diploma	PGDCA (pursuing)		Maintenance of Auditorium equipments, projectors of LTs, CRs, TRs etc. Troubleshoot the problems of audio systems in CRs,LTs and TRs.
Sh.Vijay Sharma	Lab Tech. (8000-500-18000)	Exclusive	17/9/ 2004	APGDIT,A LEVEL	MCA	-	Computer Graphics Lab. And Microprocessor and Controller Lab.
Sh. Ranvijay Singh	Lab Asst.	shared	01/02/2009	ADCA	PGDCA	-	Maintainance of Softwrae and Computer Systems.
Sh. Shiv K Gupta	Sr. Lab Tech. (11000-700-25000)	Exclusive	01-10-2003	M. Sc (Maths), PGDCA	M. Phil	Attended workshop at IIT Kanpur on Architecture of Cloud Computing	Operating System Lab and Unix Programming lab.

Sh. Rohit Sharma	Sr. Lab Tech. (11000-700-25000)	Exclusive	19-02-2007	MCA, MSc.(IT), PGDCA, PGDBI, GNIIT	M.Phil.(CS)	PHP, MYSQL, WEB Technologies, Object Oriented Programming, Photoshop, MATLAB, etc	Maintaining All Web related work – Including University Website.
Sh. Mohan Sharma (on Deputation ECE Dept.)	Lab Assitt (5200-375-12700)	shared	03/03/2009	CCNA Diploma in hardware & networking B.com	RHCE	MCP Exchange server	Maintainance of Softwrae and Computer Systems.
Sh. Amit K. Srivastava	Lab Tech. (8000-500-18000)	Exclusive	12-08-2010	MCA	M. Phil	IBM Certified Associate Developer -- Rational Application Developer for Web Sphere Software V6.0	1. Maintaining Project Lab 2. Maintaining the attendance of M. Tech, and B. Tech Final Year (Project Attendance)
Ms. Anshul Sood	Lab Tech. (8000-500-18000)	Exclusive	15/04/2009	MCA, MA Economics	MCA, MA Economics	Diploma in e-commerce, Diploma in Information and Systems Management	To develop, design and maintain the conferences websites.
Mr. Rajesh Sahu	Jr.LabAsst	Shared	1/12/2010	Three year polytechnic diploma in computer science and engg.,BCA		Auto CAD	Maintainance of Softwrae and Computer Systems.
Mr. Ravi Raina	Jr.LabAss	Shared	1/12/2010	Three year polytechnic diploma in computer science and engg.	-	-	Maintainance of Softwrae and Computer Systems.

6.4.1. Availability of adequate and qualified technical supporting staff for programme- specific laboratories (10)

(Instruction: Assessment based on the information provided in the preceding table.)

Well qualified technical staff is available in all the labs as evident from the above table

6.4.2. Incentives, skill-upgrade, and professional advancement (5)

(Instruction: Assessment based on the information provided in the preceding table.)

Support staff are encouraged to acquire higher education and undergo training. These are taken into account in their annual appraisal.

7. Academic Support Units and Teaching -Learning Process (75)

Students' Admission

Admission intake (for information only)

Item	CAY	CAY*m*1	CAY*m*2	CAY*m*3
Sanctioned intake strength in the institute (*N*)	60	60	60	60
Number of students admitted on merit basis (*N*1)	22	25	59	37
Number of students admitted on management quota/otherwise (*N*2)	0	0	0	0
Total number of admitted students in the institute (*N*1 + *N*2)	22	25	59	37

(Instruction: The intake of the students during the last three years against the sanctioned capacity may be reported here.)

Admission quality (for information only)

Divide the total admitted ranks (or percentage marks) into five or a few more meaningful ranges

Percentile	CAY	CAY*m*1	CAY*m*2
98-100	0	0	5
95-97	0	5	10
90-94	8	8	20
85-89	8	7	19
80-84	6	5	4

Total	22	25	59

(Instruction: The admission quality of the students in terms of their ranks in the entrance examination may be presented here.)

Tabular data for estimating student-teacher ratio and faculty qualification for first year common courses

List of faculty members teaching first year courses: year 2013-2014

Name of Faculty member	Qualification	Designation	Date of joining the institution	Department with which associated	Distribution of teaching load (%)		
					1st year	UG	PG
Dr. Vivek Sehgal	PhD	Associate Prof.	1-Aug-03	CSE & IT	100	100	
Dr. Rakesh Bajaj	PhD	Assistant Professor-SG	01-05-2003	Maths	100	100	
Dr. Rajesh Kumar	PhD	Assistant Professor-II	April, 2004	Physics	100	100	
Neha Aggarwal	MBA	Assistant Professor-II	22-july-2010	HSS	50	100	

(Instruction: The institution may list here the faculty members engaged in first year teaching along with other relevant data.)

List of faculty members teaching first year courses: year 2012-2013

Name of Faculty member	Qualification	Designation	Date of joining the institution	Department with which associated	Distribution of teaching load (%)		
					1st year	UG	PG
Dr. Vivek Sehgal	PhD	Associate Prof.	1-Aug-03	CSE & IT	100	100	
Dr. Rakesh Bajaj	PhD	Assistant Professor-SG	01-05-2003	Maths	100	100	
Dr. Rajesh Kumar	PhD	Assistant Professor-II	April, 2004	Physics	100	100	

Neha Aggarwal	MBA	Assistant Professor-II	22-july-2010	HSS	50	100	

List of faculty members teaching first year courses: year 2011-2012

Name of Faculty member	Qualification	Designation	Date of joining the institution	Department with which associated	Distribution of teaching load (%)		
					1st year	UG	PG
Dr. Vivek Sehgal	PhD	Associate Prof.	1-Aug-03	CSE & IT	100	100	
Dr. Rakesh Bajaj	PhD	Assistant Professor-SG	01-05-2003	Maths	100	100	
Dr. Rajesh Kumar	PhD	Assistant Professor-II	April, 2004	Physics	100	100	
Neha Aggarwal	MBA	Assistant Professor-II	22-july-2010	HSS	50	100	

List of faculty members teaching first year courses: year 2010-2011

Name of Faculty member	Qualification	Designation	Date of joining the institution	Department with which associated	Distribution of teaching load (%)		
					1st year	UG	PG
Dr. Vivek Sehgal	PhD	Associate Prof.	1-Aug-03	CSE & IT	100	100	
Dr. Rakesh Bajaj	PhD	Assistant Professor-SG	01-05-2003	Maths	100	100	
Dr. Rajesh Kumar	PhD	Assistant Professor-II	April, 2004	Physics	100	100	
Neha	MBA	Assistant	22-july-2010	HSS	50	100	

Aggarwal		Professor-II					

7.1. Academic Support Units (35)

7.1.1. Assessment of First Year Student Teacher Ratio (FYSTR) (10)

Data for first year courses to calculate the FYSTR:

Year	Number of students (approved intake strength)	Number of faculty members (considering fractional load)	FYSTR	Assessment = (10 ×15) / FYSTR (Max. is 10)
CAY*m*2	59	4	14.75	10
CAY*m*1	25	4	6.25	10
CAY	22	4	5.5	10
Average	10			

7.1.2. Assessment of Faculty Qualification Teaching First Year Common Courses (15)

Assessment of Qualification = $3X(5x+3y+2z_0)/N$, where $x+y+z_0 \leq N$ and $z_0 \leq z$

x = Number of faculty members with PhD

y = Number of faculty members with ME/M. Tech. /NET-Qualified/M. Phil.
Number of faculty members with BE/B.

z = Tech./MSc/MCA/MA

N = Number of faculty members needed for FYSTR of 25

Year	*x*	*y*	*z*	*N*	Assessment of faculty qualification

CAY*m*2	3	1	0	4	13.5
CAY*m*1	3	1	0	4	13.5
CAY	3	1	0	4	13.5
Average assessment of faculty qualification					13.5

7.1.3. Basic science/engineering laboratories (adequacy of space, number of students per batch, quality and availability of measuring instruments, laboratory manuals, list of experiments) (8)

Laboratory description	**Space, number of students**	**Software used**	**Type of experiments**	**Quality of instruments**	**Laboratory manuals**
Physics Lab	30	Yes	All required	Excellent	Available
Basic Electronics Lab	30	Matlab	All required	Excellent	Available
Microprocessor Controller Lab	30	Keil	All required	Excellent	Available
Computer Network Lab.	30	Free Tools	All required	Excellent	Available
Computer Graphics Lab.	30	Open GL	All required	Excellent	Available
Compiler Design Lab.	30	Turbo C	All required	Excellent	Available
Software Testing and Debuging Lab.	30	Turbo C	All required	Excellent	Available
Web Technology lab.	30	Flash/PHP etc.	All required	Excellent	Available
Software Engineering lab.	30	Visual Paradigm	All required	Excellent	Available
Multimedia Development lab.	30	Flash PHP etc.	All required	Excellent	Available
Algorithm Lab.	30	Turbo C	All required	Excellent	Available
Signal and System Lab.	30	Matlab	All required	Excellent	Available

(Instruction: The institution needs to mention the details for the basic science/engineering laboratories for the first year courses. The descriptors as listed here are suggestive in nature.)

7.1.4. **Language laboratory (2)**

(Instruction: The institution may provide the details of the language laboratory. The descriptors as listed here are not exhaustive).

Language Laboratory	Space, number of students	Software used	Type of experiments	Quality of instruments	Guidance
English language lab.	30	Sky Pro	Pronunciation practices	Excellent	Provided by Faculty
		Tense Buster	Grimmer Practices	Excellent	Provided by Faculty
		Connected Speech	Connected Speech Practices	Excellent	Provided by Faculty

Department of Humanities and Social Sciences has a Language laboratory which is used by all the students of university.

7.2. Teaching – Learning Process (40)

7.2.1. Tutorial classes to address student questions: size of tutorial classes, hours per subject given in the timetable (5)

(Instruction: Here the institution may report the details of the tutorial classes that are being conducted on various subjects and also state the impact of such tutorial classes).

