|  |  |  |
| --- | --- | --- |
| **CRITERION 1** | **Vision, Mission and Program Educational Objectives** | **60** |

##### **1.1 State the Vision and Mission of the Department and Institute (5)**

##### (Vision statement typically indicates aspirations and Mission statement states the broad approach to achieve aspirations)

##### (Here Institute Vision and Mission statements have been asked to ensure consistency with the department Vision and Mission statements; the assessment of the Institute Vision and Mission will be taken up in Criterion10)

|  |  |
| --- | --- |
| Vision of the institute | To become a premier Educational Institution in India offering the best teaching and learning environment for our students that will enable them to become complete individuals with professional competency, human touch, ethical values, service motto, and a strong sense of responsibility towards environment and society at large. |
| Mission of the institute | **M1:** Continually enhance the quality of physical infrastructure and human resources to evolve into a centre of excellence in engineering education  **M2:**Provide comprehensive learning experiences that are conducive for the students to acquire professional competencies, ethical values, life-long learning abilities and understanding of the technology, environment and society.  **M3:** Strengthen industry institute interactions to enable the students work on realistic problems and acquire the ability to face the ever changing requirements of the industry.  **M4:**Continually enhance the quality of the relationship between students and faculty which is a key to the development of an exciting and rewarding learning environment in the college. |
| Vision of the Department | To become a premier department of learning in Computer Science and Engineering that empowers its students to be self-motivated, ethical, responsible, and competent Professionals. |
| Mission of the Department | **DM1:** Continually improve the teaching-learning and associated processes to enable the students gain sound knowledge of the theoretical concepts of Computer Science and Engineering as well as its applications.  **DM2:** Provide comprehensive learning experiences that educate and motivate the students to acquire excellent technical skills, strong ethical values, life-long learning abilities and social consciousness.  **DM3:** Strengthen industry institute interactions to enable the students work on realistic problems and expose them to practical issues in the industry. |

***Table B.1.1: Vision and Mission of the Department and Institute***

##### **1.2 State the Program Educational Objectives (PEOs) (5)**

(State the PEOs (3to5) of program seeking accreditation)

An SRIT graduate in Computer Science & Engineering, after three to four years of graduation will be able to:

**PEO1:**Lead a successful professional career in IT / ITES industry / Government Organizations with ethical values.

**PEO2:**Become competent and responsible computer science professional with good communication skills and leadership qualities to respond and contribute significantly for the benefit of society at large.

**PEO3:**Engage in life-long learning acquiring new and relevant professional competencies / higher academic qualifications.

##### **1.3 Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders (10)**

(Describe where (websites, curriculum, posters etc.) the Vision, Mission and PEOs are published and detail the process which ensures awareness among internal and externals take holders with effective process implementation)

(Internal stakeholders may include Management, Governing Board Members, faculty, support staff, students etc. and external stakeholders may include employers, industry, alumni, funding agencies, etc.)

We disseminate the Vision, Mission, PEOs among both internal and external stake holders by displaying them in the following places:

* Department Website: <http://www.srit.ac.in/departments.php?dep=cse>
* HOD Chamber
* Faculty Rooms
* Department Class Rooms
* Department Notice Boards
* Department Laboratories
* Department News Letters and Magazine
* Through Social Media

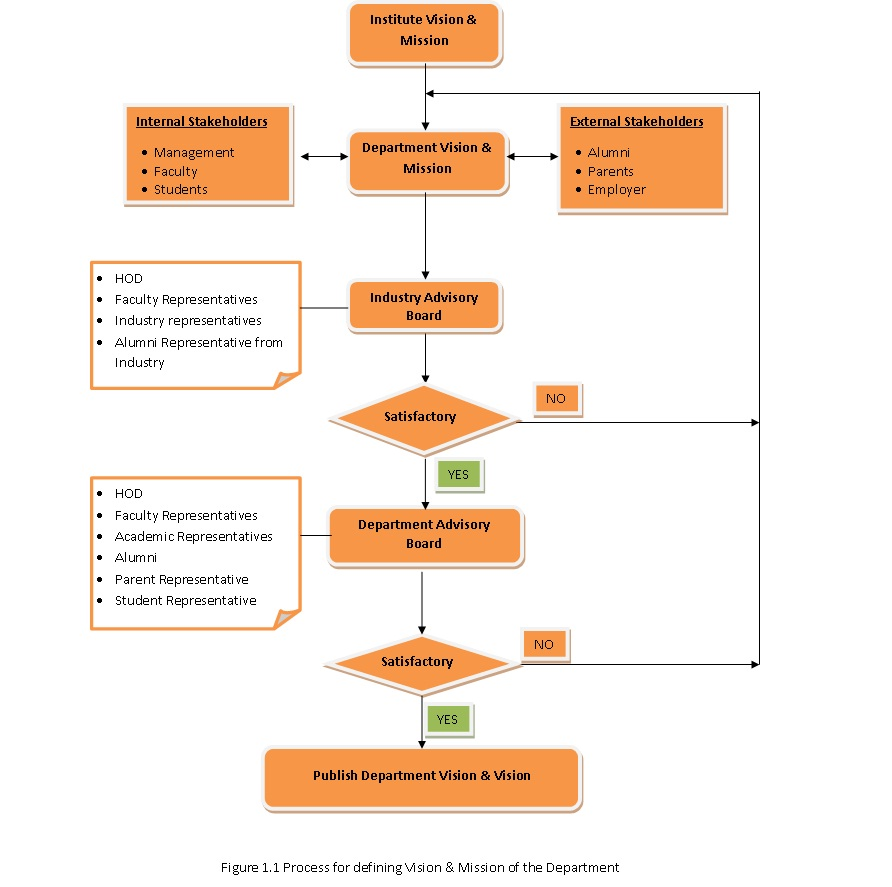
In addition, the Vision, Mission and PEOs are published on Institution website <http://www.srit.ac.in> , Newsletters, Information Brochures of the events and programs organized by the institute such as Induction Program for Freshers, Industry Institute Interaction programs, Workshops, Seminars etc.

##### **1.4 State the process for defining the Vision and Mission of the Department, and PEOs of the program (25)**

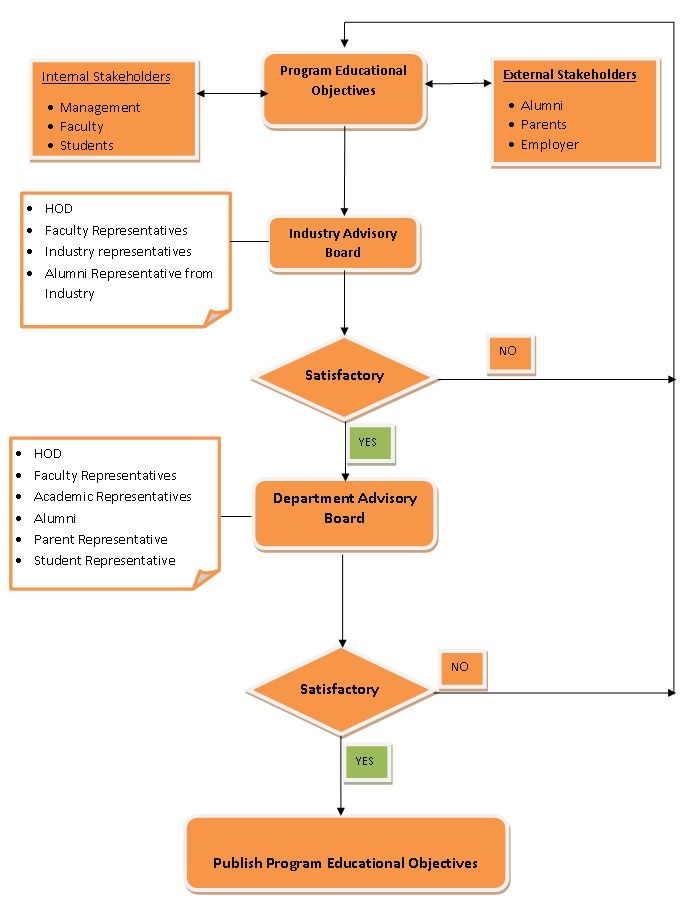
(Articulate the process for defining the Vision and Mission of the department and PEOs of the program)

**Process to define the vision and mission of Department:**

* The Vision and Mission of the Department are defined ensuring consistency with the Vision and Mission statements of the Institution.
* The Vision and Mission statements of similar category institutions are considered and discussed in a brain storming session with the staff and students of the Department and a draft version of the Vision & Mission statements are prepared.
* The draft version of Vision and Mission statements that are prepared in the brain storming session are presented in the meeting with stakeholders including Management, Alumni, Parents and Employers for necessary modifications.
* The updated version of the Vision and Mission statements are presented in the Industry Advisory Board meeting of the department, consisting of the stake holders representing faculty, industry and alumni. Vision and Mission statements are reviewed and modified according to the industry perspective.
* The updated version of Vision and Mission statements are presented in Department Advisory Board meeting consisting of experts from academia (nominee from university and other reputed institutions), alumni, parents and students. The final versions of Vision and Mission statements are finalized.
* The Vision and Mission statements of the Department are reviewed and modified over a period of about 3 to 4 years, following the above procedure.

***Figure B.1.4a: Process for defining Vision & Mission of the Department***

**Process for establishing PEOs:**

* PEOs of the program should indicate the professional competencies of the graduates over a period of three to four years after graduation.
* PEOs should reflect the core competency, professionalism, attitude for lifelong learning and awareness on social and ethical responsibilities.
* PEOs should be assessable.
* PEOs are formulated in three or four in number to achieve the vision of the department and are consistent with the components of the mission statements of the department.
* PEOs are formulated by conducting a Brain storming session with the faculty and students of the Department reflecting
  + Competencies to work in a team in multi disciplinary environments.
  + Passion to learn and employ modern tools in solving engineering problems
  + Awareness to social and ethical issues in implementing solutions to real life problems.
* PEOs formulated in brain storming session with faculty and students are reviewed in the Industry advisory board meeting and Department advisory board meeting having experts from industry and academia from affiliating university and other reputed institutions, Alumni and parents and final version of PEOs are formulated.
* PEOs are revised periodically to reflect the changes in the requirements of the engineering graduates following the above procedure.
* PEOs are displayed along with the Vision & Mission statements.
* The attainment of PEOs is obtained by using assessment tools such as Alumni Survey and Employer Survey.

***Figure B.1.4b: Process for defining PEOs***

##### **1.5 Establish consistency of PEOs with Mission of the Department (15)**

(Generate a "Mission of the Department – PEOs matrix" with justification and rationale of the mapping)

|  |  |  |  |
| --- | --- | --- | --- |
| **PEO Statements**  An SRIT graduate in Computer Science & Engineering, after three to four years of graduation will | **DM1**  **(Sound knowledge on fundamental concepts)** | **DM2**  **(Ethical Values, Technical Skills, Life-Long Learning, Social Consciousness)** | **DM3**  **(Industry Institute Interaction)** |
| **PEO1:**Be able to lead a successful professional career in IT / ITES industry/Government Organizations with ethical values. | 2 | 3 | 3 |
| **PEO2:** Become competent and responsible computer science professional with good communication skills and leadership qualities to respond and contribute significantly for the benefit of society at large. | 3 | 3 | 1 |
| **PEO3:** Engage in life-long learning acquiring new and relevant professional competencies / higher academic qualifications. | 2 | 3 | 1 |

***Table B.1.5: Mission of the Department–PEOs matrix***

**Note: M1, M2, . . Mn are distinct elements of Mission statement.**  
  
Enter correlation levels 1, 2 or 3 as defined below:

1: Slight (Low)            2: Moderate (Medium)            3: Substantial (High)            If there is no correlation, put “-”

**Note: In this document wherever the term ‘Process’ has been used its meaning is process formulation, notification and implementation.**

**JUSTIFICATION:**

***PEO 1- DM1, DM2 & DM3***

***PEO1- DM1:***  The sound knowledge on the fundamental concepts of Computer Science and Engineering as well as its applications ensures the students to lead a successful professional career in IT / ITES industry / Government Organizations.

***PEO1- DM2:***  Potential Technical Skills and Life-Long Learning abilities make the students to become the pioneers in the respective industry/organization. Awareness on social and ethical issues shall educate and motivate the student to provide solutions to real life problems for the benefit of the society.

***PEO1- DM3:***  The Industry-Institute interactions will help the students to be prepared as per the industry requirements by working on realistic problems and practical issues to lead a successful career in IT / ITES industry / Government Organizations.

***PEO 2- DM1, DM2 & DM3***

***PEO2- DM1:*** The profound knowledge on the fundamental concepts of Computer Science and Engineering as well as its applications will educate and motivate the students to become competent professionals and to apply their knowledge to address the real life problems, for the benefit of the society.

***PEO2- DM2:*** The ethical values practiced by the students and their involvement in the societal activities during the course of time, help the students to become competent professionals with good leadership qualities and contribute significantly for the benefit of the society.

***PEO2- DM3:*** The Industry-Institute interactions will help the students to understand the industry perspective on societal problems and how the technology is applied to solve them.

***PEO 3- DM1, DM2***

***PEO3-DM1:*** The sound knowledge on the fundamental concepts of Computer Science and Engineering as well as its applications make the students capable of understanding the advanced concepts and hence motivate towards life-long learning.

***PEO3- DM2:***  The technical & professional competencies acquired by the students will motivate them to work in teams, in multi-disciplinary environments and develop a passion for life-long learning to practice and employ modern tools.

***PEO3 – DM3:*** Industry Institute Interaction makes the student to understand the technology trends in IT industry from time to time, and motivate the student to be a life-long learner for sustainable professional growth.

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| --- | --- | --- |
| **CRITERION 2** | **Program Curriculum and Teaching – Learning Processes** | **120** |

##### **2. PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES (120)**

##### **2.1 Program Curriculum (20)**

**2.1.1 State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure-I. Also mention the identified curricular gaps, if any (10)**

(State the process details; also mention identified curricular gaps).

***Note:*** In case all POs are being demonstrably met through University Curriculum then 2.1.2 will not be applicable and the weightage of 2.1.1 will be 20.

The process used to identify the extent of compliance of university curriculum for attainment of POs & PSOs is as follows:

* The course coordinators will formulate the Course Outcomes (COs) and map them to Program Outcomes (POs) and Program Specific Outcomes (PSOs).
* The mapping strengths of COs to POs & PSOs are also taken into consideration.
* The mapping of courses in the curriculum to the POs & PSOs is obtained based on CO to POs & PSOs mapping of the individual courses.
* The percentage of number of courses in the curriculum mapped to each PO and PSO to the total number of courses in the curriculum is calculated which indicates the average % of mapping of POs and PSOs.
* If the average percentage of mapping for any PO is less than 10% then it is identified as weakly mapped PO with respect to the curriculum and is taken as a curricular gap.