Provision of tutorial classes in timetable: **YES**

Tutorial sheets provided: **YES**

Tutorial classes taken by faculty / teaching assistants / senior students / others: **Faculty/Teaching Assistant**

Number of tutorial classes per subject per week: 1 Number of students per tutorial class: **30**

Number of subjects with tutorials: **1st year :8; 2nd year: 8; 3rd year: 10; 4th year: 0.**

Tutorials are conducted by the faculty members and teaching assistants, exercises are given that are solved by the students during the tutorial hours with the guidance of faculty members. Overall questions are asked and sometimes short quizzes are also held.

The tutorials help the students in

I. Developing better understanding of the subjects
II. Clarifying their doubts that could not be taken up during lectures
III. Problem solving abilities

7.2.2. Mentoring system to help at individual levels (5)

(Instruction: Here the institution may report the details of the mentoring system that has been developed for the students for various purposes and also state the efficacy of such system).

Mentoring System: Yes
Type of mentoring: Total development
Number of faculty mentors: 25
Number of students per mentor: 7
Frequency of meeting: 1/Month

7.2.3. Feedback analysis and reward / corrective measures taken, if any (5)

Feedback collected for all courses: YES

Specify the feedback collection process: Feedback is collected at end of each semester in the format attached for lecture/tutorial and lab. It is collected by the teacher who is not teaching the course for which feedback is obtained.

Percentage of students participating: 85% or more.

Specify the feedback analysis process: University has developed software to analyse the feedback. The data entry is done by the administrative office. The reports are given to Vice Chancellor for further action.

Basis of reward / corrective measures, if any: The Vice Chancellor and HOD discuss the feedback reports with each faculty member and appropriate action/counselling is done to improve on teaching. The feedback obtained is also entered in appraisal report of teacher concerned and is taken as one of the factor at the time of promotion. The feedback report is also one of the factor for revising the course contents.

Number of corrective actions taken in the last three years: 3

(Instruction: The institution needs to design an effective feedback questionnaire. It needs to justify that the feedback mechanism it has developed really helps in evaluating teaching and finally contributing to the quality of teaching).

STUDENT FEEDBACK FORM

For Lecture & Tutorial Teaching

Subject Name_____ Subject Code _____

Semester_____ Year_____ Name of Faculty_____

Respond against each item using the following parameters wherever applicable.

Excellent [E]; Very Good [V]; Good [G]; Satisfactory [S]; Unsatisfactory [U]

S.No	ITEM	E	V	G	S	U
1.	Teaching for the subject was					
2.	Coverage of the subject matter was					
3.	Opportunity provided for asking questions in the class was					
4.	Delivery of lectures/tutorials was					
5.	Standard of the subject matter covered was					
6.	Emphasis on concepts and fundamentals was					
7.	Your learning of the subject has been					
8.	Usefulness of the subject to your career is					

9 Name three topics of this subject you learnt the best:

A] B]

C]

10. Name three topics of this subject you could not learn to your satisfaction.

A] B] C]

11. Specific suggestions and comments on the subject and its teaching:

S.No.	SUBJECT	TEACHING
A		
B		
C		

12. Any Other Comments:

[Use reverse side for more space. Please do not indicate your identity anywhere]

STUDENT FEEDBACK FORM

For Laboratory Classes

Lab Course Name_____ Lab Code_____

Semester_____ Year_____ Name of Faculty _____

Respond against each item using the following parameters wherever applicable.
Excellent [E]; Very Good [V]; Good [G]; Satisfactory [S]; Unsatisfactory [U]

S.No.	ITEM	E	V	G	S	U
1.	Level & Standard of experiments/design given					
2.	Usefulness of this Laboratory towards your understanding of theory					
3.	Usefulness of this Laboratory to your career					
4.	Status of the equipments in the lab					

5. Number of experiments you could complete successfully:

6. Name the best experiment you performed:

7. Name the experiment you could not complete to your satisfaction:

8. Specific suggestions and comments:

S.No.	LABORATORY/EXPERIMENT
A	
B	
C	

9. Any Other Comments:

[Use reverse side for more space. Please do not indicate your identity anywhere]

7.2.4. Scope for self-learning (5)

(Instruction: The institution needs to specify the scope for self-learning / learning beyond syllabus and creation of facilities for self-learning / learning beyond syllabus.)

Students are given assignments and practical projects to promote self learning. University's learning resource centre, university LAN and internet resources help in self learning. In addition the B. Tech. projects in the final year also provide a good opportunity for self learning where students gain practical knowledge to achieve objectives of the projects by doing a state of art literature survey.

7.2.5. Generation of self-learning facilities, and availability of materials for learning beyond syllabus (5)

(Instruction: The institution needs to specify the facilities for self-learning / learning beyond syllabus.)

Self-learning is promoted in the University by generating a number of self-learning facilities. A number of events and contests are organized that motivate the students self learning. Guest lectures and industry presentations are held that promote self learning. Listed below are some of the self learning facilities at the university.

Web-based Learning:

The internet is an open information system from where the students can obtain various kinds of information, media and materials of their interest. University provides internet facility in both the academic and hostel campuses for 24 hours to promote and motivate students to self-learning. The availability of internet facility allows them to learn and to gather the information from worldwide network without any interruptions. Many students surf the web in groups and hold group discussions providing exchange of information and knowledge.

Learning with Multi-media:

The university provides the information related to various web-based learning sites such as NPTEL, MIT OPEN COURSEWARE, SCHOOL OF OPEN LEARNING, etc. To facilitate this, these course materials are made available on intranet. Digital Library facility and LCD projectors for presentations are also made available to promote group discussions and knowledge sharing

Learning Resource Centre:

Learning Resource Centre, the University Library, is open upto midnight on all working days and has online search and reprographic facilties.

Classroom Presentations:

Every course promotes classroom presentations by the students on any topic of interest related to curriculum.

Arranging presentation on non-technical topics:

Technical Symposiums:

- Organizing annual events like, MURIOUS, and various contests.
- Organizing various events like poster presentation, debate, awareness, etc.
- Motivating students to participate in inter-college events for paper presentation and project exhibitions

Provision for learning of French and German.

7.2.6. Career Guidance, Training, Placement, and Entrepreneurship Cell (5)

(Instruction: The institution may specify the facility and management to facilitate career guidance including counselling for higher studies, industry interaction for training/internship/placement, Entrepreneurship cell and incubation facility and impact of such systems)

The University has created the following facilities for career guidance:

- Full time Placement Officer.
- On campus training for placements.
- Companies are invited for campus placements.
- Guidance for preparing for GRE and GATE.

7.2.7. Co-curricular and Extra-curricular Activities (5)

(Instruction: The institution may specify the Co-curricular and extra-curricular activities, e.g., NCC/NSS, cultural activities, etc)

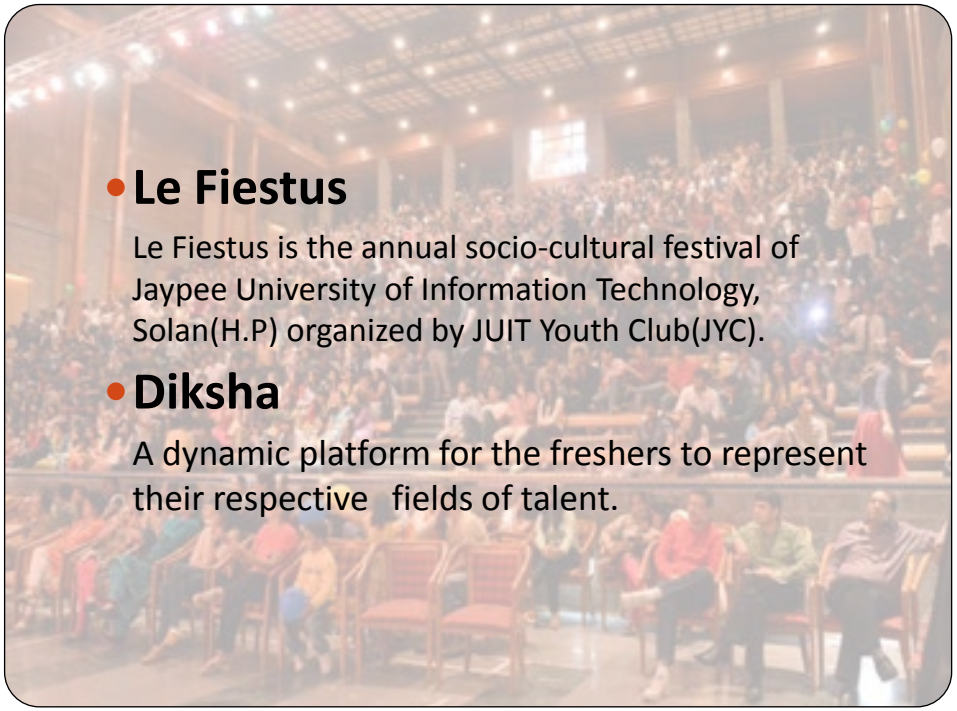
Jaypee Youth Club

The JYC (JUIT Youth Club) is the official governing body of all student activities at JUIT which works for the holistic development of the students of the university and is an overall complete structure in itself that educates, entertains and supplements the growth of the students This is achieved through annual cultural, technical fests, various events, parties, treks, outings and other spontaneous activities to maintain high levels of enthusiasm and team integration. Focusing on technical, literary, sports, and cultural competitive activities, apart from serving as a retreat from intense academic loads, these extracurricular activities present with an opportunity that builds confidence, encourages teamwork and gives a strong sense of achievement and belonging to the students. Various activities are organized by the subbodies called Clubs that cater to the needs of each aspect of the society and life. JYC also organizes the participation of JUIT students in the cultural and sports activities of other institutes. JYC clubs / committees include:

- **Cultural**
- **Event Management**
- **Technical**
- **Photography**
- **Environment**
- **Arts**
- **Movie**
- **Sports**
- **Literary**
- **Disciplinary**
- **Alumni**
- **Reverie Magazine**
- **Media & Publicity**
- **Hospitality**