In addition to the above process the following steps are followed to identify the curricular gaps:

* **Course exit survey:** A questionnaire is prepared for each course by the course coordinator and is distributed to students to get their feedback at the end of the semester to see whether the curriculum adequately addresses for satisfactory attainment of COs and hence the POs and PSOs are strongly or weakly attained.
* **Program Exit Survey:** A questionnaire is prepared by the program coordinator and is given to the students at the end of the program to get their feedback on the attainment of POs and PSOs. The results are analyzed to see whether the POs and PSOs are strongly or weakly attained.
* **Feedback from students:** Student feedback is taken in the middle of the semester and end of the semester. It is analyzed and suggestions are given to the course coordinators to improve and refine teaching process to have better attainment levels of COs and in turn attainment levels of POs and PSOs.
* **Curriculum review by Industry and academic experts:** Curriculum review by Industry/academic experts in the meeting of academic advisory board provides a broad based feedback regarding the relevance and organization of curriculum to attain POs and PSOs.

**2.1.1.1. Process used to identify extent of compliance of university curriculum for attaining POs & PSOs:**

**2.1.1.1a. Curricular gaps:**

* The course to POs & PSOs mapping (JNTU Regulations R09) is given in the following table.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject Name & Code** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PS03** |
| English(9ABS101) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| Engineering Physics (9ABS102) | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Engineering Chemistry (9ABS103) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mathematics-I (9ABS104) | X | X |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Programming in C and Data structures (9A05101) | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Engineering Drawing (9A03101) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mathematical Methods (9ABS105) | X | X |  |  |  |  |  |  |  |  |  |  | X |  |  |
| C Programming and Data Structures Lab (9A05102) | X |  |  |  |  |  |  |  |  | X |  |  | X |  |  |
| Engineering & IT Workshop (9A03102) | X |  |  |  |  |  |  |  |  | X |  |  |  | X |  |
| Engg. Physics and Chemistry Lab (9ABS106) | X |  |  | X |  |  |  |  | X | X |  |  |  |  |  |
| English Language & Communication skills Lab(9ABS107) |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| Probability & Statistics (9ABS304) | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Basic Electrical Engineering (9A02306) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Mathematical Foundations of Computer Science (9A05301) | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Advanced Data Structures (9A05302) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Digital Logic Design (9A04306) | X |  | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Electronic Devices and Circuits (9A04301) |  | X | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Electrical and Electronics Lab (9A02307) | X | X |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Data Structures Lab (9A05304) | X |  |  |  | X |  |  |  |  |  |  |  | X |  |  |
| Environmental Science (9ABS303) |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  |
| Computer Organization (9A05406) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Database Management Systems (9A05401) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Object Oriented Programming (9A05402) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Formal Languages & Automata Theory (9A05407) | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| Design and Analysis of Algorithms (9A05403) | X | X | X |  |  |  |  |  |  |  |  |  | X | X |  |
| Object Oriented Programming Lab (9A05404) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Database Management Systems Lab (9A05405) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Principles of Programming Languages (9A05501) |  | X | X |  |  |  |  |  |  |  |  |  |  | X |  |
| Software Engineering (9A05502) | X |  | X |  | X |  |  |  |  | X | X |  | X |  |  |
| Computer Graphics (9A05503) | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| Compiler Design (9A05504) | X | X | X |  |  |  |  |  |  |  |  |  |  | X |  |
| Operating Systems (9A05505) |  | X | X |  |  |  |  |  |  |  |  |  |  | X |  |
| Computer Networks (9A05506) | X | X | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Advanced English Communication Skills Lab (9AHS601) |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| Computer Networks & Operating Systems Lab (9A05507) | X | X |  |  |  |  |  |  |  |  |  |  |  | X | X |
| Object Oriented Analysis and Design (9A05601) | X |  |  |  | X |  |  |  |  |  |  |  | X |  |  |
| Unix Internals (9A05602) | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| Optimizing Techniques (9A05603) | X |  | X |  |  |  |  |  |  |  |  |  |  | X |  |
| Micro Processors and Micro Controllers (9A04602) | X | X |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Distributed Systems (9A05604) | X |  | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Artificial Intelligence (9A05605) | X |  | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Micro processors and Interfacing Lab (9A19501) | X | X |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Unix Internals Lab (9A05606) | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| Web Technologies (9A05701) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Software Testing (9A05702) | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| Managerial Economics & Financial Analysis (9AHS401) | X |  | X | X |  | X |  | X |  |  | X |  |  |  |  |
| Grid and Cluster Computing (9A05703) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Data ware housing and Data Mining (9A05706) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Software Project Management (9A05707) |  |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Web Technologies and Data Mining Lab (9A05710) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Software Testing and Case tools Lab (9A05711) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Management Science (9AHS701) |  |  |  |  |  |  |  | X | X |  | X | X |  |  |  |
| Design Patterns (9A05801) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Service Oriented Architecture (9A05802) | X |  | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Internetworking with TCP/IP (9A05806) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Seminar (9A05808) |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| Project Work (9A05809) |  | X | X |  | X |  | X | X | X | X | X | X | X | X | X |
| No. of courses to which mapped | 46 | 14 | 25 | 2 | 9 | 1 | 2 | 4 | 6 | 9 | 4 | 2 | 22 | 13 | 15 |
| No. of courses in the Curriculum | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| % of Course to POs & PSOs | 79.31 | 24.14 | 43.10 | 3.45 | 15.52 | 1.72 | 3.45 | 6.90 | 10.34 | 15.52 | 6.90 | 3.45 | 37.93 | 22.41 | 25.86 |

***Table B.2.1.1.1a: Course to POs & PSOs Mapping (JNTU Regulations R09)***

The courses to POs & PSOs mapping strengths (JNTU Regulations R09) are given in the Figure B.2.1.1.1a.

***Figure B.2.1.1.1a: Course to POs & PSOs Mapping Strengths (JNTU Regulations R09)***

The weakly mapped POs for R09 regulations are listed in the **Table B.2.1.1.1b**

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No** | **Program Outcomes** | | **Percentage (%)** |
| **1** | **PO4** | **Conduct investigations of  Complex Problems:**Use  research- based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | **3.45** |
| **2** | **PO6** | **The Engineer and Society:**Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | **1.72** |
| **3** | **PO7** | **Environment and Sustainability:**Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development. | **3.45** |
| **4** | **PO8** | **Ethics:**Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | **6.90** |
| **5** | **PO11** | **Project management and finance:**Demonstrate Knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and multidisciplinary environments. | **6.90** |
| **6** | **PO12** | **Life –long learning:**Recognize the need for  and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | **3.45** |

***Table B.2.1.1.1b: Weakly Mapped POs (JNTU Regulations R09)***

* The course to POs & PSOs mapping (JNTU Regulations R13) is given in the following Table B.2.1.1.1c

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject Code** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PSO3** |
| Communicative English (13A52101) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| Engineering Physics (13A56101) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering Chemistry (13A51101) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mathematics-I(13A54101) | X | X |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Problem Solving & Computer Programming (13A05101) | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Mathematics-II (13A54102) | X | X |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Basic Electrical & Electronics Engineering (13A99101) | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Computer Programming Lab (13A05102) | X |  |  |  |  |  |  |  |  | X |  |  | X |  |  |
| Engineering Physics & Engineering Chemistry Lab (13A99102) | X |  |  | X |  |  |  |  | X | X |  |  |  |  |  |
| Engineering & IT workshop (13A99103) | X |  |  |  |  |  |  |  |  | X |  |  | X |  |  |
| English Language Communication Skills Lab (13A52102) |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| Engineering Graphics (13A03304) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Probability & Statistics (13A54303) | X | X |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Environmental Science (13A01403) | X |  |  |  |  | X | X |  |  |  |  |  |  |  |  |
| Data Structures (13A05301) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Digital Logic Design (13A04306) | X | X | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Discrete Mathematics (13A05302) | X | X |  |  |  |  |  |  |  |  |  |  | X | X |  |
| Electrical & Electronics Engineering Lab (13A99304) | X | X |  |  | X |  |  |  |  | X |  |  |  |  |  |
| Data Structures Lab (13A05303) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Computer Organization & Architecture (13A05401) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Database Management Systems (13A05402) | X |  | X | X | X |  |  | X |  |  |  |  | X |  |  |
| Java Programming (13A05403) | X |  | X |  |  |  |  |  |  |  |  |  | X | X |  |
| Formal Languages & Automata Theory (13A05404) | X | X | X | X |  |  |  |  |  |  |  |  |  | X |  |
| Principles of Programming Languages (13A05405) | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Design and Analysis of Algorithms (13A05406) | X |  | X | X |  |  |  |  |  |  |  |  | X | X |  |
| Database Management Systems Lab (13A05407) | X | X | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Java Programming Lab (13A05408) | X |  | X |  | X |  |  |  |  | X |  | X | X |  |  |
| Human Values & Professional Ethics (13A52301) |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |
| Operating Systems (13A05501) | X | X |  |  |  |  |  |  |  |  |  |  |  | X |  |
| Compiler Design (13A05502) | X |  | X |  |  |  |  |  |  |  |  |  |  | X |  |
| Unix and Shell Programming (13A05503) | X |  | X |  | X |  |  |  |  |  |  |  |  | X |  |
| Software Engineering (13A05504) |  |  | X |  |  | X |  | X |  |  | X |  | X |  |  |
| Micro Processors & Interfacing (13A04507) | X |  | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Managerial Economics and Financial Analysis (13A52501) | X |  |  |  |  | X |  | X |  |  | X |  |  |  |  |
| Operating Systems Lab (13A05505) | X | X | X |  |  |  |  |  |  |  |  |  |  | X |  |
| Compiler Design & Assembly Language Programming Lab (13A05506) | X |  | X |  | X |  |  |  |  |  |  |  |  | X | X |
| Advanced English Language Comm. Skills Lab (13A52502) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| Computer Networks (13A05601) | X | X |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Object Oriented Analysis, Design & Modeling(13A05602) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Data Mining (13A05603) |  | X | X | X |  | X |  |  |  |  |  |  | X |  |  |
| Web Technologies (13A05604) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Software Testing Methodologies (13A05605) | X |  |  |  | X |  |  |  |  |  |  |  | X |  |  |
| Big Data Technologies (13A05606) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Unified Modeling Language & Testing Lab (13A05609) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Web Technologies and Data Mining Lab (13A05610) |  |  | X | X |  | X |  |  |  |  |  |  | X |  |  |
| Software Architecture & Design Patterns (13A05701) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Cryptography & Network Security (13A05702) | X | X | X |  | X |  |  |  |  |  |  |  |  |  | X |
| Mobile Application Development (13A05703) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Management Science (13A52702) | X |  |  |  |  |  |  | X | X |  | X |  |  |  |  |
| Human Computer Interaction (13A05704) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Information Retrieval Systems (13A05708) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Computer Networks & Network Security Lab (13A05710) | X |  | X |  | X |  |  |  |  |  |  |  |  |  | X |
| Mobile Application Development Laboratory (13A05711) | X |  |  |  | X |  |  |  |  |  |  |  | X |  |  |
| Mobile Computing (13A05801) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Real Time Systems (13A05804) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Programming for Everybody Using Python (13A05806) | X |  |  |  | X |  |  |  |  |  |  |  | X |  |  |
| Technical Seminar (13A05807) | X |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| Project Work (13A05808) | X | X | X |  | X |  | X | X | X | X | X | X | X | X | X |
| **No. of courses to which mapped** | 51 | 15 | 28 | 6 | 16 | 5 | 3 | 6 | 5 | 11 | 4 | 3 | 29 | 10 | 11 |
| **No. of courses in the Curriculum** | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| **% of Course Coverage** | 87.93 | 25.86 | 48.28 | 10.34 | 27.59 | 8.62 | 5.17 | 10.34 | 8.62 | 18.97 | 6.90 | 5.17 | 50.00 | 17.24 | 18.97 |

***Table B.2.1.1.1c: Course to POs & PSOs Mapping******(JNTU Regulations R13)***

The courses to POs & PSOs mapping strengths (JNTU Regulations R13) are given in the Figure B.2.1.1.1b

***Figure B.2.1.1.1b: Course to POs & PSOs Mapping Strengths (JNTU Regulations R13)***

The weakly mapped POs (JNTU Regulations R13) are listed in the Table B.2.1.1.1d

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No.** | **Program Outcomes** | | **Percentage (%)** |
| **1** | **PO6** | **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | **8.62** |
| **2** | **PO7** | **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | **5.17** |
| **3** | **PO9** | **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | **8.62** |
| **4** | **PO11** | **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | **6.90** |
| **5** | **PO12** | **Life-long learning:**Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | **5.17** |

***Table B.2.1.1.1d: Weakly Mapped POs (JNTU Regulations R13)***

* The course to POs & PSOs mapping (JNTU Regulations R15) is given in the following Table B.2.1.1.1e