Post	Name
President	1. Vasu Walia (BT)
Secretary	1. Himanshi Wadhwani (CSE)
Treasurer	1. Lucky Garg (Civil)
Cultural	1. Aditya Sahni (BT) 2. Aayshu Rani (ECE)
Event	1. Karan Sharma (CSE) 2. Shailendra Pratap Singh (ECE)
Technical	1. Rajdeep Sharma (Civil) 2. Shivi Bhatnagar (ECE)
Media & Publicity	1. Jatin (ECE) 2. Swati Thakur (ECE)
Photography	1. Medehavi Behl (BT) 2. Pushp Bajaj (ECE)
Environment	1. Jaya Khanna (ECE) 2. Abhilasha Choudhary (ECE) 3. Utsav Khandelwal (Civil)
Arts	1. Taranum Mahajan (ECE) 2. Tanmay Thakur (IT)
Movie	1. Ridhima Gupta (CSE) 2. Lakshit Singh Rawat (CSE)
Hospitality	1. Shadali Singh (BT) 2. Sikander Punia (CSE) 3. Karan Bindra (ECE)
Sports	1. Yashika Sama (BT) 2. Panshul (CSE)
Literary	1. Vani Deepak (ECE) 2. Jagmit Sidhu (CSE)
Alumni	1. Pratul Agarwal (CSE) 2. Muskan Gupta (CSE)
Riverie Magazine	1. Tavishi Dutt (ECE)

Club	Faculty Coordinator- 1	Department	Faculty Coordinator - 2	Department
Alumni Affairs	Dr. SreeKrishna	Department of BT & BI	Narendra Kumar	Dept. of Mathematics
Arts Club	Ms. Vinita Rana	Dept. of ECE	Ms. Meenakshi Sood	Dept. of ECE
Cultural Club	JYC (Faculty in Charge)	Dept. of CSE	Ms. Mala Singh	Chief Warden (Girls)
Environment Club	Dr. Sudhir Kumar	Department of BT & BI	Dr. Rajni Mohana & Ms. Ramanpreet kaur	Dept. of CSE
Event Management	Dr. Nitin	Dept. of CSE	Ms. Reema	Dept. of IT
Hospitality Committee	Ms. Ruchi Verma	Dept. of CSE	Ms. Mala Singh	Chief Warden (Girls)
Literary Club	Dr. Rakesh Bajaj	Dept. of Mathematics	Niraj Singh	Dept. of Civil
Media and Publicity	JYC (Faculty-in-charge)	Dept. of CSE	Dr. Hemant Sood	Dept. of BT & BI
Movie Club	Dr. Amit Srivastava	Dept. of Humanities	Ms. Komal	Dept. of CSE
Photography Club	Ms. Pragyaa Gupta	Dept. of ECE	Ms. Nistha	Dept. of CSE
Sports Club	Dr. Rout	Department of BT & BI	Dr. SreeKrishna	Department of BT & BI
Technical Club	Dr. Sree Krishna	Department of BT & BI	Ms. Sanjana Singh	Dept. of CSE

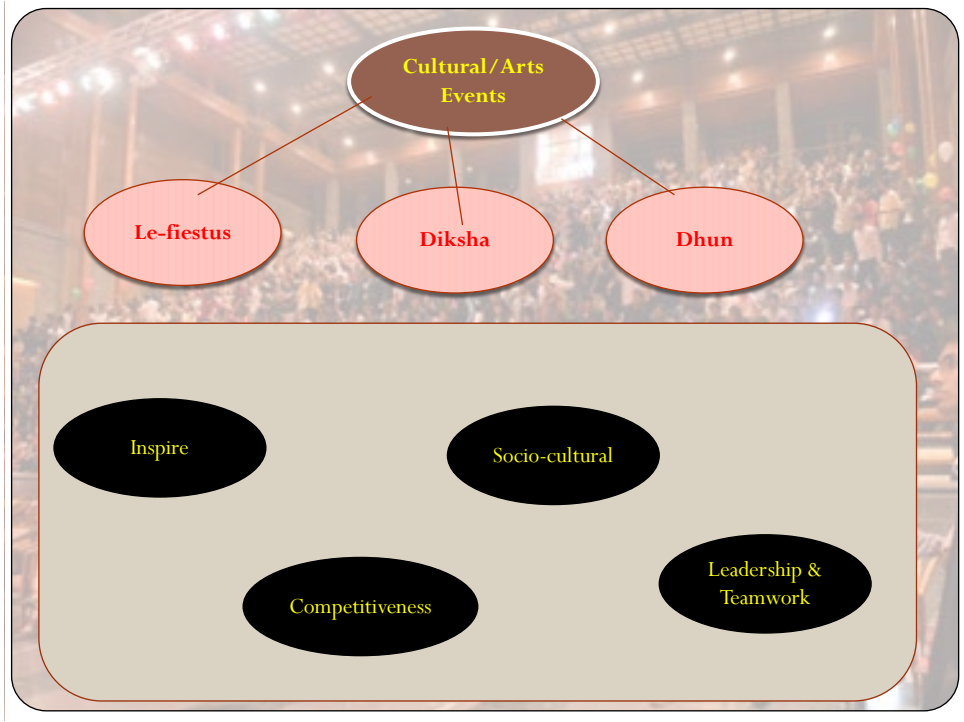


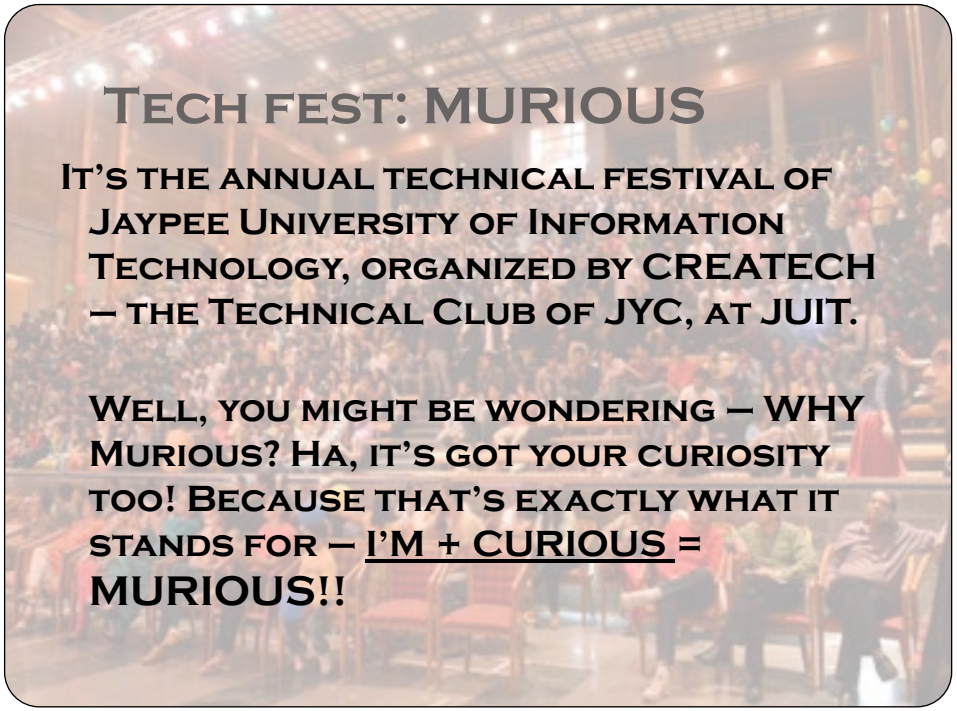
- **Le Fiestus**

  Le Fiestus is the annual socio-cultural festival of Jaypee University of Information Technology, Solan(H.P) organized by JUIT Youth Club(JYC).

- **Diksha**

  A dynamic platform for the freshers to represent their respective fields of talent.

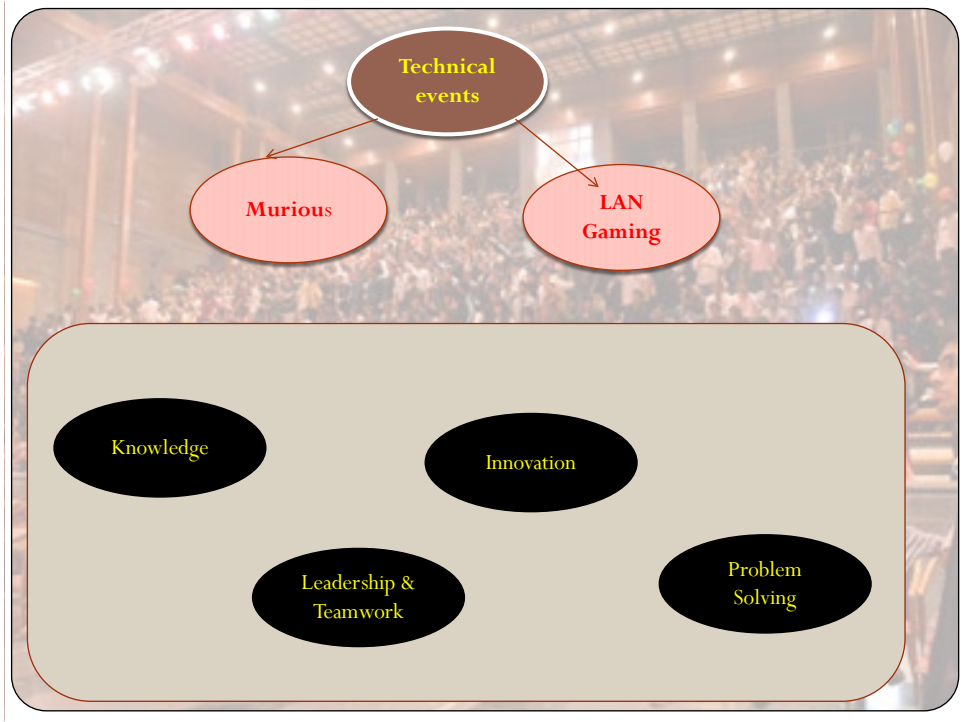

Cultural/Arts Events
Le-fiestus
Diksha
Dhun
Inspire
Socio-cultural
Competitiveness
Leadership & Teamwork