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject Code** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PS03** |
| Functional English (15A52101) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| Mathematics-I (15A54101) | X | X |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Computer Programming (15A05101) | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Engineering Physics (15A56101) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering Drawing (15A03101) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| English Language Communication Skills Lab (15A52102) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| Engineering Physics Lab (15A56102) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Computer Programming Lab (15A05102) | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| English For Professional Communication (15A52201) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| Mathematics-II (15A54201) | X | X |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Data Structures (15A05201) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Engineering Physics(15A56101) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering Drawing (15A03101) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Data Structures Lab (15A05202) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Engineering Physics Lab (15A56102) | X |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| Engineering & IT Workshop (15A99201) | X |  |  |  |  |  |  |  |  | X |  |  | X |  |  |
| Mathematics-III (15A54301) | X | X |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Database Management Systems (15A05301) | X |  | X | X | X |  |  | X |  |  |  |  | X |  |  |
| Discrete Mathematics (15A05302) | X | X |  |  |  |  |  |  |  |  |  |  | X | X |  |
| Basic Electrical and Electronics Engineering (15A99301) | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Digital Logic Design (15A04306) | X | X | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Managerial Economics & Financial Analysis (15A52301) | X |  |  |  |  | X |  | X |  |  | X |  |  |  |  |
| Database Management Systems Laboratory (15A05303) | X | X | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Basic Electrical and Electronics Laboratory (15A99302) | X | X |  |  | X |  |  |  |  | X |  |  |  |  |  |
| Probability & Statistics(15A54401) | X | X |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Software Engineering(15A05401) |  |  | X |  |  | X |  | X |  |  | X |  | X |  |  |
| Computer Organization(15A05402) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Micro Processors & Interfacing(15A04407) | X |  | X |  |  |  |  |  |  |  |  |  |  |  | X |
| Object Oriented Programming Using Java(15A05403) | X |  | X |  |  |  |  |  |  |  |  |  | X | X |  |
| Formal Languages & Automata Theory(15A05404) | X | X | X | X |  |  |  |  |  |  |  |  |  | X |  |
| Micro Processors & Interfacing Laboratory(15A04408) | X |  | X |  | X |  |  |  |  |  |  | X | X |  |  |
| Java Programming Laboratory(15A05405) | X |  | X |  | X |  |  |  |  | X |  | X | X |  |  |
| Operating Systems (15A05501) | X | X |  |  |  |  |  |  |  |  |  |  |  | X |  |
| Computer Networks (15A05502) | X | X |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Object Oriented Analysis & Design(15A05503) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Principles of Programming Languages(15A05504) | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Software Testing (15A05505) | X |  |  |  | X |  |  |  |  |  |  |  | X |  |  |
| Introduction to Big Data(15A05506) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Object Oriented Analysis and Design& Software Testing Lab(15A05509) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Operating Systems Lab(15A05510) | X | X | X |  |  |  |  |  |  |  |  |  |  | X |  |
| Social Values & Ethics(15A99501) |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |
| Compiler Design(15A05601) | X |  | X |  |  |  |  |  |  |  |  |  |  | X |  |
| Data Warehousing & Mining(15A05602) |  | X | X | X |  | X |  |  |  |  |  |  | X |  |  |
| Design Patterns(15A05603) | X |  | X |  |  |  |  |  |  |  |  |  | X |  |  |
| Design & Analysis of Algorithms (15A05604) | X |  | X | X |  |  |  |  |  |  |  |  | X | X |  |
| Web & Internet Technologies(15A05605) |  |  | X |  |  | X |  |  |  |  |  |  | X |  |  |
| Artificial Intelligence (15A05606) | X | X | X | X | X | X |  |  |  |  |  |  | X |  |  |
| Web and Internet Technologies Lab (15A05609) | X |  | X |  |  | X |  |  |  |  |  |  | X |  |  |
| Data warehousing & Mining Lab (15A05610) | X |  | X | X |  | X |  |  |  |  |  |  | X |  |  |
| Advanced English Language Communication Skills Lab (15A52602) |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| Management Science (15A52601) | X |  |  |  |  |  |  | X | X |  | X |  |  |  |  |
| Grid & Cloud Computing (15A05701) |  |  | X |  |  |  |  |  |  |  |  |  | X |  | X |
| Information Security(15A05702) | X | X | X |  | X | X |  |  |  |  |  |  |  |  | X |
| Mobile Application Development (15A05703) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Machine Learning (15A05706) | X | X | X | X | X | X |  |  |  |  |  |  | X |  |  |
| Software Project Management (15A05707) |  |  |  |  |  |  |  |  | X |  | X |  | X |  |  |
| Grid & Cloud Computing Lab (15A05710) |  |  | X |  | X |  |  | X | X |  |  |  |  |  | X |
| Mobile Application Development Lab (15A05711) | X |  | X |  | X |  |  |  |  |  |  |  | X |  |  |
| Mobile Computing (15A05802) | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Cyber Security(15A05806) | X |  | X |  | X | X |  | X |  |  |  |  |  |  | X |
| Comprehensive Viva-voce (15A05807) | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Technical Seminar (15A05808) | X |  |  |  |  |  |  |  | X | X |  |  |  |  |  |
| Project Work (15A05809) | X | X | X |  | X |  | X | X | X | X | X | X | X | X | X |
| No. of courses to which mapped | 52 | 18 | 31 | 8 | 17 | 10 | 1 | 8 | 6 | 9 | 5 | 3 | 33 | 8 | 11 |
| No. of courses in the Curriculum | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| % of Course Coverage | 82.54 | 28.57 | 49.21 | 12.70 | 26.98 | 15.87 | 1.59 | 12.70 | 9.52 | 14.29 | 7.94 | 4.76 | 52.38 | 12.70 | 17.46 |

***Table B.2.1.1.1e: Course to POs & PSOs Mapping (JNTU Regulations R15)***

The courses to POs & PSO mapping strengths (JNTU Regulations R15) are given in the Figure B.2.1.1.1c.

***Figure B.2.1.1.1c: Course to POs & PSOs Mapping Strengths (JNTU Regulations R15)***

The weakly mapped POs (JNTU Regulations R15) are listed in the Table B.2.1.1.1f

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No.** | **Program Outcomes** | | **Percentage (%)** |
| **1** | **PO7** | **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | **1.59** |
| **2** | **PO9** | **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | **9.52** |
| **3** | **PO11** | **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | **7.94** |
| **4** | **PO12** | **Life-long learning:**Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | **4.76** |

***Table B.2.1.1.1f: Weakly Mapped POs (JNTU Regulations R15)***

**2.1.2 State the delivery details of the content beyond the syllabus for the attainment of POs and PSOs (10)**

**(Provide details of the additional course/ learning material/ content/ laboratory experiments/ projects etc., arising from the gaps identified in 2.1.1 in a tabular form in the format given below)**

**2017-2018**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Gap** | **Action Taken** | **Date-Month-Year** | **Resource Person with Designation** | **% of students** | **Relevance to POs, PSOs** |
| 1. | Project Management and Finance | Project Expo – 2018 | 17.04.2018 | Senior Professors of SRIT. | 100 | PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PSO1, PSO3 |
| 2. | Life Long Learning | Python Programming | 08.03.2018 to  10.03.2018 | Mr. Shaik Bahadulla and Ms. Shaik Basiha,  Python Programming Trainers,  APSSDC. | 63 | PO1, PO2, PO3,PO12,  PSO1, PSO2, PSO3 |
| 3. | Project Management and Finance | Android Developer Fundamentals (Phase – II) | 08.01.2018 to 10.01.2018 | Ms. P. Prabhu Sandhya,  Google Certified- Associate Android Developer, Android Trainer  APSSDC. | 100 | PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO11, PO12, PSO1 |
| Ms. K. Bhavya,  Android Trainer,  APSSDC. |
| Mr. B. Siva Prasad,  Android Trainer,  APSSDC. |
| Mr. U. Venkatesh  Android Trainer,  APSSDC |
| 4. | Project Management and Finance | Hadoop Basics and Advanced with introduction to SPARK | 06.01.2018 to 07.01.2018 | Mr. Swayam Prakash, Assistant Professor,  Amity University, New Delhi | 91 | PO1, PO3, PO4, PO5, PO12, PSO1 |
| 5. | Life Long Learning | Oracle Database | 16.10.2017 to 18.10.2017 | Mr. P. Bala Srinivasa Raju,  Associate and Technical Trainer  APITA | 94 | PO1, PO4, PO5, PO12, PSO1 |
| 6. | Environment and Sustainability | World Space Week Competition | 4.10.2017  to 10.10.2017 | P.Veera Prakash,  Asst. Professor,  Dept. of CSE,  SRIT. | 100 | PO6, PO7 |
| 6. | Project Management and Finance | Android Developer Fundamentals (Phase – I) | 03.10.2017 to 05.10.2017 | Ms. P. Prabhu Sandhya,  Google Certified- Associate Android Developer, Android Trainer  APSSDC. | 100 | PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO11, PO12, PSO1 |
| Ms. K. Bhavya,  Android Trainer,  APSSDC. |
| Mr. B. Siva Prasad,  Android Trainer,  APSSDC. |
| 7. | Life Long Learning | Hadoop Basics and Advanced | 28.07.2017 to 30.07.2017 | Mr. Swayam Prakash,  Head of Data Analytics, DotWeb Technologies, Hyderabad. | 91 | PO1, PO3, PO4, PO5, PO12, PSO1 |
| Mr. Arvind Agarwal,  Big Data Engineer,  SunnyValle, USA. |
| Mr. P. Praneel Kumar,  Asst. Professor, Dept. of CSE, SRIT, Ananthapuramu. |
| 8. | Life Long Learning | Research Perspectives in Machine Learning | 22.07.2017 | Prof C.A. Murthy  Machine Intelligence Unit,  ISI, Kolkata | 83 | PO1, PO4, PO6, PO12, PSO1 |

***Table B.2.1.2a:***

**2016-2017**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Gap** | **Action Taken** | **Date-Month-Year** | **Resource Person with Designation** | **% of students** | **Relevance to POs, PSOs** |
| 1 | Environment and Sustainability | Walkathon-SAVE ENVIRONMENT | 27.03.2017 | Sri A.Sambasiva Reddy | 100 | PO6, PO7 |
| 2 | Life Long Learning | Python Programming | 17.03.2017 & 18.03.2017 | Mr. Sasidhar Donaparthi,  Senior Manager and Software Engineer, Fidelity Investments, Bengaluru | 100 | PO1, PO2, PO3,PO12, PSO1, PSO2 |
| 3 | Life Long Learning | Online Sequential Learning Algorithm with Applications to Signal Processing and Control | 05.10.2016 | Dr. Joshi K George,  PSG Institute of Technology,  Bengaluru | 100 | PO1, PO3, PO12, PSO3 |
| 4 | Life Long Learning | Data Modeling, Analysis and Visualization | 14.09.2016 & 15.09.2016 | Dr. V. Pattabiraman & Mr. R. Ramesh, VIT, Chennai | 91 | PO1,PO2, PO3, PO5, PO12, PSO1 |
| 5 | Life Long Learning | Network Setup, Web Hosting & Administration | 18.08.2016 & 19.08.2016 | Mr. Praneel Kumar  Asst. Prof, Dept. of CSE, SRIT  & Mr. Y. Ramesh,  Asst. Prof, Dept. of CSE, SRIT | 73 | PO1, PO3, PO5, PO12, PSO3 |

***Table B.2.1.2b:***

**2015-2016**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Gap** | **Action Taken** | **Date-Month-Year** | **Resource Person with Designation** | **% of students** | **Relevance to POs, PSOs** |
| 1 | Project Management and Finance | Web App Expo | 28/03/2016 | Mr P.Praneel Kumar, Asst. Prof, SRIT & M.Sreenivasulu  (Alumni of SRIT) | 90 | PO1, PO3, PO5, PO6, PO8, PO9, PO11, PO12, PSO1 |
| 2 | Life Long Learning | Hadoop - Distributed File System | 20/02/2016 | Ms. T. Gowthami,  Module Leader,  MindTree Ltd,  Bangalore. | 45 | PO1, PO5, PO12, PSO1 |
| 3 | Environment and Sustainability | Green Computing | 28/02/2016 | P.Veera Prakash | 100 | PO6, PO7 |
| 4 | Project Management and Finance | Web Designing Tools | 13/02/2016 | Mr P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu (Alumni of SRIT) | 97 | PO1, PO5, PO8, PO12, PSO1 |
| 5 | Project Management and Finance | Android App Development | 22/03/2016 | D. Riyaz Ahammad,  Senior Software Engineer,  Capgemini India Pvt. Ltd,Pune,India. | 56 | PO1, PO5, PO12, PSO1 |
| 6 | Life Long Learning | Introduction to R- Programming | 17/10/2015 | Prof. K. G. Srinivasa,  Senior Professor,  MSRIT,Bangalore. | 78 | PO1, PO5, PO12, PSO1 |
| 7 | Life Long Learning | Big Data Tools & Technologies | 24/08/2015 | Mr. P. Chandra Mohan Reddy, Data Architect, RTL Technologies, Hyderabad | 82 | PO1, PO5, PO12, PSO1 |
| 8 | Project Management and Finance | Python Programming | 26/09/2015 | Mr. Sasidhar Donaparthi, Senior Manager and Software Engineer, Fidelity Investments, Bengaluru | 80 | PO1, PO12, PSO1, PSO2 |

***Table B.2.1.2c:***

**Note:** Please mention in detail whether the Institution has given such inputs and suggestions to the Affiliating University regarding curricular gaps and possible addition of new content/ add-on courses in the curriculum, to bridge the gap and to better attain program outcome(s).

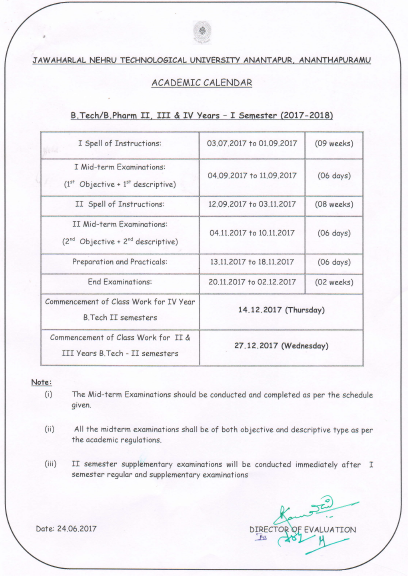
##### **2.2 Teaching - Learning Processes (100)**

**2.2.1 Describe processes followed to improve quality of Teaching & Learning (25)**

(Processes may include adherence to academic calendar and improving instruction methods using pedagogical initiatives such as real world examples, collaborative learning, quality of laboratory experience with regard to conducting experiments, recording observations, analysis of data etc. encouraging bright students, assisting weak students etc. The implementation details and impact analysis need to be documented)

**2.2.1a: Adherence to Academic calendar:**

Academic calendar is prepared and communicated by the university prior to the beginning of each semester. A sample academic calendar is shown in Figure B.2.2.1a.