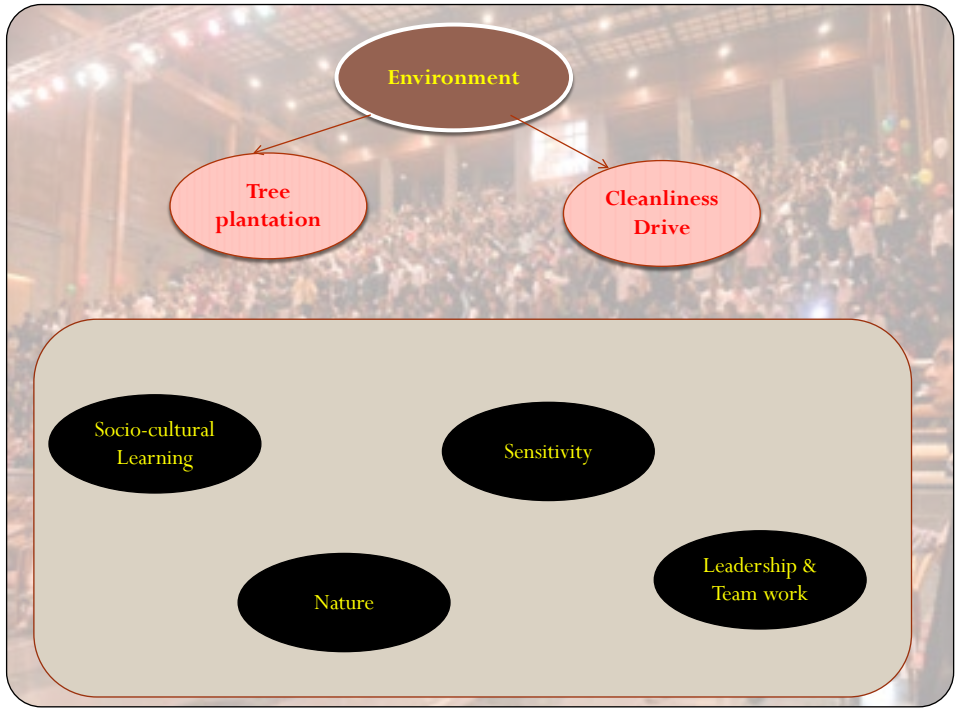


Tech fest: MURIOUS

It's the annual technical festival of Jaypee University of Information Technology, organized by CREATECH – the Technical Club of JYC, at JUIT.

Well, you might be wondering – WHY Murious? Ha, it's got your curiosity too! Because that's exactly what it stands for – I'M + CURIOUS = MURIOUS!!


Technical events
Murious
LAN Gaming
Knowledge
Innovation
Leadership & Teamwork
Problem Solving


Environment
Tree plantation
Cleanliness Drive
Socio-cultural Learning
Sensitivity
Nature
Leadership & Team work

Sports fest-PARAKRAM

- In this era of computerization and globalization where our lives have become so stressful, sports and games have not just become a getaway for recreation, but they have also imparted values like discipline, responsibility, self-confidence, sacrifice and accountability.
- Sponsored by sports giants like NIVIA, PARAKRAM the open sports festival will be held in JUIT.
-
- On November 21-23 2014, the university will once again open its gates for thousands of participants from esteemed institutes.

TEDx

- **Describing it just an ancillary to TED will be grave injustice, it is in fact a microcosm of TED in which, a screening of TED Talks videos — or a combination of live presenters and TED Talks videos will spark a good conversation and connections at the grass root level.**

- **Our goal is to bring together bright minds to give talks that are idea-focused and on a wide range of subjects, to foster learning, inspiration and wonder and provoke conversations that matter. We have made it an immediate priority to focus on the stories of Incredible India and its people, projects and ideas.**

Grooming JUITians: Skill Map

Event → / Personality Attribute ↓	Cultural / Arts	Technical	Environment	Sports	Literary	TEDxJUIT
Leadership & Team Work	Y	Y	Y	Y		Y
Socio-cultural	Y		Y		Y	Y
Inspiration	Y	Y	Y	Y		Y
Competitiveness	Y	Y		Y		Y
Communication skills	Y	Y		Y	Y	Y
Problem Solving		Y				Y
Creativity & Innovation		Y				Y
Sensitivity	Y		Y		Y	Y
Ethics	Y	Y	Y	Y	Y	Y
Knowledge		Y			Y	Y
Nature		Y	Y			Y

JUIT Student Branch of IEEE

IEEE the world's largest technical professional society is designed to serve professionals involved in the fields of electrical ,electronics, computer engineering and science and other related areas of science and technology viz.
biomedical technology, information technology, technical communications, micro and nanotechnology, aerospace systems etc.
A Student Branch of was established in (year?) and has been active throughout this period. During the Annual General Meeting of the IEEE Delhi section held on 19th April, 09 in Delhi, the Branch was awarded Outstanding Branch Counsellor Award : Mr Rohit Sharma, Sr. Lecturer, Department of Electronics and Communication Engineering J.K Pal Memorial Award: Esha Gupta (Enrolment No. 051247)
Outstanding Volunteer Award: Aditya Patel (Enrolment No. 061204)

The Branch sponsored the following conferences till date:
1. International Conference on Parallel, Distributed and Grid Computing (PDGC-2010 / PDGC 2012 / PDGC 2014)
2. International Conference on Image Information Processing (ICIIP -2011 / ICIIP2013)
Annual General meeting of IEEE Region 10 for the year 2009 was held at Jaypee University of Information Technology.
IEEE technical festival was organized in November 2010 at JUIT for the IEEE student members of Region 10.

7.2.8. Games and Sports, facilities, and qualified sports instructors (5)

(Instruction: The institution may specify the facilities available and their usage in brief)

- Full time qualified sports instructor is in position.
- Facilities for the following sports exist:
- Basketball
- Volleyball
- Badminton
- Table tennis
- Gymnasium: Well equipped Gyms are provided in Boys and Girls Hostels
- Cricket (net practice only)

8 Governance, Institutional Support and Financial Resources (75) **Total Marks : 75.00**

8.1 Campus Infrastructure and Facility (10) **Total Marks : 10.00**

8.1.1 Maintenance of academic infrastructure and facilities (4) Institute Marks : 4.00

(Instruction: Specify distinct features)

Campus

The University is spread over 25 acres of lush green picturesque slopes of Waknaghat, in District Solan of Himachal Pradesh, creating a tranquil environment that can heighten the spirit and energy level of all learners and inspire them to optimize their learning efforts. The architectural design of the campus has been provided by M/s Arcop Associates Pvt. Ltd., an eminent Canada based architect firm, with the construction being undertaken by the Jaypee Group itself. Functionally and aesthetically spread out, the architectural plan builds on providing an intellectual ambience in clusters in an exciting landscape that is easy flowing and community-friendly.

A phased construction plan over the years a total built up area of about 800,000 Sq. Ft. (73150 Sq. m) comprising the Academic Block (with lecture theatres, classrooms, tutorial rooms, laboratories, administrative and faculty offices, and the library), Hostel accommodation for boys and girls, faculty residences (76), Guest House, Annapurna, Auditorium, Sports facilities, and other associated services have been developed.

Utility wise the built up area is as under:

S. No.	Particular	Area in Sq. Mtr.	Area in Sq. Ft.
1	**Academic Block - Vivekanad Bhawan**	**13,033.91**	**140,244.90**
2	**Hostels (Boys), Shastri Bhawan, Azad Bhawan and Parmar Bhawan**	**26,523.53**	**294,393.19**
3	**Hostel (Girls)-Geeta Bhawan**	**7,023.21**	**75,569.81**
4	**Faculty Residences - Malviya Bhawan A – E**	**13,946.73**	**150,066.50**
5	**Facilities**		
	Annapurna	1,041.81	11,209.87
	Auditorium, C. Link & C. Porch	1,755.76	18,891.99
	Mandir	281.66	3,030.61
	Dispensary	253.52	2,727.86
	Basket Ball Field & Volley Ball Field	1,200.00	12,912.00
	Badminton Court Area	170.00	299.20
	Total Facilities Area	**4,702.75**	**49,071.53**
6	**Miscellaneous**		
	Guest House	1,592.73	17,137.73
	Telephone Exchange	897.54	9,657.51
	ESS	2,226.99	23,962.46
	Plant Room/Green Room	593.80	6,389.31
	Workers Dormitory-1	1,570.39	16,897.45
	Workers Dormitory-2	850.00	9,146.00
	Uploading Bay	189.14	2,035.14
	Total Miscellaneous Area	**7,920.59**	**85,225.60**

Total Construction Area (1-6)	**73,150.72**	**794,571.53**

Lecture Theaters and Class Rooms

For holding theory classes (Lectures and Tutorials) following provision has been made in the Academic Block. Seating capacity for each is given. This space is also used for conducting the theory examinations.

All lecture theaters and class rooms are net connected and equipped with projection facility. In lecture theaters audio facility has also been provided. In Lecture Theater 3 provision of video conferencing also exists.

S. No.	Description	Level -1		Level 0		Level 1		Level 2		Total Seating Capacity
		Nos.	Capacity	Nos.	Capacity	Nos.	Capacity	Nos.	Capacity	
1	Class Rooms	2	95	2	84	4	84			694
2	Lecturer Theatre			1	240	1	260			500
3	Lecturer Theatre			1	260					260
4	Tutorial					2	35	5	35	245
	Total Seating Capacity									**1699**

Teaching Labs

Department of Electronics and Communication

The Department has the following Laboratories to support our B Tech M Tech and Research programmes:

1. Advance Communication System Laboratory.
2. Basic Electronics Laboratory.
3. Communication Laboratory.
4. Digital Electronics and Signal Processing Laboratory.
5. Device and Circuit Simulation Laboratory.(Shared with the Computer Science Engineering Department)
6. Electrical science Laboratory.
7. Embedded System Laboratory.
8. Microprocessor Laboratory
9. Microwave Laboratory.
10. Research/Project Laboratory.

All the labs are well equipped with state-of-art instruments and software tools to enable the students to perform design oriented experiments and test their designs by computer simulations tools like ORCAD, MATLAB etc. There are 83 numbers of computers in ECE department and each computer connected with the LAN and Internet connectivity.

Department of Computer Science & Engineering and Information Technology

The department has 6 computer labs equipped with 415 computers with LAN and internet connectivity. All software's are licensed. One Computer Lab (CL-6) is dedicated to project work of final year B Tech and M Tech students.

Department of Biotechnology and Bioinformatics

The Department has 7 state-of-the-art modern biotech laboratories such as Proteomics Technology Lab., Genomic Technologies Lab, Plant Biotechnology Lab., Microbial Biotechnology Lab., Animal & Plant Cell Culture Labs., Environmental, Biotech Lab., and Industrial Biotechnology Lab. The department is also equipped with 2 Bioinformatics Labs with high end Servers, Sun Workstations and IBM PCs with installed several bioinformatics software packages such as Schrodinger, AMBER, GROMACS, DOCK, VMD, DNASTAR, and other software related to Chemoinformatics, Docking, Simulation, Visualization, etc. These labs are also used for educating students in algorithm design, bioprogramming & scripting languages, computational drug designing, development of biological databases, advanced chemoinformatics, etc.

Department of Civil Engineering

Laboratory support to programmes of the Department is provided by the following well-equipped laboratories of the department:

1. Geotechnical Engg. Lab
2. Highway Engineering Lab
3. Concrete Lab
4. Fluid Mechanics Lab
5. Workshop Practice Lab
6. Civil Engineering Software Lab (with Projector)
7. Environmental Engineering and Chemistry Lab
8. Engineering Drawing Hall (with Projector)
9. Project Laboratory

All the laboratories are equipped with state-of-art instruments and software tools to enable the students to perform design oriented experiments. Major equipments include Computerized 100-ton UTM, TOTAL Station, Spectrophotometer, Humidity Chamber for controlled curing of concrete, Benkelman's beam etc. The software packages with the CE Soft. Lab, are STAAD.pro, AutoCAD, Estimator, Primavera, SAP2000, ETABS, and MATLAB. A number of major projects have been completed using above software.

Department of Pharmacy

The Department has 5 state-of-the-art modern labs

1. Pharmaceutical Chemistry,
2. Pharmaceutics,
3. Pharmacognosy,
4. Pharmacology and
5. Pharmaceutical Biotechnology

Department also has an animal house for research purpose.

Department of Physics

A well equipped laboratory has been established for teaching B Tech courses.

The Department also has three research laboratories namely (i) Nanotechnology lab. (ii) Microwave antenna lab. (iii) Spectroscopy lab. All the laboratories are well equipped with relevant and advanced experimental facilities along with necessary software.

Department of Professional Development

The Department has Language Communication Lab **(Clarity Digital Multimedia Language Lab)** which is presently being used for training the students to communicate in English.

Research and Development (R & D) Labs

The University has spent about Rs **338.00 Lakh** for setting up R&D labs in various departments. Details are as under.

S. No.	Lab Name	Department	Investment in Rs Lakh
1.	Instrumentation Lab-1	BT & BI	38.8
2.	Instrumentation Lab-2	BT & BI	22.4
3.	Proteomics Lab	BT & BI	26.05
4.	Fermentation Lab	BT & BI	24.54

5.	Green House	BT & BI	42.5
6.	Genomics Technologies Lab	BT & BI	90.10
7.	Bioinformatics Research Lab (Hardware)	BT & BI	4.05
	Bioinformatics Research Lab (Software)	BT & BI	14.73
	Total	**BT & BI**	**263.17**
8.	Spectroscopy Lab	Physics	30.00
9.	Nanotechnology Lab	Physics	20.00
10.	Electromagnetic Analysis Lab	Physics	25.00
	Total	**Physics**	**75.00**
	Total (BT & BI + Physics)		**338.75**

8.1.2 Hostel (boys and girls), transportation facility, and canteen (2) Institute Marks : 2.00

Hostels	No. of rooms	No. of students accommodated
Hostel for Boys:	Double 515 Single 173	1200
Hostel for Girls:	Double 184 Dormitories 75 Single 28	619

BANK: The University campus has a branch and an ATM of Punjab National Bank.

CONVENIENCE SHOP: There is a reasonably stocked Convenience Shop, **A to Z**, in the Academic Block wherein items of daily use, Bakery items and ready-to-eat snacks are available.

CAFÉ: The Café serves freshly prepared snacks, tea, coffee, soft drinks, juices and Bakery items. It remains open upto 11:00 PM.

Reprographic Facility: The facility of photocopy and scanning is available in the LRC against payment.

LAUNDRY: The University is also having laundry facility for the students and the staff. The students can give their clothes for laundering twice a week. The laundry charges for students are inclusive in the Hostel charges.

TRANSPORT: The University has the following transport facility

Cars (4) Scorpio (1) Omni Van (1) Ambulance (1)

Buses (2) Pick Up Van (1) Tata 407 (1)

8.1.3 Electricity, power backup, telecom facility, drinking water, and security (4) Institute Marks : 4.00

(Instruction: Specify the details of installed capacity, quality, availability, etc.)

- UPS for computers in Academic block assured
- 2 x 1250 KVA DG sets with 2x 40,000 lts bulk oil tanks for power backup.
- Drinking water points, with water purifiers, in every building as per need
- 24 hour water supply
- EPBX with 30 lines and 400 Connections. All Faculty members have been connected with intercom. They can also receive calls from outside directly. A BSNL Exchange is also located on Campus.
- Round the clock security for whole campus.

8.2 Organisation, Governance, and Transparency (10) — Total Marks : 10.00

8.2.1 Governing body, administrative setup, and functions of various bodies (2) — Institute Marks : 2.00

(Instruction: List the governing, senate, and all other academic and administrative bodies; their memberships, functions, and responsibilities; frequency of the meetings; and attendance therein, in a tabular form. A few sample minutes of the meetings and action taken reports should be annexed.)

Administrative Setup

Chancellor	The Governor of Himachal Pradesh shall be the Chancellor of the University. The Chancellor, in consultation with the Pro-Chancellor, shall have the right to cause an inspection to be made by such person or persons as he may direct, of the University, its buildings, libraries and equipments and of any institution run by the University, and also of the examinations, teaching and other work conducted or done by the University and to cause an enquiry to be made in the like manner in respect of any matter connected with the administration and finances of the University.
Pro-Chancellor	The Managing Trustee of the Trust shall by the virtue of the office be the Pro-Chancellor of the University and in the absence of the Chancellor, the Pro-Chancellor shall preside over the Convocation of the University.
Vice Chancellor	Head and the Chief Operating and Academic Officer of the University
Dean	Head of all academic and research programs in the faculty and shall be responsible for the conduct and maintenance of the standards of teaching and research in the faculty.
Registrar	Non-Member Secretary of the Governing Council, Executive Council and Academic Council and he shall be appointed in such manner and with such powers and duties, as may be prescribed by the Statutes.
Finance Officer	Finance Officer who shall be the non-Member Secretary of the Finance Committee and exercise such powers and perform such duties, as may be prescribed by the Statutes.
CoE	Examination related work
HoD	Academic and Administrative of the Department and other duties assigned by the authorities.

Statutory Bodies

Sr. No	Name of Body	
1	Governing Council	Membership
		The Governing Council shall be the supreme body of the University and its powers and functions shall be such as may be prescribed by the Statutes. The Governing Council shall have the following members, namely:- (a) The Pro-Chancellor — *Chairman* (b) Two members of the Trust to be nominated by the Pro-Chancellor — *Members* (c) Two representatives of the collaborating Universities — *Members* (d) Three distinguished academicians/professionals to be nominated by the Chancellor in consultation

with the Pro-Chancellor *Members*

(e) Two experts representing other disciplines such as finance, law and management etc. to be nominated by the Pro-Chancellor *Members*

(f) Vice-Chancellor of the University *Member*

(g) One Head of another University/Institute of the Trust *Member*

(h) Two Deans of the University by rotation *Members*

g. Secretary (Information Technology), Secretary (Education) and Secretary (Technical Education) to the Govt. of Himachal Pradesh *Members*

(j) Three representatives of the industry to be nominated by the Pro-Chancellor *Members*

(3) The Registrar shall be the Non-Member Secretary of the Governing Council.

Functions and Responsibility

Subject to the provisions of the Act, the Statutes and the Ordinances, the Governing Council shall, in addition to any other powers vested in it, have the following powers, namely –

i. to approve the annual accounts and financial estimates of the University;

ii. to appoint such Professors, Associate/Assistant Professors, Lecturers and other members of the teaching staff as may be necessary, on the recommendations of the Selection Committees constituted for the purpose, and to provide for filling temporary vacancies therein, provided that no appointment of the rank of Associate Professor and above shall be made without the prior approval of the Pro-Chancellor;

iii. to fix the emoluments and define the duties and functions and conditions of service of Professors, Associate/Assistant Professors, Lecturers and other members of the teaching staff:
Provided that no action shall be taken by the Governing Council in respect of the member, the qualifications and the emoluments of teachers without the consideration of the recommendations of the Academic Council;

iv. to create administrative , ministerial and other necessary posts and to make appointment thereto;

v. to accept on behalf of the University any other trust, bequest, donation or transfer of any movable or immovable property to the University;

vi. to provide for the buildings, premises, furniture, apparatus and other means needed for carrying on the work of the university;

vii. to approve entering into, vary, carrying out and cancel contracts on behalf of the University and to make such regulations as may be required towards this objective;

viii. to entertain, adjudicate upon, and if it thinks fit, to redress, any grievances of the salaried officers, the teaching staff and other employees of the University whio

		may for any reason feel aggrieved. ix. to make rules/regulations to govern the appointment of examiners and moderators and, if necessary, to remove them, to fix their fees, emoluments and travelling and other allowances after consulting the Executive/Academic Council; x. to select a common seal for the University and provide for the custody and use of the seal; xi. to frame rules for institution and grant of University fellowships, studentships, medals and prizes; and xii. to delegate any of its powers to the Executive Council, the Vice-Chancellor, Registrar or such other officer of the University or to a Committee appointed by it may deem fit.
		Frequency of meetings : Once a year
		Attendance : 75 % and above
2	**Executive Council**	**Membership**
		The Executive Council shall be the executive body of the University and its powers and functions, the constitution and the terms of the office of its members, other than ex-officio members, shall be such as it may be prescribed by the Statutes. (1) The Executive Council shall consist of the following members, namely. – *(i)* The Vice-Chancellor of the University; Chairman. *(ii)* Two members of Governing Council nominated by the Pro-Chancellor; Members *(iii)* One Dean of the University; and Member. *(iv)* One Academician of repute nominated by the Pro-Chancellor Member. (2) The Registrar shall be non-Member Secretary of the Executive Council.
		Functions and Responsibility
		The Executive Council shall be at executive body who shall implement the decisions taken by the governing Council and report the action taken thereof to the Governing council from time to time The Executive Council shall be responsible for the general management and administration of the University.
		Frequency of meetings : at least Twice a year
		Attendance : 80 % and above
3	**Academic Council**	**Membership**
		1. The Academic Council shall consist of the following members, namely. – *(i)* The Vice-Chancellor of the University; Chairman. *(ii)* Two Professors other than Heads of Departments by rotation and by seniority Members