***Figure 2.2.1a: University Academic Calendar 2017-18 – Sem-I***

In adherence to university academic calendar the college authorities will provide a department academic calendar as shown in the Table B.2.2.1a.

|  |  |  |  |
| --- | --- | --- | --- |
| **S.NO** | **Activity** | **Last Date** | **Executed Date** |
| **1** | Subject Allocation Process | 27-June-2017 | 27-June-2017 |
| **2** | Time Table Preparation | 30-June-2017 | 31-June-2017 |
| **3** | Commencement of I spell instructions | 03-July-2017 | 03-July-2017 |
| **4** | Course file Preparation & Verification of Course Outcomes | 06-July-2017 | 07-July-2017 |
| **5** | Display of Corse Outcomes in the Class Rooms | 08-July-2017 | 08-July-2017 |
| **6** | Mailing of Course Files along with Course Outcomes | 09-July-2017 | 09-July-2017 |
| **7** | Uploading Finalized Course files in the Website | 15-July-2017 | 16-July-2017 |
| **8** | Feedback on faculty members and Evaluation | 25-Aug-2017 | 25-Aug-2017 |
| **9** | Mid -1 Question Papers Preparation | 27-Aug-2017 | 27-Aug-2017 |
| **10** | Auditing of Question Papers | 29-Aug-2017 | 30-Aug-2017 |
| **11** | Mid Course Survey on Course Outcomes | 30-Aug-2017 | 30-Aug-2017 |
| **12** | Commencement of mid I examinations | 04-Sep-2017 | 04-Sep-2017 |
| **13** | Commencement of II spell of instructions | 12-Sep-2017 | 12-Sep-2017 |
| **14** | Auditing of Answer scripts | 13-Sep-2017 | 14-Sep-2017 |
| **15** | Display of Mid-1 Marks | 16-Sep-2017 | 16-Sep-2017 |
| **16** | Excel Sheet Preparation for Course Outcomes Attainment on Mid - 1 | 17-Sep-2017 | 17-Sep-2017 |
| **17** | Feedback on faculty members | 24-Oct-2017 | 24-Oct-2017 |
| **18** | End Course Survey on Course Outcomes | 25-Oct-2017 | 25-Oct-2017 |
| **19** | Mid -2 Question Papers Preparation | 26-Oct-2017 | 26-Oct-2017 |
| **20** | Auditing of Question Papers and Resubmission | 28-Oct-2017 | 29-Oct-2017 |
| **21** | Commencement of mid II examinations | 04-Nov-2017 | 04-Nov-2017 |
| **22** | Commencement of practical examinations | 13-Nov-2017 | 13-Nov-2017 |
| **18** | Auditing of Answer scripts | 15-Nov-2017 | 16-Nov-2017 |
| **19** | Display of Mid-2 & Consolidated Marks | 16-Nov-2017 | 16-Nov-2017 |
|  | End examinations | 20-Nov-2017 | 20-Nov-2017 |
| **20** | Excel Sheet Preparation for Course Outcomes Attainment on Mid - 2 | 22-Nov-2017 | 22-Nov-2017 |
| **21** | Excel Sheet Preparation for Course Outcomes Attainment on Laboratory Internal Marks | 22-Nov-2017 | 22-Nov-2017 |
| **\*\*\*End of the Semester\*\*\*** | | |  |

***Table 2.2.1a: College Academic Calendar***

**2.2.1b: Use of various instructional methods and pedagogical initiatives**

The following Instructional methods and pedagogical initiatives are followed by the faculty in content delivery.

1. Chalk & Talk

2. ICT Tools (PPT, Videos, E-learning resources)

3. Demonstration (Physical models/Laboratory)

4. Collaborative Learning (Group discussions, mini projects, Brainstorming sessions & Seminars).

5. Assignment & Tutorials.

6. NPTEL lectures, Expert Lectures.

**2.2.1c: Methodologie**s**to support weak students and encourage bright students:**

**Identification of weak and bright students:**

The strengths and weaknesses of students are identified by course coordinators by following the norms given below.

* Performance in the I mid-term semester examinations:
  + Considered as weak students who got <50% marks in the I Mid-term Examination.
  + Considered as bright students who got >80% marks in the I Mid-term Examination.
* Every course coordinator will identify weak & bright students and the following actions are initiated.
* For Weak Students:
  + Conduct of remedial classes.
  + Assignments / Tutorials.
* For Bright Students:
  + Motivate them to appear for GATE and conduct GATE classes.
  + Encourage them to do Mini Projects.
  + Encourage them to participate in student paper contests in other colleges.
  + Training & Placement activities (Communication & Programming skills).

**2.2.1d: Conduct of Experiments & continuous assessment in the laboratory:**

* All laboratories in the Department are well equipped and all experiments as per university curriculum are conducted. In addition one or two additional experiments are also conducted.
* The students are divided into batches of 3 students each to conduct an experiment. Individual systems are provided for each student for simulation experiments.
* The laboratory work is assessed continuously every week as per the rubrics for assessment of laboratory work by the faculty handling the laboratory classes.
* Laboratory manuals are maintained by the department.
* Evaluation of laboratory Courses:
  + JNTU Regulations R09 & R13: 25 marks (Internal) + 50 marks (External)
  + JNTU Regulations R15: 30 marks (Internal) + 70 marks (External)
  + The internal marks of 25 or 30 are evaluated on the basis of day to day performance of the students in the laboratory classes.
  + The external marks of 50 or 70 are evaluated by conducting a university practical examination at the end of the semester.

**2.2.1e:**  **Student feedback of Teaching Learning process and actions taken:**

Student feedback is taken online once in the middle of the semester and the other at the end of the semester on the teaching learning process. The feedback format is as shown in the Table B.2.2.1e.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No** | **Parameters considered in the feedback analysis** | **Excellent** | **Very Good** | **Good** | **Fair** | **Poor** |
| 1 | Teacher coming to the class on time |  |  |  |  |  |
| 2 | Clarity in speaking and audibility |  |  |  |  |  |
| 3 | Blackboard usage by the teacher |  |  |  |  |  |
| 4 | Presentation of the topic with illustrations / Systematic presentation of the topic |  |  |  |  |  |
| 5 | Clarification of doubts |  |  |  |  |  |
| 6 | Maintenance of the discipline in the classroom |  |  |  |  |  |
| 7 | Behaviour of the teacher with the students |  |  |  |  |  |
| 8 | Coverage of syllabus in time by the teacher |  |  |  |  |  |
| 9 | Accessibility of the teacher to the students in the department |  |  |  |  |  |
| 10 | Evaluation of the answer scripts |  |  |  |  |  |

***Table B.2.2.1e: Feedback Format***

* The feedback from the students is analyzed by the HOD and principal
* The faculty is personally motivated by the HOD and Senior faculty towards the improvement in teaching, if any.
* After the feedback, it is analyzed and suggestions are given to the concerned teachers to improve the teaching learning process
* After identifying the specified weaknesses of any particular faculty, the concerned faculty is given suggestions to overcome the identified weaknesses.

**2.2.2 Quality of internal semester Question papers, Assignments and Evaluation (20)**

(Mention the initiatives, implementation details and analysis of learning levels related to quality of semester question papers, assignments and evaluation)

**2.2.2a. Process for internal semester question paper setting and evaluation:**

* As per the university academic regulations, in each theory course, two midterm examinations are to be conducted, one in the middle of the semester (in first 2 units of syllabus) and the other at the end of the semester (in the remaining 3 units of the syllabus).
  + Syllabus for I midterm examination: First 2 units
  + Syllabus for II Midterm examination: Remaining 3 units
* The question paper for midterm examination consists of two parts.
  + **Objective type**: It is having 20 objective type of questions evaluated for 10 marks and of 20 minutes duration.
  + **Descriptive type**: It is having 5 Descriptive type of questions out of which the student has to answer any three questions having 10 marks each and is of 90 minutes duration.
* The marks secured in the mid semester examinations are calculated for a maximum of 30 marks as follows.
  + Mid Marks(30) = Objective(10) + Descriptive(20)
* The descriptive exam is evaluated for 30 and scaled to 20 marks.

**2.2.2b. Process to ensure questions from outcomes/learning levels perspective:**

* The Department has an academic audit committee which will audit the question papers. The committee will ensure the quality of questions, mapping with COs and cognitive levels as per the revised Blooms Taxonomy.
* The committee will suggest the modifications in the question paper if there are any discrepancies.
* The committee will audit valued answer scripts and ensures that there are no mistakes in the evaluation of the midterm answer scripts.

**2.2.2c. Evidence of COs coverage in midterm examination:**

The mapping of questions with COs and cognitive levels in midterm examinations are as indicated in sample mid-term question paper as shown in the Figure B.2.2.2c.



***Figure B.2.2.2c: Sample midterm examination question paper***

**2.2.2d. Quality of Assignment and its relevance to COs:**

* The course coordinator will set 3 to 4 assignments in a semester covering the entire syllabus and Course Outcomes.
* The sample assignments with mapping of COs and cognitive levels are shown in the Table B.2.2.2d.

**Name of the subject:** *Operating Systems*

**Year & Semester:** *III B.Tech, I-Semester*

|  |  |  |  |
| --- | --- | --- | --- |
| **S.NO** | **Assignment Questions** | **CO** | **Cognitive level** |
| 1. | a. Explain the difference between the operating system mainframe computers and personal computers.  b. Explain features of distributed operating system. | C01 | Understand |
| 2. | Consider the process P1,P2, P3, P4, P5 with the burst time given as follows:  Process Burst Time Priority  P1 10 3  P2 1 1  P3 2 3  P4 1 4  P5 5 2  a. Draw the Gantt chart to show the execution of these processes using SJF and priority scheduling algorithms.  b. Check which of the algorithm is having the least average time. | C02 | Apply |
| 3. | Explain different types of thread models in detail. | C03 | Understand |
| 4. | a. Consider the following segment table  Segment Base Length  0 219 600  1 2300 14  2 90 100  3 1327 580  4 1952 96  b. Suppose that the system is in unsafe state show that it is possible for the process to complete their execution without entering into deadlock state. | C04 | Apply |
| 5. | Consider the following page reference string 1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6. How many page faults would occur for the following replacement algorithms assuming 3,4,5 frames. Remember that all frames are initially empty.  1. LRU replacement.  2. FIFO replacement. | C05 | Apply |
| 6. | Explain different system threats in detail. | C06 | Understand |

***Table B.2.2.2d: Sample assignment questions with mapping of COs and Cognitive Levels***

**2.2.3 Quality of student projects (25)**

(Quality of the project is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type(application, product, research, review etc.) and standards. Processes related to project identification, allotment, continuous monitoring, evaluation including demonstration of working prototypes and enhancing the relevance of projects. Mention Implementation details including details of POs and PSOs addressed through the projects with justification)

**2.2.3a. Identification of projects and allocation methodology to faculty members:**

* The students are formed into batches of 4 to 5 students each based on the performance up to B. Tech III Year such that they work as a team effectively with one of them as team leader.
* The Department will indicate the staff members with the broad areas in which they can guide the students for the project work.
* Each batch of students will be allotted to one of the faculty members depending on the broad area in which they intend to do the project.
* The batches of students will interact with the faculty members and discuss about the topics for project work.
* The students will identify 2 or 3 topics for the project referring to e – resources and Journals and meet the faculty members with relevant literature. After discussion, they will finalize the topic for the project work.

**2.2.3b. Types and relevance of the Projects and their contribution towards attainment of POs & PSOs:**

* The list of projects with classification and mapping with POs & PSOs for academic year 2017-18 as shown in the Table B.2.2.3ba.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Title of the Project** | **Type, (Applications, Product, Research, Review)** | **Factors to which it is covered(Environment, Safety, Ethics, Cost, Standards)** | **POs & PSOs to which mapped** |
| 1 | Security With Cloud Revocation Authority | Application | Cost, Ethics, Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 2 | Dimensionality Reduction In Hyperspectral Images | Research | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 3 | Tracing The Location Of Android Mobiles Using GPS And Messaging System | Application | Safety, Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 4 | Mobile Based E-Attendance System | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 5 | CDA Generation And Integration For Health Information Exchange | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 6 | Analysing Customer Behaviour On Yelp Data | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 7 | Bayesian Spam Filtering | Application | Safety, Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 8 | Tavern - Choose Your Homely Environment | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 9 | Student Information System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 10 | Threshold Multi-Authority Access Control System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 11 | Integrated Voice To Text Conversion | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 12 | Bug Reporting And Managing System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 13 | Secure Data In The Clouds | Application | Security, Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 14 | Classification Of Pixels In Hyper Spectral Images | Research | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 15 | Detecting Slowly Increasing Intensity DOS Attacks In Cloud Computing | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 16 | Performance Evaluation Of Routing Protocols For Wireless Networks | Review | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 17 | Handwritten Digit Recognition | Research | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 18 | Big Data Analytics On Cancer Disease | Research | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 19 | IOT Based Crop Recommendation System For Farmers | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 20 | Performance Analysis Of Routing Protocols For Wired Networks | Review | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 21 | Data Lineage In Malicious Environments | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 22 | Easy View | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 23 | Performance Evaluation Of 4-Way Handshaking Protocol In Manets | Review | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 24 | E-Complaint For College | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 25 | Network Capability In Localizing Node Failures Via End-End Path Measurement | Research | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 26 | Employee Leave Management System | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 27 | Information System For A Voluntary Organization | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |
| 28 | Publisher Determined Secure Data System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11,PO12- PSO1 |

***Table B.2.2.3ba: List of projects with POs & PSOs mapping for academic year 2017-18***

* The list of projects with classification and mapping with POs & PSOs for academic year 2016-17 as shown in the Table B.2.2.3bb.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Title of the Project** | **Type, (Applications, Product, Research, Review)** | **Factors to which it is covered(Environment, Safety, Ethics, Cost, Standards)** | **POs & PSOs to which mapped** |
| 1 | Online Rural Development Trust Application | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 2 | Interlinking Educational Details Through Aadhar Card | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 3 | Displaying Attendance Through Dashboards | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 4 | Data Visualization Using Shiny App In R | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 5 | Generating A Survey Report For Designing Standard Curriculum | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 6 | Automation Of Course Outcomes Attainment | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 7 | Online Student Counselling Management System | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 8 | Platform For Project Works | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 9 | Lack Of Sustainability In The Appointment Of Faculty | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 10 | Standard Specialized Hospitals Across India | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 11 | Online B-Quota Seat Allotment | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 12 | Smart Parking Booking System | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 13 | Crime File Management System | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 14 | Text Expander | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 15 | Advanced Chat Application | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 16 | Toll Plaza Payment System | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 17 | One Point Student/Faculty Details Verification Through Functional Application Software | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 18 | Hangout Halt | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 19 | Virtual Blood Bank | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 20 | Sparkling Stars School | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 21 | SRIT-E-Wallet | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 22 | College Dashboard For Uge | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 23 | Secure Data sharing In Cloud Groups | Research | Ethics, Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 24 | Online Assessment System | Application | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 25 | Stealthy Denial Of Service Strategy In Cloud Computing | Research | Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |
| 26 | Towards Effective Bug TR Using Software Data Reduction Techwares | Research | Ethics, Standards | PO1,PO2,PO3,PO5,PO9, PO11, PO12- PSO1 |