		(iii) Two distinguished academicians to be nominated by the Pro-Chancellor	Members.
		(iv) Two Industry Professionals to be nominated by the Pro-Chancellor	Members.
		(v) One member from amongst the Heads of other institutions of the Trust	Member.
		(vi) The Deans of all faculty of the University; and	Members.
		(vii) Heads of Departments/Centres of the University;	Members.
		(2) The Registrar shall be non-Member Secretary of the Executive Council.	
		Functions and Responsibility	
		(1) The Academic Council shall be the academic body of the University and its constitution and the term of office of its members, other than ex-officio members, shall be such as may be prescribed by the Statutes. (2) The Academic Council shall, subject to the provisions of this Act, the Statutes and the Ordinances, have the power of control and general regulation or, and be responsible for the maintenance of standards of instruction, education and examination within the University and shall exercise such other powers and perform such other duties as may be conferred or imposed upon it by this Act or the Statutes and it shall have the right to advise the Executive Council on all academic matters. (3) Subject to the provisions of the Act and the Statutes, the Academic Council shall, in addition to all other powers vested in it, have the following powers, duties and functions, namely. – i. to report on any matter referred to it by the Chancellor or Pro-Chancellor or the Governing Council or Executive Council, as the case may be; *(ii)* to make proposals to the Governing/Executive Council for the establishment of Department, Special Centers, Specialized Laboratories and Libraries; (iii) to formulate, modify or revise schemes for the organization of, and assignment of subjects; (iv) to consider proposals submitted by the Departments of the University; (v) to promote research within the University and to requisition from time to time reports on such research; (vi) to make recommendations to the Governing /Executive Council with regard to the creation and abolition of teaching posts and the emoluments and duties attached thereto;	

		(vii) to recommend to the Governing Council the recognition of diplomas and degrees of other Universities and institutions and to determine their equivalent diplomas and degrees of the University; (viii) to appoint committees for admission to the University; (ix) to publish lists of prescribed or recommended text books and to publish the syllabi of prescribed courses of study; (x) to make such arrangements for the instruction and examination of persons, not being members of the University and the conditions on which students should be admitted to such examinations; (xi) to recommend to the Governing /Executive Council draft Ordinances regarding examinations of the University and the conditions on which students should be admitted to such examinations; (xii) to make recommendations to the Governing/ Executive Council in regard to the appointment of examiners and , if necessary, removal and the fixation of the fees, emoluments and travelling and other expenses; (xiii) to make arrangements for the conduct of examinations and to fix dates for holding them; (xiv) to declare the results of various University examinations, or to appointment of committees or officers to do so; (xv) to make recommendations for the conferment of honorary degrees and to confer or grant degrees, academic distinctions, honors, diplomas, licenses, title and marks of honour; (xvi) to make proposals to the Governing/Executive Council for the institution of fellowships, scholarships, studentships, medals and prizes and to award the same; (xvii) to perform in relation to academic matters, all such duties and to do all such acts as may be necessary for the proper carrying out of the provisions of the Act, these Statutes and the Ordinances; and (xviii) to promote the health and welfare of students and to constitute a Council of students Affairs consisting of such number of teachers and students as may be prescribed by the Ordinances to advise the Academic Council on matters relating to the welfare of the students.
		Frequency of meetings : Twice a year
		Attendance : 80 % and above
4	**Finance Committee**	**Membership**
		(1) The Finance Committee shall consist of the following members, namely: - i. The Vice-Chancellor of the University ……Chairman ii. One nominee of the Pro-Chancellor ……Member. iii. One nominee of the Governing Council ……..Member. iv. One Dean (by rotation) on the basis of seniority …….Member (2) The Finance Officer of the University shall be non-member Secretary.

		(3) Three members of the Finance Committee shall form the quorum. (4) All members of the finance Committee other than ex-officio members, shall hold office for a term of three years.
		Functions and Responsibility
		The Finance Committee shall meet at least twice every year to examine account and scrutinize proposals for expenditure provided that a period not exceeding 180 days shall elapse between two consecutive meetings. The annual accounts and financial estimates of the University prepared by the Finance Officer shall be laid before the Finance Committee for consideration and comments and thereafter submitted to the Governing Council for approval with or without amendments.
		Frequency of meetings : Once a year
		Attendance : 100 %
5	**Council of Institution-Industry linkage**	**Membership**
		There shall be a Council of Institution-Industry Linkages consisting of the following members, namely:- (a) A person to be nominated by the Pro-Chancellor *Chairman* (b) Two persons to be nominated by the Trust *Members* (c) Vice-Chancellor of the University *Member* d. Two persons from the Industry to be nominated by the Pro-Chancellor *Members* (2) The Registrar shall be the Non-Member Secretary of the Council of Institution-Industry Linkages.
		Functions and Responsibility
		The powers and functions of the Council of Institution-Industry Linkages shall be – (i) to establish participation of laboratories of leading prestigious Information Technology/Computer companies with the University; (ii) to source business for faculty/students of the University; iii. to advise on the potential of the University in national and international markets; and iv. to prepare and initiate Bio-informatics initiative by the University.
		Frequency of meetings : Once a year
		Attendance : 80 % and above

8.2.2 Defined rules, procedures, recruitment, and promotional policies, etc (2) Institute Marks : 2.00

(Instruction: List the published rules, policies, and procedures; year of publications; and state the extent of awareness among the employees/students. Also comment on its availability on Internet, etc.)

Defined rules, procedures, recruitment, and promotional policies, etc. are available in booklet –

Policies and Procedures, Revised version published in 2012.

A copy of the relevant portions is provided to employees.

8.2.3 Decentralisation in working including delegation of financial power and grievance redressal system (3) Institute Marks : 3.00

(Instruction: List the names of the faculty members who are administrators/decision makers for various responsibilities. Specify the mechanism and composition of grievance redressal system, including faculty association, staff-union, if any.)

Defined rules, procedures, recruitment, and promotional policies, etc. are available in booklet –

Policies and Procedures, Revised version published in 2012.

A copy of the relevant portions is provided to employees.

8.2.4 Transparency and availability of correct/unambiguous information (3) Institute Marks : 3.00

(Instruction: Availability and dissemination of information through the Internet. Information provisioning in accordance with the Right to Information Act, 2005).

The following are in position:

- Sexual Harassment Grievance Standing Committee
- A full time Lady Warden for Girls Hostel.
- Anti-ragging Committee.

Administrative Duties to Faculty

Name of Faculty	Designation	Financial Powers
Prof. T. S. Lamba	Dean Academic & Research	
Prof. Sunil Kumar Khah	Controller of Examinations	Examination Related Payments
Prof. Harinder Singh	Chairman Library Committee	Literature Purchases
Dr. Simran Tandon	Faculty Adviser JYC	JYC Financial Issues
Dr. Nitin	Warden	
Dr. Rakesh K Bajaj	Warden	
Dr. Amit Srivastava	Warden	
Dr. P. K. Naik	Warden	
Dr. Sudhir Kumar	Warden	
Dr. Bhaskar Gupta	Warden	
Dr. Anil Sehrawat	Warden	
Ms. Neena Jindal	Warden	
	Secretary and Treasurer, JUIT	

Prof. P. B. Barman	Club	Club Funds

8.3 Budget Allocation, Utilisation, and Public Accounting (10)

Total Marks : 10.00

Summary of current financial year's budget and the actual expenditure incurred (exclusively for the institution) for three previous financial years.
(Instruction: The preceding list of items is not exhaustive. One may add other relevant items if applicable.)

Item	Budgeted in 2013-2014	Expenses in 2013-2014	Expenses in 2012-2013	Expenses in 2011-2012
Infrastructure built-up	12075000	4008553	12432669	1679234
Library	10000000	4378281	7346120	39602819
Laboratory equipment	20000000	5912367	28823222	23720182
Laboratory consumables	5000000	776947	4411470	4472509
Teaching and non-teaching staff salary	200000000	93662551	195731839	176560726
R&D	10000000	0	3199333	7755801
Training and Travel	5000000	1934274	870619	1958098
Miscellaneous expenses for academic activities	137925000	58745658	239839907	218644541
Total	400000000	169418631	492655179	474393910

8.3.1 Adequacy of budget allocation (4)

Institute Marks : 4.00

(Instruction: Here the institution needs to justify that the budget allocated over the years was adequate.)

Budget allocation under various heads was adequate for meeting the demands of institute. There was almost nil overspending.

8.3.2 Utilisation of allocated funds (5)

Institute Marks : 5.00

(Instruction: Here the institution needs to state how the budget was utilised during the last three years.)

The fund provided was almost fully utilised.

8.3.3 Availability of the audited statements on the institute's website (1)

Institute Marks : 1.00

(Instruction: Here the institution needs to state whether the audited statements are available on its website.)