***Table B.2.2.3bb: List of projects with POs & PSOs mapping for academic year 2016-17***

* The list of projects with classification and mapping with POs & PSOs for academic year 2015-16 as shown in the Table B.2.2.3bc.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Title of the Project** | **Type, (Applications, Product, Research, Review)** | **Factors to which it is covered (Environment, Safety, Ethics, Cost, Standards)** | **POs & PSOs to which mapped** |
| 1 | Smart Travel | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 2 | Spruce Agronomy | Application | Environment | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 3 | Quick Master | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 4 | Online Bus Management System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 5 | Tic-Tac Toe Game Development Using Python | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 6 | Find Your Land | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 7 | Health Web | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 8 | Smart Anantha | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 9 | Law Management System | Application | Ethics | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 10 | Laboratory Examination System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 11 | Online Hostel Management System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 12 | Catch The Zero Be A Hero | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 13 | Grievance Cell Automation System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 14 | News Letter Generating System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 15 | Library Management System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 16 | Voting System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 17 | Gaussian Weighted K-Nearest Neighbour Classifier | Research | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 18 | On Stream Hiring | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 19 | Loan Management System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 20 | Time Table Management System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 21 | Web Design For Programmers Club | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 22 | Safety Companion | Application | Safety, Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 23 | Automated Gatepass Management | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 24 | Online Student Feedback System | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 25 | Bookshop Automation System | Application | Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 26 | Online Examination System | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 27 | Filtering Of Unwanted Words From Messages | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |
| 28 | Mobile Application For Attendance Management | Application | Ethics, Standards | PO1,PO2,PO3,PO5,PO9,PO11, PO12- PSO1 |

***Table B.2.2.3bc: List of projects with POs & PSOs mapping for academic year 2015-16***

**2.2.3c. Continuous Monitoring mechanism and Evaluation:**

* **Continuous monitoring:**
  + The schedule for project work is prepared and communicated to the students well in advance.
  + The students will prepare an abstract of the proposed project work. They will present the abstract to the project review committee and after discussion finalize the plan of action for executing the project work.
  + The progress of the project work is continuously monitored by conducting 2 or 3 project reviews at regular intervals, by project review committee having 2 or 3 senior faculty members and project supervisor of the respective batch.
* **Evaluation**:
  + The project work is evaluated for 200 marks out of which 60 marks for internal evaluation and 140 marks for university examination conducted by a panel of examiners consisting of an external examiner appointed by university, Head of the Department and project supervisor of the respective batch.
  + **Internal Evaluation**: The Internal marks are awarded based on the performance of the students in the project reviews conducted periodically following the rubrics formulated by the college authorities. The project review committee will evaluate and finalize the internal marks of the candidates for a maximum of 60 marks.
  + **External Evaluation**: The University will appoint an external examiner for the conduct of Project work viva voce examination. The panel of examiners consisting of the external examiner appointed by the university, Head of the Department and project supervisor of the batch of students will evaluate the performance and award the marks for project work for a maximum of 140 marks.

**2.2.3d. Process to assess individual and Team performance:**

* The rubrics which are used to assess the individual & team performance of the students in the project batches are shown in the Table B.2.2.3d.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria**  **for evaluation** | **Very good**  **(9-10)** | **Good**  **(7-8)** | **Fair**  **( 5-6)** | **Poor**  **(3-4)** |
| Problem Definition | Has investigated problem domain extensively | Problem Domain well understood, Clear and Specific description of problem, relevance well identified | Moderately awareness of Domain, clear discretion, broad idea about relevance to current technical context | Minimal awareness of problem domain, Vague description, little idea about relevance to current technical context |
| Planning | Precise time schedule & Correct Planning | Precise time schedule & Incorrect Planning | Inappropriate schedule & Planning | No time schedule & No Planning |
| Literature Survey | Has read  3 reputed journal papers OR 5 conference papers AND 2 books in the area of project | Has read  2 reputed journal papers OR 4 conference papers AND 2 books in the area of project | Has read 1  Journal paper OR 3 conference papers AND 2 books in the area of project | Minimal, Mostly from general sources without focus of study |
| Implementation | Completely Implemented with proper modules/models | Significantly Implemented with proper modules/models | Partially Implemented with proper modules/models | Not properly implemented & Incomplete modules/models |
| Modern Tool Usage | Very Effectively Employed modern tools in the execution of project knowing their limitations | Effectively Employed modern tools in execution of the project | Employed modern tools in the execution of the project without knowing the limitations | Not effectually employed modern tools in the execution of the project |
| Team Work | Very effective working as a team in completing in the project | Effective working as a team in completing the project | Working satisfactorily as a team in completing the project | Very little understanding with team members in completing the project |
| Ethics | Scrupulously followed ethical principles in the execution of the project | followed  ethical principles in the execution of the project | followed ethical principles to some extent in the execution of the project | Not aware of the ethical practices to be followed in the execution of the project |
| Results & Conclusions | Meets all the requirements with optimized solution | Meets all the requirements but not optimized solution | Partially Meets all the requirements and not optimized solution | Doesn’t meet all the requirements and improper results |
| Self Learning | Very effectually executed project with clear understanding of the background | Effectually executed project with clear understanding of the background | executed project with little understanding of the background | Executed the project Mechanically with no understanding of the background |
| Report Writing | Excellent Organization, No technical or grammar errors, concise & precise documentation | Good Organization, No technical or grammar errors, concise & precise but incomplete documentation | Average Organization, Some technical or grammar errors, concise & precise but incomplete documentation | Poor Organization, Poor clarity and errors in grammar |

***Table B.2.2.3d: Rubrics for evaluation of Project work***

**2.2.3e. Quality of completed projects**:

The quality of completed projects and best projects are assessed based on the following factors:

1. Any Paper published in a Journal / Conference
2. Real Time practical applications
3. Cost effective methods suggested
4. Effect on Environmental conditions
5. Based on the Report of external examiner on the quality of the project
6. Award / prize won in any project exhibition or demonstration

**2.2.3f. Papers published/Awards Received for the projects**:

The lists of best projects identified are shown in the Table B.2.2.3f.

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Title of the project** | **Achievement** | **Academic Year** |
| 1. | Dimensionality Reduction In Hyperspectral Images | Best Project-I | 2017-2018 |
| 2. | Handwritten Digit Recognition | Best Project-II | 2017-2018 |
| 3. | Online Rural Development Trust Application | Best Project-I | 2016-2017 |
| 4. | Text Expander | Best Project-II | 2016-2017 |
| 5. | Automated Gatepass Management | Best Project-I | 2015-2016 |
| 6. | Smart Travel | Best Project-II | 2015-2016 |

**Table B.2.2.3f: List of Projects which received awards**

**2.2.4 Initiative related to industry interaction (15)**

(Give details of the industry involvement in the program such as industry-attached laboratories, partial delivery of appropriate courses by industry experts etc. Mention the initiatives, implementation details and impact analysis)

**2.2.4a. Industry Supported Laboratories:**

The industry supported laboratories are indicated as shown in the Table B.2.2.4a.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No** | **Name Of The Laboratory** | **Type of Industry** | **Company Name** | **Objectives** |
| 1. | Application Development Laboratory | Application Development | techEmbark | Development of Android Apps using JAVA ADT |
| 2. | CM's - Skill Excellence Centre | Android Development | APSSDC | Development of Android Apps |

**Table B.2.2.4a: Industry Supported Laboratories**

**2.2.4b. Partial Delivery of Courses by Industry Experts:**

The guest lecturers delivered by industry experts during 2015-16 to 2017-18 as shown in the Table B.2.2.4b.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Date** | **Name of the Program** | **Resource Person** | **Company** | **Academic Year** |
| 1. | 08.03.2018 to  10.03.2018 | Python Programming | Mr. Shaik Bahadulla and Ms. Shaik Basiha,  Python Programming Trainers. | APSSDC | 2017-2018 |
| 2. | 08.01.2018 to 10.01.2018 | Android Developer Fundamentals (Phase – II) | Ms. P. Prabhu Sandhya,  Google Certified- Associate Android Developer, Android Trainer. | APSSDC | 2017-2018 |
| Ms. K. Bhavya,  Android Trainer. |
| Mr. B. Siva Prasad,  Android Trainer |
| Mr. U. Venkatesh  Android Trainer |
| 3. | 16.10.2017 to 18.10.2017 | Oracle Database | Mr. P. Bala Srinivasa Raju,  Associate and Technical Trainer | APITA | 2017-2018 |
| 4. | 03.10.2017 to 05.10.2017 | Android Developer Fundamentals (Phase – I) | Ms. P. Prabhu Sandhya,  Google Certified- Associate Android Developer, Android Trainer. | APSSDC | 2017-2018 |
| Ms. K. Bhavya,  Android Trainer. |
| Mr. B. Siva Prasad,  Android Trainer |
| 5. | 28.07.2017 to 30.07.2017 | Hadoop Basics and Advanced | Mr. Swayam Prakash,  Head of Data Analytics. | DotWeb Technologies, Hyderabad | 2017-2018 |
| **6.** | 17.03.2017 & 18.03.2017 | Python Programming | Mr. Sasidhar Donaparthi, Senior Manager and Software Engineer | Fidelity Investments, Bangalore | 2016-2017 |
| 7. | 26.09.2015 to 27.09.2015 | Python Programming | Mr. Sasidhar Donaparthi, Senior Manager and Software Engineer | Fidelity Investments, Bangalore | 2015-2016 |
| 8. | 24.8.2015 | Big Data Tools & Technologies | Mr. P.Chandra Mohan Reddy, Data Architect | RTL Technologies, Hyderabad | 2015-2016 |
| 9. | 22.04.2016 | Effective Communication Skills | Prof. M L Sai Kumar, Former Dean | Institute of Public Enterprise | 2015-2016 |

***Table B.2.2.4b: Guest lectures by Industry Experts***

**2.2.5 Initiatives related to industry internship/summer training (15)**

(Mention the initiatives, implementation details and impact analysis)

**2.2.5a. Industrials Visits:**

The industrial visits arranged for the students during 2015-2016 to 2017-2018 are shown in the Table B.2.2.5a.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Date** | **Name of the Company Visited** | **Class** | **Academic Year** |
| **1.** | 10-Jan-2018 | DSquare Tech Labs, Bangalore | III-II Sem | 2017-2018 |
| **2.** | 28-Jan-2016 | TCS, Bangalore | III-II Sem | 2016-2017 |
| **3.** | 21-Jan-2015 | I Square Software | III-II Sem | 2015-2016 |

***Table B.2.2.5a: Industrial visits***

**2.2.5b. Industrial/Internship/summer Training for students:**

The industrial /Internship/summer Training during 2015-2016 to 2017-2018 are shown in the Table B.2.2.5b.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Name Of The Organization** | **No. of Students** | **Training Type** | **Academic Year** |
| 1. | D Square Tech labs | 6 | Developer | 2017-2018 |
| 2. | Sunshine creations & Management | 4 | Developer | 2016-2017 |
| 3. | D Square Tech labs | 5 | Developer | 2015-2016 |
| 6 | APSSDC | 25 | Summer Training | 2017-2018 |
| 7 | APSSDC | 30 | Summer Training | 2016-2017 |
| 8 | APSSDC | 30 | Summer Training | 2015-2016 |

**Table B.2.2.5b: Industrial/Internship/Summer Training during 2015-2016 to 2017-2018**

|  |  |  |
| --- | --- | --- |
| **CRITERION 3** | **Course Outcomes and Program Outcomes** | **120** |

1. **COURSE OUTCOMES AND PROGRAM OUTCOMES (120)**
   1. **Establish the correlation between the courses and the Program Outcomes (Pos) and Program Specific Outcomes (PSOs) (20)**

(Program Outcomes as mentioned in Annexure I and Program Specific Outcomes as defined by the Program)

|  |  |
| --- | --- |
| **PSO1** | Design, implement, and test application software systems for desktop, web, and mobile platforms to meet the specified requirements. |
| **PSO2** | Use effectively and efficiently the functionality of systems software for building applications. |
| **PSO3** | Understand the organization and architecture of Computer Systems, Embedded Systems, and Networked Systems. |

1. **Course Outcomes (COs) (SAR should include course outcomes of one course from each semester of study, however, should be prepared for all courses and made available as evidence, if asked) (05)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Name: C204 Year of Study: 2015-16** | | | |
| **C204.1** | Describe the abstract data types such as linked lists, stacks, queues using Object-oriented design principles, their applications. | | |
| **C204.2** | Discuss the implementation of sorting algorithms such as quick sort, merge sort, insertion, heap sort using recursive and non-recursive methods. | | |
| **C204.3** | Discuss the iterative and recursive procedures for implementation of operations, different binary tree traversals and binary search tree operations. | | |
| **C204.4** | Describe the elementary operations on Graph ADT, Dictionaries, their representations, Hashing representation, types of Hashing. | | |
| **C204.5** | Discuss single, double ended priority queues, Linear Lists, Heaps, Binomial heaps, Fibonacci , pairing Heaps , their applications. | | |
| **C204.6** | Discuss optimal binary search trees, AVL trees, Red-Black Trees, Splay trees, Multiway search trees such as m-way , B-trees, B+ - trees. | | |
| **Course Name: C214 Year of Study: 2015-16** | | | |
| **C214.1** | Understand asymptotic notations and determine the time and space complexities of a given algorithm. | | |
| **C214.2** | Apply Divide-and-Conquer algorithm design approach to solve the problems like binary search, finding maximum and minimum, sorting and matrix multiplication. | | |
| **C214.3** | Apply Greedy and Dynamic Programming Techniques to solve the optimization problems such as Knapsack problem, Job scheduling, Travelling sales person, Shortest path, Optimal Binary Search Trees. | | |
| **C214.4** | Apply basic tree traversal, graph traversal techniques and find spanning trees in a given graph. | | |
| **C214.5** | Apply Back tracking technique to solve the problems like 8-queens, sum of subsets, Graph colouring, finding Hamiltonian Cycle in a connected graph and Knapsack problem. | | |
| **C214.6** | Apply Branch and Bound design technique to solve traveling sales person problem, Knapsack problem and study the categorization of computing problems into NP-hard and NP-complete. | | |
| **Course Name: C301 Year of Study: 2016-17** | | | |
| **C301.1** | | Understanding operating system operations, structure of operating systems, system calls. | |
| **C301.2** | | List various operations on processes, discuss inter process communication including process scheduling. | |
| **C301.3** | | Differentiate performance of process scheduling algorithms, produce algorithmic solutions to process synchronization problems, illustrate multithreading. | |
| **C301.4** | | Illustrate concepts of memory management including virtual memory, deadlocks. | |
| **C301.5** | | Solve the issues related to file system interface and implementation, disk management. | |
| **C301.6** | | Explain protection and security. | |
| **Course Name: C310 Year of Study: 2016-17** | | | |
| **C310.1** | Understand the concepts of Networks, Basics of Internet Standards and Network models. | | |
| **C310.2** | Describe the transmission media categories, switching techniques and network measurement. | | |
| **C310.3** | Describe the functions, Protocols, specifications and design issues of the Data link layer to establish communication. | | |
| **C310.4** | Compute the shortest path using adaptive and non-adaptive routing algorithms, removing the congestion, improving the quality of service and Internetworking. | | |
| **C310.5** | Describe the transport layer protocols. | | |
| **C310.6** | Describe the application layer protocols. | | |
| **Course Name: C405 Year of Study: 2017-18** | | | |
| **C405.1** | | Understand the basic concepts, importance, benefits, history of screen design and to explain popularity, concept of direct manipulation, graphical systems and its characteristics. | |
| **C405.2** | | Analyze how people interact with computers and recognize the importance of human characteristics, interaction speeds, business functions in requirements gathering. | |
| **C405.3** | | Understand the process of screen designing using design goals and to apply the process of information retrieval on web. | |
| **C405.4** | | Explain the Structures, Functions of menus and understand how to manage Windows | |
| **C405.5** | | Analyze the characteristics of device based controls and entry/selection controls. | |
| **C405.6** | | Apply the Graphics such as Icons, Multimedia, colour, human vision and testing. | |
| **Course Name: C411 Year of Study: 2017-18** | | | |
| **C411.1** | | | Describe fundamentals of Python programming and its applications. |
| **C411.2** | | | Implement Python programs using data types, Operators and Control statements. |
| **C411.3** | | | Determine python data structures and its operations for accessing data. |
| **C411.4** | | | Carry out modular programming using functions, modules and packages. |
| **C411.5** | | | Describe the usage of OOPs concepts in Python Programming. |
| **C411.6** | | | Represent the Standard Libraries for Interfaces and fundamentals of testing. |