Yes, available.

8.4 Programme Specific Budget Allocation, Utilisation (10)

Total Marks : 10.00

Summary of budget for the CFY and the actual expenditure incurred in the CFYm1 and CFYm2 (exclusively for this programme in the department):

Items	Budgeted in 2013-2014	Actual Expenses in 2013-2014	Budgeted in 2012-2013	Actual Expenses in 2012-2013	Budgeted in 2011-2012	Actual Expenses in 2011-2012
Laboratory equipment	4120000	3895794	3920000	3834464	5360000	5308018
Software	504000	356758	480000	538110	320000	243180
R&D	0	0	0	0	0	0
Laboratory consumables	168000	208968	160000	230304	760000	779875
Maintenance and spares	0	0	0	0	0	0

Training and Travel	760000	390766	720000	813990	1760000	1942780
Miscellaneous expenses for academic activities	0	0	0	0	0	0
Total	5552000	4852286	5280000	5416868	8200000	8273853

8.4.1 Adequacy of budget allocation (5) Institute Marks : 5.00

(Instruction: Here the institution needs to justify that the budget allocated over the years was adequate.)

Budget allocation is adequate.

Budget allocation is for the Department and not program specific.

Budget under head “Laboratory consumables” includes maintenance and spares also.

Budget allocations for “R&D” and “Miscellaneous expenses for academic activities” are in central University budget in 8.3.

8.4.2 Utilisation of allocated funds (5) Institute Marks : 5.00

(Instruction: Here the institution needs to state how the budget was utilised during the last three years.)

Budget utilization is justified and as per allocation.

8.5 Library (20) Total Marks : 20.00

8.5.1 Library space and ambience, timings and usage, availability of a qualified librarian and other staff, library automation, online access, networking, etc (5) Institute Marks : 5.00

(Instruction: Provide information on the following items).

• Library Services	Yes
• Carpet area of library (in m2)	1231 M Sq
• Reading space (in m2)	939 M Sq.
• Number of seats in reading space	325
• Number of users (issue book) per day	50 - 60
• Number of users (reading space) per day	70 - 80
• Timings: During working day, weekend, and vacation	working day : 08:00 AM to 12:00 Midnight weekend : 08:00 AM to 05:00 PM Vacation : 09:00 AM to 01
• Number of library staff	12
• Number of library staff with degree in Library	12

• Management Computerisation for search, indexing, issue/return records Bar coding used

• Fully Automated for search, indexing, issue/return records • Software Used :Web Based Library Aut

• Library services on Internet/Intranet INDEST or other similar membership Archives

• INDEST • INFLIBNET • DELNET • PROWESS • SPRINGER • SIAM • IEEE • ACM • EMERALD

8.5.2 Titles and volumes per title (4) Institute Marks : 4.00

Year	Number Of New Titles Added	Number Of New Editions Added	Number Of New Volumes Added
2011-2012	1087	1066	1907
2012-2013	786	762	1134
2013-2014	185	178	421

8.5.3 Scholarly journal subscription (3) Institute Marks : 3.00

Year	No. of Technical Magazines/Periodicals	No. of Total Technical Journals subscribed		Scholarly Journal Titles(in originals, reprints)
		In Hardcopy	In Softcopy	
2013-2014	12	55	748	339
2012-2013	12	57	748	341
2011-2012	12	59	748	342
2010-2011	10	46	748	234

8.5.4 Digital Library (3)

Institute Marks : 3.00

• Digital Library Services	Yes
• Availability of digital library contents (If available, then mention number of courses, number of e-books, etc. Availability of an exclusive server)	Yes
• Availability of an exclusive server	Available
• Availability over Intranet/Internet	Available
• Availability of exclusive space/room	No
• Number of users per day	50-60

8.5.5 Library expenditure on books, magazines/journals, and miscellaneous contents (5)

Institute Marks : 5.00

Year	Expenditure (in Rs.)				Comments, If Any
	Book	Magazines/Journals (for hard copy subscription)	Magazines/Journals (for soft copy subscription)	Misc. Contents	
2011-2012	36,43,758	27,90,093	20,39,636	1,27,160	
2012-2013	34,90,282	38,85,919	27,92,043	2,05,746	
2013-2014	4,11,734	37,87,667	0	45,711	Subscription for soft copy Journals will paid in January 2014.

8.6 Internet (5)

Total Marks : 5.00

Institute Marks : 5.00

(Instruction: The institute may report the availability of Internet in the campus and its quality of service.)

• Internet Services	Yes
• Name of the Internet provider	BSNL & Railtel (Leased Line)
• Available bandwidth	1 GB (BSNL) & 4MB (Railtel)
• Access speed	1 Gbps (BSNL) & 4Mbps (Railtel)
• Availability of Internet in an exclusive lab	Available in all Labs
• Availability in most computing labs	Available in all Computing Labs
• Availability in departments and other units	Lecture theatres, Class and Tutorial Rooms, Labs, Departments, Library, Administrative Office, Hoste
• Availability in faculty rooms	Yes
• Institute’s own e-mail facility to faculty/students	Faculty and Employees
• Security/privacy to e-mail/Internet users	Cyberoam firewall 1000ia

Internet Facility is

- provided through fiber and Wi-Fi.
- available at all hours.

8.7 Safety Norms and Checks (5)

Total Marks : 5.00

8.7.1 Checks for wiring and electrical installations for leakage and earthing (1)

Institute Marks : 1.00

- Proper earthing of all the buildings and equipment
- Circuit Breakers

8.7.2 Fire-fighting measurements: Effective safety arrangements with emergency / multiple exits and ventilation/exhausts in auditoriums and large classrooms/laboratories, fire-fighting equipment and training, availability of water, and such other facilities (1)

Institute Marks : 1.00

- Smoke detectors provided
- Multiple and emergency exits provided
- Lecture Theatres and auditorium have multiple exits.
- Water sprinkler fire extinguishers provided in venerable areas.
- 24 hour availability of water with high pressure assured.

8.7.3 Safety of civil structure (1)

Institute Marks : 1.00

- Earthquake proof design.
- Lightning conductors provided.

8.7.4 Handling of hazardous chemicals and such other activities (2)

Institute Marks : 2.00

(Instruction: The institution may provide evidence that it is taking enough measures for the safety of the civil structures, fire, electrical installations, wiring, and safety of handling and disposal of hazardous substances. Moreover, the institution needs to show the effectiveness of the measures that it has developed to accomplish these tasks.)

S. N.	Details of Check	Frequency
1	All electrical equipments and installations are checked at start of semester	Half Yearly
2	All electrical & mechanical machines are inspected at start & mid semester	Quarterly
3	Fire extinguishers are recharged after expiry date of constituents.	As per need
4	Discharge of waste chemicals is done only after pH neutralization	Weekly
5	Earthings are checked for conductivity.	Annually
6	Sewerage: Treated by the University owned and operated Sewerage Treatment Plant. Water is used for irrigation purposes.	Continuous process

8.8 Counselling and Emergency Medical Care and First-aid (5)

Total Marks : 5.00

8.8.1 Availability of counselling facility (1)

Institute Marks : 1.00

(Instruction: The institution needs to report the availability of the facilities discussed here.)

Qualified Counsellor employed.
Doctors are available in the University Heath Centre from 9:00 to 17:00 hours.
Lady Doctor visits Girls hostel daily between 9:00 – 10:00

8.8.2 Arrangement for emergency medical care (2) Institute Marks : 2.00

(Instruction: The institution needs to report the availability of the facilities discussed here.)
Doctors (1 lady) are available at all times on campus.
Well equipped ambulance is available in case of emergencies
Liaison with Hospitals at Shimla and Solan for serious cases.

8.8.3 Availability of first-aid unit (2) Institute Marks : 2.00

(Instruction: The institution needs to report the availability of the facilities discussed here.)
Paramedical staff resides on campus.
Staff nurse in girl’s hostel at night.

9. Continuous Improvement (75)

This criterion essentially evaluates the improvement of the different indices that have already been *discussed* in earlier sections.

From 9.1 to 9.5 the assessment calculation can be done as follows

If a, b, c are improvements in percentage during three successive years, assessment can be calculated as

Assessment = (b-a)/(100-min (b,a)) + (c-b)/(100-min(c,b))

9.1. Improvement in Success Index of Students (5)

From 4. 1

Items	**LYG**	**LYG*m*1**	**LYG*m*2**	**Assessment**
Success index	1	0.90	0.92	**4.78**

9.2. Improvement in Academic Performance Index of Students (5)

From 4. 2

Items	**LYG**	**LYG*m*1**	**LYG*m*2**	**Assessment**
API	0.66	0.68	.68	**3.35**

9.3. Improvement in Student-Teacher Ratio (5)

From 5. 1

Items	CAY	CAY*m*1	CAY*m*2	Assessment
STR	0.42	0.57	0.48	2.38

9.4. Enhancement of Faculty Qualification Index (5)

From 5. 3

Items	LYG	LYG*m*1	LYG*m*2	Assessment
FQI	0.81	0.8	0.75	4.03

9.5. Improvement in Faculty Research Publications, R&D Work and Consultancy Work (10)

From 5.7and 5.9

Items	LYG	LYG*m*1	LYG*m*2	Assessment
FRP	0.2	0.71	0.6	3.7
FPPC	0.08	0.08	0.07	0.8

9.6. Continuing Education (10)

In this criterion, the institution needs to specify the contributory efforts made by the faculty members by developing the course/laboratory

modules, conducting short-term courses/workshops, etc., for continuing education during the last three years.