***Table B.3.1.1:***

1. **CO-PO matrices of courses selected in 3.1.1 (six matrices to be mentioned; one per semester from 3rd to 8th semester) (05)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Name: C204 Year of Study: 2015-16** | | | | | | | | | | | | | | | | | | | |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | | **PO8** | | **PO9** | | **PO10** | | **PO11** | | **PO12** | | |
| **C204.1** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | - | | |
| **C204.2** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | - | | |
| **C204.3** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | - | | |
| **C204.4** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | - | | |
| **C204.5** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | - | | |
| **C204.6** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | - | | |
| C204 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| **Course Name: C214 Year of Study: 2015-16** | | | | | | | | | | | | | | | | | | | | |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | | **PO8** | | **PO9** | | **PO10** | | **PO11** | | | **PO12** | | |
| **C214.1** | 1 | - | 3 | 3 | - | - | - | | - | | - | | - | | - | | | - | | |
| **C214.2** | - | - | 3 | 3 | - | - | - | | - | | - | | - | | - | | | - | | |
| **C214.3** | - | - | 3 | 3 | - | - | - | | - | | - | | - | | - | | | - | | |
| **C214.4** | - | - | 3 | 3 | - | - | - | | - | | - | | - | | - | | | - | | |
| **C214.5** | - | - | 3 | 3 | - | - | - | | - | | - | | - | | - | | | - | | |
| **C214.6** | - | - | 3 | 3 | - | - | - | | - | | - | | - | | - | | | - | | |
| C214 | 1 | 0 | 3 | 3 | 0 | 0 | 0 | | 0 | | 0 | | 0 | | 0 | | | 0 | | |
| **Course Name: C301 Year of Study: 2016-17** | | | | | | | | | | | | | | | | | | | | |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | | **PO8** | | **PO9** | | **PO10** | | **PO11** | | | **PO12** | | |
| **C301.1** | 3 | 3 | - | - | - | - | - | | - | | - | | - | | - | | | - | | |
| **C301.2** | 3 | 3 | - | - | - | - | - | | - | | - | | - | | - | | | - | | |
| **C301.3** | 3 | 3 | - | - | - | - | - | | - | | - | | - | | - | | | - | | |
| **C301.4** | 3 | 3 | - | - | - | - | - | | - | | - | | - | | - | | | - | | |
| **C301.5** | 3 | 3 | - | - | - | - | - | | - | | - | | - | | - | | | - | | |
| **C301.6** | 3 | 3 | - | - | - | - | - | | - | | - | | - | | - | | | - | | |
| C301 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | | 0 | | 0 | | 0 | | 0 | | | 0 | | |
| **Course Name: C310 Year of Study: 2016-17** | | | | | | | | | | | | | | | | | | | | |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | | **PO7** | | **PO8** | | **PO9** | | **PO10** | | **PO11** | | | **PO12** | |
| **C310.1** | 3 | - | - | - | - | - | | - | | - | | - | | - | | - | | | - | |
| **C310.2** | 3 | 3 | - | - | - | - | | - | | - | | - | | - | | - | | | - | |
| **C310.3** | 3 | 3 | - | - | - | - | | - | | - | | - | | - | | - | | | - | |
| **C310.4** | 3 | 3 | - | - | - | - | | - | | - | | - | | - | | - | | | - | |
| **C310.5** | 3 | 3 | - | - | - | - | | - | | - | | - | | - | | - | | | - | |
| **C310.6** | 3 | 3 | - | - | - | - | | - | | - | | - | | - | | - | | | - | |
| C310 | 3 | 3 | 0 | 0 | 0 | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | 0 | |
| **Course Name: C405 Year of Study: 2017-18** | | | | | | | | | | | | | | | | | | | | | |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | | **PO8** | | **PO9** | | **PO10** | | **PO11** | | | **PO12** | | | |
| **C405.1** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | | - | | | |
| **C405.2** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | | - | | | |
| **C405.3** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | | - | | | |
| **C405.4** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | | - | | | |
| **C405.5** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | | - | | | |
| **C405.6** | 3 | - | 3 | - | - | - | - | | - | | - | | - | | - | | | - | | | |
| C405 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | | 0 | | 0 | | 0 | | 0 | | | 0 | | | |
| **Course Name: C411 Year of Study: 2017-18** | | | | | | | | | | | | | | | | | | | | |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | | **PO8** | | **PO9** | | **PO10** | | **PO11** | | | **PO12** | | |
| **C411.1** | 3 | - | - | - | 3 | - | - | | - | | - | | - | | - | | | - | | |
| **C411.2** | 3 | - | - | - | 3 | - | - | | - | | - | | - | | - | | | - | | |
| **C411.3** | 3 | - | - | - | 3 | - | - | | - | | - | | - | | - | | | - | | |
| **C411.4** | 3 | - | - | - | 3 | - | - | | - | | - | | - | | - | | | - | | |
| **C411.5** | 3 | - | - | - | 3 | - | - | | - | | - | | - | | - | | | - | | |
| **C411.6** | 3 | - | - | - | 3 | - | - | | - | | - | | - | | - | | | - | | |
| C411 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | | 0 | | 0 | | 0 | | 0 | | | 0 | | |

***Table B.3.1.2:***

**Note:** Enter correlation level s1, 2 or 3 as defined below :

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

If there is no correlation, put *“-”*

**3.1.2.1. CO-PSO matrices of courses selected in 3.1.1 (six matrices to be mentioned; one per semester from 3rd to 8th semester)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Name: C204 Year of Study: 2015-16** | | | | | | | | | | | | | | | |
| **Course** | | | | | **PSO1** | | | | | **PSO2** | | | | | **PSO3** |
| **C204.1** | | | | | 3 | | | | | - | | | | | - |
| **C204.2** | | | | | 3 | | | | | - | | | | | - |
| **C204.3** | | | | | 3 | | | | | - | | | | | - |
| **C204.4** | | | | | 3 | | | | | - | | | | | - |
| **C204.5** | | | | | 3 | | | | | - | | | | | - |
| **C204.6** | | | | | 3 | | | | | - | | | | | - |
| **Average** | | | | | 3 | | | | | - | | | | | - |
| **Course Name: C214 Year of Study: 2015-16** | | | | | | | | | | | | | | | |
| **Course** | **PSO1** | | | | | **PSO2** | | | | | **PSO3** | | | | |
| **C214.1** | - | | | | | 3 | | | | | 3 | | | | |
| **C214.2** | - | | | | | 3 | | | | | 3 | | | | |
| **C214.3** | - | | | | | 3 | | | | | 3 | | | | |
| **C214.4** | - | | | | | 3 | | | | | 3 | | | | |
| **C214.5** | - | | | | | 3 | | | | | 3 | | | | |
| **C214.6** | - | | | | | 3 | | | | | 3 | | | | |
| **Average** | - | | | | | 3 | | | | | 3 | | | | |
| **Course Name: C301 Year of Study: 2016-17** | | | | | | | | | | | | | | | |
| **Course** | | **PSO1** | | | | | **PSO2** | | | | | **PSO3** | | | |
| **C301.1** | | - | | | | | 3 | | | | | - | | | |
| **C301.2** | | - | | | | | 3 | | | | | - | | | |
| **C301.3** | | - | | | | | 3 | | | | | - | | | |
| **C301.4** | | - | | | | | 3 | | | | | - | | | |
| **C301.5** | | - | | | | | 3 | | | | | - | | | |
| **C301.6** | | - | | | | | 3 | | | | | - | | | |
| **Average** | | - | | | | | 3 | | | | | - | | | |
| **Course Name: C310 Year of Study: 2016-17** | | | | | | | | | | | | | | | |
| **Course** | | | **PSO1** | | | | | **PSO2** | | | | | **PSO3** | | |
| **C310.1** | | | - | | | | | - | | | | | 3 | | |
| **C310.2** | | | - | | | | | - | | | | | 3 | | |
| **C310.3** | | | - | | | | | - | | | | | 3 | | |
| **C310.4** | | | - | | | | | - | | | | | 3 | | |
| **C310.5** | | | - | | | | | - | | | | | 3 | | |
| **C310.6** | | | - | | | | | - | | | | | 3 | | |
| **Average** | | | - | | | | | - | | | | | 3 | | |
| **Course Name: C405 Year of Study: 2017-18** | | | | | | | | | | | | | | | |
| **Course** | | | | **PSO1** | | | | | **PSO2** | | | | | **PSO3** | |
| **C405.1** | | | | 3 | | | | | - | | | | | - | |
| **C405.2** | | | | 3 | | | | | - | | | | | - | |
| **C405.3** | | | | 3 | | | | | - | | | | | - | |
| **C405.4** | | | | 3 | | | | | - | | | | | - | |
| **C405.5** | | | | 3 | | | | | - | | | | | - | |
| **C405.6** | | | | 3 | | | | | - | | | | | - | |
| **Average** | | | | 3 | | | | | - | | | | | - | |
| **Course Name: C411 Year of Study: 2017-18** | | | | | | | | | | | | | | | |
| **Course** | | | | **PSO1** | | | | | **PSO2** | | | | | **PSO3** | |
| **C411.1** | | | | 3 | | | | | - | | | | | - | |
| **C411.2** | | | | 3 | | | | | - | | | | | - | |
| **C411.3** | | | | 3 | | | | | - | | | | | - | |
| **C411.4** | | | | 3 | | | | | - | | | | | - | |
| **C411.5** | | | | 3 | | | | | - | | | | | - | |
| **C411.6** | | | | 3 | | | | | - | | | | | - | |
| **Average** | | | | 3 | | | | | - | | | | | - | |

***Table B.3.1.2.1:***

**3.1.3. Program Level Course PO‘s matrix of all the Courses including First Year Courses (10)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| C101  (Communicative English) | - | - | - | - | - | - | - | - | - | 3 | - | - |
| C102  (Engineering Physics) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C103  (Engineering Chemistry) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C104  (Mathematics- I) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C105  (Problem Solving & Computer  Programming) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C106  (Mathematics-II) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C107  (Basic Electrical & Electronics  Engineering) | 3 | 1 | - | - | - | - | - | - | - | - | - | - |
| C108  (Computer Programming Lab) | 3 | - | - |  | - | - | - | - |  | 3 | - | - |
| C109  (Engg. Physics & Engg. Chemistry Lab | 3 | - | - | 3 | - | - | - | - | 2 | 3 | - | - |
| C110  (Engineering & I.T. Work Shop) | 3 | - | - | - | - | - | - | - |  | 3 | - | - |
| C111  (English Language Communication Skills Lab) | - | - | - | - | - | - | - | - | 2 | 3 | - | - |
| C201  (Engineering Graphics) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C202  (Probability and Statistics) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C203  (Environmental Science) | 3 | - | - | - | - | 2 | 2 | - | - | - | - | - |
| C204  (Data Structures) | 3 |  | 3 | - | - | - | - | - | - | - | - | - |
| C205  (Digital Logic Design) | 3 | 3 | 3 | - | - | - | - | - | - | - | - | - |
| C206  (Discrete Mathematics) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C207(Electrical and Electronics Lab) | 3 | 1 | - | - | 3 | - | - | - | - | 3 | - | - |
| C208  (Data Structures Lab) | 3 | - | 3 | - | 3 | - | - | - | - | - | - | - |
| C209  (Computer Organization&  Architecture) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C210  (Database Management Systems) | 1 | - | 1 | 1 | 3 | - | - | 1 | - | - | - | - |
| C211  (Java Programming) | 3 |  | 3 | - | - | - | - | - | - | - | - | - |
| C212  (Formal Languages and Automata Theory) | 1 | 3 | 2 | 1 | - | - | - | - | - | - | - | - |
| C213  (Principles Of Programming Languages) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C214  (Design And Analysis Of Algorithms) | 1 | - | 3 | 3 | - | - | - | - | - | - | - | - |
| C215  (Database Management Systems Lab) | 1 | 1 | 3 | - | 1 | - | - | - | - | - | - | - |
| C216  (Java Programming Lab) | 3 | - | 3 | - | 3 | - | - | - | - | 1 | - | 1 |
| C217  (Human Values & Professional Ethics) | - | - | - | - | - | - | - | 3 | 3 | - | - | - |
| C301  (Operating Systems) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C302  (Complier Design) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C303  (Unix and Shell Programming) | 2 | - | 2 | - | 3 | - | - | - | - | - | - | - |
| C304  (Software Engineering) |  | - | 2 | - |  | 1 |  | 1 | - | - | 1 | - |
| C305  (Micro Processors & Interfacing) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C306  (Managerial Economics and  Financial Analysis) | 1 | - | - | - | - | 1 |  | 1 | - | - | 2 |  |
| C307  (Operating Systems Lab) | 3 | 3 | 2 | - | - | - | - | - | - | - | - | - |
| C308  (Compiler Design and Assembly  Language Programming Lab) | 3 |  | 2 |  | 3 | - | - | - | - | - | - | - |
| C309  (Advanced English language  Comm. Skills Lab ) | - | - | - | - | - | - | - | - | - | 3 | - | - |
| C310  (Computer Networks) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C311  (Object Oriented Analysis  Design & Modeling) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C312  (Data Mining) | - | 1 | 3 | 2 |  | 3 | - | - | - | - | - | - |
| C313  (Web Technologies) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C314  (Software Testing Methodologies) | 3 | - | - | - | 2 | - | - | - | - | - | - | - |
| C315  (Big Data Technologies) | 3 | - | 2 | - | 1 | - | - | - | - | - | - | - |
| C316  (Unified Modeling Language & Testing Lab) | 3 | - | 3 | - | 3 | - | - | - | - | - | - | - |
| C317  (Web Technologies and Data Mining Lab) | - | - | 3 | 2 | - | 2 | - | - | - | - | - | - |
| C401  (Software Architecture and Design Patterns) | 1 | - | 3 | - | - | - | - | - | - | - | - | - |
| C402  (Cryptography & Network Security) | 3 | 3 | 1 | - | 1 | - | - | - | - | - | - | - |
| C403  (Mobile Application Development) | 3 | - | 3 | - | 3 | - | - | - | - | - | - | - |
| C404  (Management Science) | 1 | - |  | - | - | - |  | 3 | 2 |  | 1 |  |
| C405  (Human Computer Interaction) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C406  (Information Retrieval Systems) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C407  (Cryptography & Network Security Lab) | 3 | - | 2 | - | 2 | - | - | - | - | - | - | - |
| C408  (Mobile Application Development Lab) | 3 | - | - | - | 2 | - | - | - | - | - | - | - |
| C409   |  | | --- | | (Mobile Computing) | | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C410   |  | | --- | | (Real Time Systems) | | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C411   |  | | --- | | (Python Programming) | | 3 | - | - | - | 3 | - | - | - | - | - | - | - |
| C412  (Technical Seminar) | 3 | - | - | - |  | - | - | - | 2 | 3 | - | - |
| C413  (Project Work) | 2 | 3 | 2 | - | 3 | - | 3 | 3 | 3 | 3 | 2 | 2 |

***Table B.3.1.3:***

**3.1.3.1. Program Level Course PSO’s matrix of all the Courses including First Year Courses**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course** | **PSO1** | **PSO2** | **PSO3** |
| C101  (Communicative English) | - | - | - |
| C102  (Engineering Physics) | - | - | - |
| C103  (Engineering Chemistry) | - | - | - |
| C104  (Mathematics- I) | 2 | - | - |
| C105  (Problem Solving & Computer  Programming) | 3 | - | - |
| C106  (Mathematics-II) | 2 | - | - |
| C107  (Basic Electrical & Electronics  Engineering) | - | - | - |
| C108  (Computer Programming Lab) | 3 | - | - |
| C109  (Engg. Physics & Engg. Chemistry Lab | - | - | - |
| C110  (Engineering & I.T. Work shop) | 3 | - | - |
| C111  (English Language Communication Skills Lab) | - | - | - |
| C201  (Engineering Graphics) | - | - | - |
| C202  (Probability and Statistics) | - | - | 2 |
| C203  (Environmental Science) | - | - | - |
| C204  (Data Structures) | 3 | - | - |
| C205  (Digital Logic Design) | - | - | 3 |
| C206  (Discrete Mathematics) | 2 | 3 |  |
| C207(Electrical and Electronics Lab) | - | - | - |
| C208  (Data Structures Lab) | 3 | - |  |
| C209  (Computer Organization &  Architecture) | - | - | 3 |
| C210  (Database Management Systems) | 3 | - | - |
| C211  (Java Programming) | 3 | 3 | - |
| C212  (Formal Languages and Automata Theory) | - | 3 | - |
| C213  (Principles Of Programming Languages) | 3 | - | - |
| C214  (Design And Analysis Of Algorithms) | 3 | 3 | - |
| C215  (Database Management Systems Lab) | 3 | - | - |
| C216  (Java Programming Lab) | 3 | - | - |
| C217  (Human Values & Professional  Ethics) | - | - | - |
| C301  (Operating Systems) | - | 3 | - |
| C302  (Complier Design) | - | 3 | - |
| C303  (Unix and Shell Programming) | - | 3 | - |
| C304  (Software Engineering) | 3 | - |  |
| C305  (Micro Processors & Interfacing) | - | - | 3 |
| C306  (Managerial Economics and  Financial Analysis) | - | - | - |
| C307  (Operating Systems Lab) | - | 3 | - |
| C308  (Compiler Design and Assembly  Language Programming Lab) | - | 2 | 3 |
| C309  (Advanced English language  Comm. Skills Lab ) | - | - | - |
| C310  (Computer Networks) | - | - | 3 |
| C311  (Object Oriented Analysis  Design & Modeling) | 3 | - | - |
| C312  (Data Mining) | 3 | - | - |
| C313  (Web Technologies) | 3 | - | - |
| C314  (Software Testing Methodologies) | 3 | - | - |
| C315  (Big Data Technologies) | 3 | - | - |
| C316  (Unified Modeling Language and  Testing Lab) | 3 | - | - |
| C317  (Web Technologies and Data Mining Lab) | 3 | - | - |
| C401  (Software Architecture and Design Patterns) | 3 | - | - |
| C402  (Cryptography & Network Security) | - | - | 3 |
| C403  (Mobile Application Development) | 3 | - | - |
| C404  (Management Science) | - | - | - |
| C405  (Human Computer Interaction) | 3 | - | - |
| C406  (Information Retrieval Systems) | 3 | - | - |
| C407  (Cryptography & Network Security Lab) | - | - | 3 |
| C408  (Mobile Application Development Lab) | 3 | - | - |
| C409  (Mobile Computing) | - | - | 3 |
| C410  (Real Time Systems) | - | - | 3 |
| C411  (Python Programming) | 3 | - | - |
| C412  (Technical Seminar) | 3 | - | - |
| C413  (Project Work) | 3 | 3 | 2 |

***Table B.3.1.3.1:***

* 1. **Attainment of Course Outcomes(50)**

**3.2.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome is based. (10)**

The course outcomes are formulated for each course using revised Bloom’s Taxonomy and the cognitive levels (Remember, Understand, Apply, Analyze, Evaluate and Create) are identified for each Course outcome.

**To evaluate the attainment of course outcomes the data is gathered from the following assessments:**

a)   Performance of the students in the internal examinations.

b)   Performance of the students in the University examinations.

c)   Performance of the students in the Laboratory examinations.

d)   Performance of the students in the Project work.

e)   Performance of the students in the Seminar.

**For the Theory Subjects:**

**a) Mid examinations:** Two internal examinations are conducted for each subject. The internal examination question paper consists of two parts, Descriptive part (Evaluated for maximum marks of 20) and Objective part (Evaluated for Maximums marks of 10). For each internal examination, each question is mapped with a particular Course Outcome of the subject and there will be at least one question for each of the CO’s in either of the mid examinations.

The question wise marks obtained by the students in each mid examination (Descriptive and Objective parts) are used to evaluate the attainment of CO’s.

**b) University Examinations:** The marks obtained by the students in each course for a maximum of 70 marks in the University Examinations are used to evaluate the attainment of CO’s.

**c) Laboratory Examinations:** Each Laboratory course is evaluated based on the university regulations as shown in the Table B.3.2.1.

|  |  |  |  |
| --- | --- | --- | --- |
| **Regulations** | **Day to Day Evaluation** | **External Examination** | **Total Marks** |
| **R09** | 25 | 50 | 75 |
| **R13** | 25 | 50 | 75 |
| **R15** | 30 | 70 | 100 |

***Table B.3.2.1: Laboratory Evaluation***

The attainment of CO’s is calculated by taking internal marks obtained and marks obtained in the university examinations.

**d) Project Work:**

The project work is evaluated for 200 marks out of which 60 marks for internal evaluation and 140 marks for University examinations. The evaluation for internal marks of 60 is based on Rubrics formulated for the project work by the project review committee appointed by the Head of the department. The evaluation for 140 marks of University exam is based on the assessment by an external examiner appointed by the university. The attainment of CO’s is evaluated based on the marks obtained in the project work.

**e) Seminar:**

The seminar is evaluated for 50 internal marks only. The evaluation of seminar for 50 marks is based on the Rubrics formulated for the seminar by three member panel appointed by the Head of the department. The attainment of CO’s is evaluated based on the marks obtained in the Seminar.

**3.2.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels (40)**

*Program shall have set Course Outcome attainment levels for all courses.*

*(The attainment levels shall be set considering average performance levels in the university examination or any higher value set as target for the assessment years. Attainment levelis to be measured in terms of student performance in internal assessments with respect to the Course Outcomes of a course in addition to the performance in the University examination*)

The following methodology is followed for evaluating the attainment of Course Outcomes for each academic year. The target levels for COs are set considering the average performance of the students in examinations, in the respective subjects of pervious batches.

**a) Mid Term Examinations:**

There will be two internal exams, one after 8 weeks of commencement of the semester and the other at the end of the instruction.

**i. Descriptive Type**: The questions given in the descriptive exam are mapped with the course outcomes and attainment levels are calculated based on the % of marks obtained for each of the questions. The attainment levels are set as follows:

* **Attainment Level 1:**45% to 54% of students scoring more than 50% of marks out of the maximum marks.
* **Attainment Level 2:**55% to 64% of students scoring more than 50% of marks out of the maximum marks.
* **Attainment Level 3:** 65% and above of the students scoring more than 50% of marks out of the maximum marks.

            Average CO attainment levels are calculated for each CO.

**ii. Objective Type:**The questions given in the Mid Semester examinations are mapped with the course outcomes and attainment levels are calculated based on the % of marks obtained for each of the questions. The attainment levels are set as follows.

* **Attainment Level 1:** 45% to 54% of students scoring 100% marks for each question.
* **Attainment Level 2:** 55% to 64% of students scoring100% marks for each question.
* **Attainment Level 3:** 65% and above students scoring 100% of marks for each question.

Average CO attainment levels are calculated for objective type of questions pertaining to each CO.

**b) University Examinations:**

As the mapping of questions to COs is not available for the University Examinations, the attainment level of all the COs is taken as same based on the following levels.

* **Attainment Level 1:** 35% to 44% of students scoring more than 25 marks out of 70 marks in the university exam.
* **Attainment Level 2:** 45% to 54% of students scoring more than 25 marks out of 70 marks in the university exam.
* **Attainment Level 3:** 55% and above of students scoring more than 25 marks out of 70 marks in the university exam.

**Calculation of overall attainment of course outcomes for theory courses:**

* The weightage given for descriptive type is 20% and for the objective type is 10% and for University examinations is 70%.
* Over all attainment of CO = (20% of Descriptive type level) + (10% of Objective type level) + (70% of University exams level).

**Example:** Attainment of CO = 20% of 3(descriptive) + 10% of 2(Objective) + 70% of 1(University) = 0.6+0.2+0.7=1.5

**c) Laboratory Examinations:**

Each Laboratory course is evaluated based on the university regulations.

* **JNTU Regulations R09 & R13 :**

**Internal Day to Day evaluation:**

* **Attainment Level 1:**45% to 54% of students scoring ≥ 12 marks and above out of 25 marks.
* **Attainment Level 2:**55% to 64% of students scoring ≥ 12 marks and above out of 25 marks.
* **Attainment Level 3:**65% and above of the students scoring ≥ 12 marks and above out of 25 marks.

**University Examinations:**

* + - * **Attainment Level 1:**35% to 44% of students scoring ≥ 18 marks and above out of 50 marks.
      * **Attainment Level 2:**45% to 54% of students scoring ≥ 18 marks and above out of 50 marks.
      * **Attainment Level 3:**55% and above of students scoring ≥ 18 marks and above out of 50 marks.
* **JNTU Regulations R15:**

**Internal Day to Day evaluation:**

* + - * **Attainment Level 1:**45% to 54% of students scoring ≥ 15 marks and above out of 30 marks.
      * **Attainment Level 2:**55% to 64% of students scoring ≥ 15 marks and above out of 30 marks.
      * **Attainment Level 3:**65% and above of the students scoring ≥ 15 marks and above out of 30 marks.

**University Examinations:**

* + - * **Attainment Level 1:**35% to 44% of students scoring ≥ 25 marks and above out of 70 marks.
      * **Attainment Level 2:**45% to 54% of students scoring ≥ 25 marks and above out of 70 marks.
      * **Attainment Level 3:**55% and above of students scoring ≥ 25 marks and above out of 70 marks.

**Calculation of overall attainment of course outcomes for laboratory courses:**

* The attainment levels of course outcomes for all CO’s are taken as same and the overall attainment is calculated as follows.
* Over all attainment level of CO = (30% of CO attainment level of day to day evaluations) + (70% of CO attainment level of University Exam).

**Example:** Attainment of CO = 30% of 3(Day to Day Evaluation) + 70% of 2(University) = 0.9+1.4=2.3

**d) Project Work:**

The project work is evaluated for 200 marks out of which 60 marks for internal evaluation and 140 marks for University examinations.

The evaluation for internal marks of 60 is based on Rubrics formulated for the project work.

The evaluation for 140 marks of University exam is based on the assessment by an external examiner appointed by the university.

* **Internal Marks:**The following attainment levels are fixed as follows.

**Attainment Level 1:**45% to 54% of students scoring equal to or more than 50 marks out of a maximum of 60 marks.

**Attainment Level 2:**55% to 64% of students scoring equal to or more than 50 marks out of a maximum of 60 marks.

**Attainment Level 3:**65% and above of the students scoring equal to or more than 50 marks out of a maximum of 60 marks.

* **University examinations:**The attainment levels are as set as follows.