Module description	**Any other contributory institute/ industry**	**Developed/ organized by**	**Duration**	**Resource persons**	**Target audience**	**Usage and citation, etc.**
2013 Second International Conference on Image Information Processing (ICIIP 2013) (ICIIP -2013)	JUIT, CSE	Organized (Technical Program Co-Chair) by Dr. Nitin Rakesh	Dec 9-11, 2013	Researchers and Academicians	NIL	Image Processing
2nd IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC-2012)	JUIT, CSE	Organized (Chief Coordinator: Publicity Committee and Accommodation) by Dr. Nitin Rakesh	Dec 6-9, 2012	Researchers and Academicians	250	Parallel, Distributed and Grid Computing
IEEE-International Conference on Image Information Processing	JUIT, CSE	Organized by Dr. Nitin Rakesh (Publicity Chair) by Dr. Nitin Rakesh	Nov. 3-5, 2011	Researchers and Academicians	146	Image Processing
IBM Workshop on DB2	JUIT, CSE	Organized by Dr. Nitin Rakesh	Oct 29, 2009.	IBM	60	DB2
IBM Workshop on ECLLIEPS	JUIT, Waknaghat	Organized by Dr. Nitin Rakesh	Sep. 13-15 2008.	IBM	90	ECLIPSE
IUCEE Workshop on Effective Teaching	JUIT, HSS	Attended by Dr. Nitin Rakesh	June 1-6, 2012	Researchers and Academicians	30	Effective Teaching Abilities
IEEE International Conference in Signal Processing Computing and Control	JUIT, ECE	Attended by Dr. Nitin Rakesh	Mar. 15-17, 2012	Researchers and Academicians	90	Computing
IUCEE Workshop on Data Mining and Parallel Computing (DMPC-2011)	JUIT, Waknaghat	Attended by Dr. Nitin Rakesh	Aug. 2-5, 2011.	Researchers and Academicians	30	Data Mining

IUCEE Workshop on Artificial Neural Networks, Pattern Recognition Computer Vision and Multimedia Information Retrieval	JUIT, CSE	Attended by Dr. Nitin Rakesh	July 4-8, 2011	Researchers and Academicians	25	Patter Recognition
International Conference on Advanced Computing, Communication and Networks	Universal Association of Computers and Electronics Engineers, Chandigarh	Attended by Dr. Nitin Rakesh	June 2-3, 2011	Researchers and Academicians		
Certified for Excellence in IBM-TGMC	IBM- Top 10 State Award in IBM-TGMC 10'	Attended by Dr. Nitin Rakesh	2011	IBM	Nil	Web Development
Summer School on Parallel and Distributed Computing (SSPDC)	JUIT, CSE	Attended by Dr. Nitin Rakesh	27-May-11	Researchers and Academicians	35	Parallel, Distributed and Grid Computing
The Second IEEE International Conference on Computer and Automation	Singapore	Attended by Dr. Nitin Rakesh	Feb 26-28, 2010	Researchers and Academicians	250	Computation
Certified for Excellence in IBM-TGMC	IBM- Received Drona Award for achieving 5th rank in IBM-TGMC 09'	Attended by Dr. Nitin Rakesh	2010	IBM	Nil	Web Development
IEEE INDICON	IEEE Gujarat Section, Ahmedabad	Attended by Dr. Nitin Rakesh	Dec. 18-20, 2009.	Researchers and Academicians	100	Computing
Faculty Development Program	INFOSYS-Chandigarh	Attended by Dr. Nitin Rakesh	09-Oct	INFOSYS	100	FDP
National Conference on Recent Development in Computing and its Application (NCRDCA '09),	New Delhi	Attended by Dr. Nitin Rakesh	August 12-13, 2009	Researchers and Academicians	70	Computing
IEEE First International Conference on Image Information Processing	IEEE First International	Organized by Mr. Arvind Kumar	November	Researchers	146	Image Processing

	Conference on Image Information Processing		3 – November 5			
IEEE Second International Conference on Parallel, Distributed and Grid Computing	IEEE Second International Conference on Parallel, Distributed and Grid Computing	Organized by Mr. Arvind Kumar	December 6 – December 8	Researchers	250	Parallel, Distributed and Grid Computing
Contemporary Developments in Mathematical Sciences and Computing	Contemporary Developments in Mathematical Sciences and Computing	Attended by Mr. Arvind Kumar	February 2- February 3	Researchers	50	Mathematical Modeling, Simulation and Applications
2012 2nd IEEE International Conferenence on Parallel, Distributed and Grid Computing	IEEE USA IEEE JUIT Student Branch JUIT CSIR DRDO MIT Taylor and Francis	Organized by Dr. Vivek Sehgal	December 6-8, 2012	Researchers and Academicians	250	Parallel, Distributed and Grid Computing
52nd Annual International Associate for Computer Information System (IACIS) Conference, Myrtle Beach, South Carolina, USA	JUIT	Attended by Dr. Vivek Sehgal	October 3-6, 2012	Researchers and Academicians	150	Computing
Data Mining and Parallel Computing	JUIT	Organized by Dr. Vivek Sehgal	August 2-5, 2011	Researchers and Academicians	30	Data Mining
51st Annual International Associate for Computer Information System (IACIS) Conference, Mobile, Alabama, USA	JUIT	Attended by Dr. Vivek Sehgal	October 5-8, 2011	Researchers and Academicians	100	Computing
Teaching Engineering using MATLAB and	JUIT AND IUCEE	Organized by Dr.	July 12-	Researchers	30	Matlab

Simulink		Vivek Sehgal	14, 2010	and Academicians		
IEEE ANVIT 2009: International Workshop on Advances in Computer Networks, VLSI and Innovative Technologies, St. Petersburg, Russia	JUIT	Organized by Dr. Vivek Sehgal	14th October 2009	Researchers and Academicians	100	Computing
IEEE First International Conference on Parallel, Distributed and Grid Computing	JUIT, Waknaghat	Organized and Attended by Dr. Pooja Jain	October 28 – October 30	Researchers	150	Parallel, Distributed and Grid Computing
Internation conference on Real time embedded systems(RTES)	Singapore	Attended by Dr. Pooja Jain	1-2 November	Researchers	150	Computing
5th International Conference on Information Systems and Information Technology (ICISTM 2011)	MDI Gurgaon, India	Attended by Dr. Pooja Jain	10-12 March	Researchers	100	Computing
IEEE First International Conference on Image Information Processing	JUIT, Waknaghat	Organized and Attended by Dr. Pooja Jain	November 3 – November 5	Researchers	146	Image Processing
IEEE Second International Conference on Parallel, Distributed and Grid Computing	JUIT, Waknaghat	Organized and Attended by Dr. Pooja Jain	December 6 – December 8	Researchers	250	Parallel, Distributed and Grid Computing
IEEE Second International Conference on Parallel, Distributed and Grid Computing	JUIT, Waknaghat	Attended by Ms. Ramanpreet Kaur	06 to 08.12.2012	Researchers	250	Parallel, Distributed and Grid Computing
32nd Asia Pacific Advanced Network Meet	ERNET India,Cisco,hp,Juniper Networks,. India Habitat Center ,New Delhi	Attended by Ms. Ramanpreet Kaur	22nd to 26th August,	NIT,Jalandhar	23	C++

ISTE Workshop on Effective/Teaching & Learning	IIT Bomabay	Attended by Ms. Ramanpreet Kaur	28th june to 10th july	NIT,Jalandhar	35	Mobile computing
Winter school on Recent Advances in Mobile Computing and Communication	MHRD,New Delhi. NIT Jalndhar	Attended by Ms. Ramanpreet Kaur	22nd december to 2nd jan 2009	NIT,Jalandhar	50	Networks
Seminar on Technological Issues in Computing & Communication	MHRD,New Delhi. NIT Jalandhar	Attended by Ms. Ramanpreet Kaur	5th Oct	Researchers		Grid computing
Wireless Commnications	NITTTR Chandigarh	Attended by Ravindra Ahuja	20-24 Oct, 2008	Researchers	50	Wireless Sensor Systems
Wireless Communication and Mobile Computing	GGSIP University, Delhi	Attended by Ravindra Ahuja	22 Dec.- 02 Jan	Researchers	50	Wireless Communicati on
Network Programming and Security	CDAC Hyderabad	Attended by Ravindra Ahuja	05-16 Jan	Researchers	50	Computing
Macro Human Culture & Social Sciences	IIT Roorkee	Attended by Ravindra Ahuja	07-11 June	Researchers	100	Computing
Culture and Communication	IIT Roorkee	Attended by Ravindra Ahuja	21-25 June	Researchers	100	Computing
Introduction to Graph and Geometric Algorithms	Thapar University	Attended by Ravindra Ahuja	28-30 October	Researchers	100	Computing
National Conference on Emerging Trends in Intelligent Computing and	GCET, Greater Noida	Organized by Ravindra Ahuja	13-14 April	Researchers	50	Computing
Communication (EICC-2012)”				Researchers		
PDGC	JUIT, Waknaghat	Organized by Ravindra Ahuja	06-08 December	Researchers	250	Parallel, Distributed and Grid Computing

9.7. New Facility Created (15)

Specify new facilities created during the last three years for strengthening the curriculum and/or meeting the POs:

1. CUDA parallel programming lab has been created with the help of NVDIA to facilitate the student, researchers and academic staff.
2. Computing facilities has been improved in existing labs. in terms of RAM and processor speed.
3. A separate project lab has been created for final year students and researchers.

9.8. Overall Improvements since last accreditation, if any, otherwise, since the commencement of the programme (20)

Specify the overall improvement:

Factor / Criteria	**Improvement Brought In**	**Contributed By**	**Courses Affected**
Modified Curriculum	Course Work Review / Modified	Department	Core and Electives
Industry relevant courses	Courses: • SOA • Software Agents • Cloud Computing	Department	Electives

Project based learning	Experiments and Course specific projects	Department	Core and Electives
Project Lab setup / Upgradation	Lab upgradation	Department	Created a CUDA NVIDIA Lab Improved Computing facilities with RAM / Processor upgradation
Conducted International Conferences	Department	PO-1, PO-2, PO-3, PO-4, PO-5, PO-6,PO-7, PO-8, PO-9	PDGC-2010. ICIIP-2011 PDGC-2012 ICIIP-2013 PDGC-2014(scheduled)
Faculty Strength Cadre Ratio And PhD	Department	PO-1, PO-2, PO-3, PO-4, PO-5, PO-6,PO-7, PO-8, PO-9	Numer of faculty increased from 15 to 30 Strength of faculty with Ph D increased from 2 to 12