**Attainment Level 1:**35% to 44% of students scoring equal to or more than 125 marks out of a maximum of 140 marks.

**Attainment Level 2:**45% to 54% of students scoring equal to or more than 125 marks out of a maximum of 140 marks.

**Attainment Level 3:**55% and above of students scoring equal to or more than 125 marks out of a maximum of 140 marks.

**Calculation of the overall attainment of COs for Project Work:**

The overall attainment of Cos =0.3 (CO attainment based on internal evaluation + 0.7 (CO attainment based on University Exam).

**Example:** Attainment of CO = 30% of 3(Day to Day Evaluation) + 70% of 2(University) = 0.9+1.4=2.3

**e) Seminar:**

The seminar is evaluated for 50 internal marks only. The evaluation of seminar for 50 marks is based on the Rubrics formulated for the seminar. The following attainment levels are fixed for the seminar.

* **Attainment Level 1:**45% to 54% of students scoring equal to or greater than 40 marks out of a maximum of 50 marks.
* **Attainment Level 2:**55% to 64% of students scoring equal to or greater than 40 marks out of a maximum of 50 marks.
* **Attainment Level 3:**55% and above of students scoring equal to or greater than40 marks out of a maximum of 50 marks.

The CO attainment levels based on internal marks of 50 is taken as the overall attainment level of COs

**Review of CO Attainment Levels:**

After getting the CO attainment levels of all subjects in a semester, a review meeting is conducted at the department level and suggest measures for improving the attainment levels of course outcomes in the various courses to reach the set target levels. In case the targets set are achieved, then the % of marks for calculating the CO attainment level are to be revised.

 The CO attainment and target levels are shown in the Table B.3.2.2 for 2014-18 Batch.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **COURSE** | **INTERNAL & EXTERNAL ASSESSMENT (COLLEGE & UNIVERSITY EXAMS)** | | | | | | | | | | | |
| **Targeted Level of COs** | | | | | | **Attainment Level of COs** | | | | | |
| **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
| **I – YEAR** | | | | | | | | | | | | |
| C101 (Communicative English) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 3 | 3 | 3 | 3 | 3 | 3 |
| C102(Engineering Physics) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 3 | 3 | 3 | 3 | 2.9 | 2.9 |
| C103(Engineering Chemistry) | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 | 3 | 3 | 3 | 3 | 3 | 3 |
| C104(Mathematics- I) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.4 | 2.4 | 2.8 | 2.9 | 2.8 | 3 |
| C105(Problem Solving & Computer Programming) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 3 | 3 | 3 | 2.9 | 3 | 3 |
| C106(Mathematics-II) | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 1.8 | 1.6 | 1.9 | 2 | 2 | 1.9 |
| C107(Basic Electrical & Electronics Engineering) | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.7 | 2.6 | 2.9 | 2.9 | 2.7 | 2.8 |
| C108(Computer Programming Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C109(Engg. Physics & Engg. Chemistry Lab | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C110(Engineering & I.T. Work Shop) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C111(English Language Communication Skills Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **II – YEAR I – SEM** | | | | | | | | | | | | |
| C201(Engineering Graphics) | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.7 | 2.7 | 2.7 | 2.3 | 2.1 | 2.1 |
| C202(Probability and Statistics) | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.7 | 3 | 2.2 | 2.9 | 2.5 | 2.1 |
| C203(Environmental Science) | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 | 3 | 3 | 3 | 2.9 | 2.9 | 3 |
| C204(Data Structures) | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 3 | 2.1 | 2.9 | 3 | 2.9 | 2.9 |
| C205(Digital Logic Design) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.7 | 2.2 | 2.3 | 2.9 | 2.9 |
| C206(Discrete Mathematics) | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.1 | 2.3 | 2.3 | 1.8 | 1.7 | 1.8 |
| C207(Electrical and Electronics Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C208(Data Structures Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **II – YEAR II – SEM** | | | | | | | | | | | | |
| C209(Computer Organization &  Architecture) | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 3 | 2.4 | 3 | 2.1 | 2.7 | 3 |
| C210(Database Management Systems) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.4 | 2.7 | 2.3 | 2.2 | 2.4 | 2.8 |
| C211(Java Programming) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 3 | 3 | 2.7 | 2.8 | 3 | 3 |
| C212(Formal Languages and Automata Theory) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.3 | 2.1 | 2.2 | 2.6 | 2.4 | 2.6 |
| C213(Principles Of Programming Languages) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.7 | 2.6 | 2.3 | 2.8 | 3 | 2.9 |
| C214(Design And Analysis Of Algorithms) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 3 | 3 | 2.8 | 3 | 2.9 | 2.2 |
| C215(Database Management Systems Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C216(Java Programming Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **III – YEAR I – SEM** | | | | | | | | | | | | |
| C301(Operating Systems) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.8 | 2.8 | 2.7 | 2.9 | 2.9 | 2.6 |
| C302(Complier Design) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 3 | 2.4 | 2.9 | 2.3 | 2.3 | 2.8 |
| C303(Unix and Shell Programming) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 3 | 2.9 | 2.7 | 3 | 2.5 | 2.5 |
| C304(Software Engineering) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.6 | 2.4 | 2.3 | 2.3 | 2.2 | 2.1 |
| C305(Micro Processors & Interfacing) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.5 | 2.5 | 2.4 | 2.8 | 2.6 | 2.9 |
| C306 (Managerial Economics and Financial Analysis) | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.2 | 2.4 | 2.5 | 2.4 | 2.4 | 2.8 |
| C307(Operating Systems Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C308(Compiler Design and Assembly LanguageProgramming Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **III – YEAR II – SEM** | | | | | | | | | | | | |
| C310(Computer Networks) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.6 | 2.8 | 2.3 | 2.4 | 2.6 | 2.6 |
| C311(Object Oriented Analysis Design & Modeling) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.6 | 2.8 | 2.4 | 2.8 | 2.6 | 2.9 |
| C312(Data Mining) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.8 | 2.7 | 2.8 | 2.7 | 2.7 |
| C313(Web Technologies) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 3 | 2.9 | 3 | 2.9 | 2.9 | 2.5 |
| C314(Software Testing Methodologies) | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.5 | 2.6 | 2.2 | 2.9 | 3 | 2.7 |
| C315(Big Data Technologies) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 3 | 3 | 3 | 3 | 3 | 3 |
| C316(Unified Modeling Language and Testing Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C317(Web Technologies and Data Mining Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **IV – YEAR I- SEM** | | | | | | | | | | | | |
| C401(Software Architecture and Design Patterns) | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 3 | 3 | 2.9 | 2.4 | 2.6 | 2.6 |
| C402(Cryptography & Network Security) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.4 | 2.2 | 2.8 | 3 | 2.8 | 2.4 |
| C403(Mobile Application Development) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 3 | 2.6 | 3 | 2.4 | 2.6 | 2.6 |
| C404(Management Science) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 3 | 2.7 | 2.7 | 2.5 | 3 | 2.1 |
| C405(Human Computer Interaction) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 3 | 3 | 3 | 3 | 2.8 | 2.4 |
| C406(Information Retrieval Systems) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.3 | 2.4 | 2.8 | 2.9 | 2.8 | 2.7 |
| C407(Cryptography & Network Security Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C408(Mobile Application Development Lab) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **IV – YEAR II – SEM** | | | | | | | | | | | | |
| C409  (Mobile Computing) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.8 | 2.7 | 2.8 | 2.8 | 2.5 |
| C410  (Real Time Systems) | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.5 | 3 | 2.8 | 2.6 | 2.4 | 2.4 |
| C411  (Python Programming) | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 3 | 3 | 2.9 | 2.9 | 2.6 | 2.4 |
| C412  (Technical Seminar) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| C413  (Project Work) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

***Table B.3.2.2: CO attainment and target levels***

**3.3. Attainment of Program Outcomes and Program Specific Outcomes (50)**

**3.3.1 Describe assessment tools and processes used for measuring the attainment of each of the program outcomes and program specific outcomes (10).**

*(Describe the assessment tools and processes used to gather the data upon which the evaluation of each of the Program Outcomes and Program Specific Outcomes is based indicating the frequency with which these processes are carried out. Describe the assessment processes that demonstrate the degree to which the Program Outcomes and Program Specific Outcomes are attained and document the attainment levels)*

The program outcomes are the statements indicating the knowledge, skills and attitudes (attributes) of a graduate of Engineering program is expected to acquire at the end of the program. The program outcomes(12), one for every graduate attribute, are formed by the accreditation agencies (NBA).

The program specific outcomes are formulated by the department indicating the capabilities expected to be acquired by the graduate specific to the branch of specialization by the end of the program.

**Evaluation of attainment of POs & PSOs :**

The Evaluation of attainment of POs & PSOs is based on the following:

**a) Direct Assessment tool.**

**b) Indirect Assessment tool.**

**a) Direct Assessment tool:** Direct Assessment for assessing the POs & PSOs is based on the performance in internal and university examinations for all courses in the curriculum (Theory, Laboratory, Project work and Seminar).

Performance of students in different assessments (Internal exams & university exams) leads to Evaluation of COs attainment which in turn leads to evaluation of attainment of POs & PSOs based on the mappings of COs to POs & PSOs.

**Calculation of attainment of POs & PSOs:**The following procedure is employed for calculating the attainment of POs & PSOs in the direct assessment method.

1)   Mapping CO to POs & PSOs with ‘X’

2)   Calculate the percentage of workload each PO & PSO

3)   Defining Correlation Levels

4)   Calculating Percentage of Attainment of POs & PSOs

5)   Defining Attainment Levels of POs & PSOs

**1)  Mapping CO to POs & PSOs with ‘X’:**CO to PO & PSO mapping with ‘X’ as shown in the Table B.3.3.1a.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **No. of** |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PSO3** | **Periods** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **Taken** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **CO1** |  |  | X |  |  | X |  |  |  |  |  |  |  | X |  | 9 |
| **CO2** |  |  |  |  |  | X |  | X |  |  |  |  |  | X |  | 9 |
| **CO3** |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  | 6 |
| **CO4** | X |  |  | X |  |  |  |  |  |  |  |  |  | X |  | 9 |
| **CO5** |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  | 9 |
| **CO6** |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  | 6 |
|  |  |  |  |  |  |  |  |  |  | **Total Periods** | | |  |  |  | **48** |

***Table B.3.3.1a: Mapping of CO to Pos & PSO with ‘X’***

**2)  Calculation of percentage of workload:**In the above example, PO6 is mapped to CO1, CO2, CO3 & CO5. The workload(%) of PO6 is calculated as:

**Workload(%)  for PO6 = (Total periods taken for the COs mapped to PO or PSO/ Total Periods taken for the course)\*100**

**Workload(%)  for PO6 = ((9+9+6+9)/48)\*100 = 68.8**

The calculated workload (%) of POs & PSOs is shown in the Table B.3.3.1b.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PSO3** | No. Of Periods Taken |
| **CO1** |  |  | X |  |  | X |  |  |  |  |  |  |  | X |  | 9 |
| **CO2** |  |  |  |  |  | X |  | X |  |  |  |  |  | X |  | 9 |
| **CO3** |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  | 6 |
| **CO4** | X |  |  | X |  |  |  |  |  |  |  |  |  | X |  | 9 |
| **CO5** |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  | 9 |
| **CO6** |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  | 6 |
| **Workload (%)** | **18.8** | **0** | **18.8** | **18.8** | **0** | **68.8** | **0** | **18.8** | **0** | **0** | **12.5** | **0** | **0** | **100** | **0** | **48** |

***Table B.3.3.1b Calculating percentage of workload of POs & PSOs***

**3)  Defining Correlation Levels:**Correlation Levels are defined in the following manner.

* **Correlation Level 3:** Percentage of Workload of PO/PSO >=30%
* **Correlation Level 2:**Percentage of Workload of PO/PSO >=20% and less than 30%.
* **Correlation Level 1:** Percentage of Workload of PO/PSO >=5% and less than 20%.

The correlation levels for POs & PSOs in the above example are shown in the Table B.3.3.1c.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **No. of** |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PSO3** | **Periods** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **Taken** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **CO1** |  |  | X |  |  | X |  |  |  |  |  |  |  | X |  | 9 |
| **CO2** |  |  |  |  |  | X |  | X |  |  |  |  |  | X |  | 9 |
| **CO3** |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  | 6 |
| **CO4** | X |  |  | X |  |  |  |  |  |  |  |  |  | X |  | 9 |
| **CO5** |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  | 9 |
| **CO6** |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  | 6 |
| **Workload (%)** | **18.8** | **0** | **18.8** | **18.8** | **0** | **68.8** | **0** | **18.8** | **0** | **0** | **12.5** | **0** | **0** | **100** | **0** | **48** |
| **Correlation Levels** | **1** | **0** | **1** | **1** | **0** | **3** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **3** | **0** | **Correlation Levels** |

***Table B.3.3.1c: Defining Correlation Levels***

**4)  Calculation of percentage of attainment of POs & PSOs:**The mapping ‘X’ is replaced with the corresponding correlation Level

The percentage of attainment of POs & PSOs is calculated in the following manner.

**Attainment of PO/ PSO (%)=((Average of corresponding CO attainment(%) \* Correlation level)/3 \*100**

The calculated percentage of attainment of Pos & PSOs is shown in the Table B.3.3.1c.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PSO3** | **% CO Attainment** |
| **CO1** |  |  | 1 |  |  | 1 |  |  |  |  |  |  |  | 1 |  | 0.5 |
| **CO2** |  |  |  |  |  | 1 |  | 1 |  |  |  |  |  | 1 |  | 0.5 |
| **CO3** |  |  |  |  |  | 1 |  |  |  |  |  |  |  | 1 |  | 0.5 |
| **CO4** | 1 |  |  | 1 |  |  |  |  |  |  |  |  |  | 1 |  | 0.5 |
| **CO5** |  |  |  |  |  | 1 |  |  |  |  |  |  |  | 1 |  | 0.5 |
| **CO6** |  |  |  |  |  |  |  |  |  |  | 1 |  |  | 1 |  | 0.5 |
| **Attainment(%)** | **17** |  | **17** | **17** |  | **50** |  | **17** |  |  | **17** |  |  | **50** |  |  |

***Table B.3.3.1c: Defining Correlation Levels***

**5)  Defining Attainment Levels of POs & PSOs:**The attainment levels of POs & PSOs are defined in the following manner.

* **Attainment Level 3:** Percentage of attainment of PO/PSO >=70%
* **Attainment Level 2:**Percentage of attainment of PO/PSO >=50% and less than 70%.
* **Attainment Level 1:** Percentage of attainment of PO/PSO >=10% and less than 50%.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PSO3** | **% CO Attainment** |
| **CO1** |  |  | 1 |  |  | 1 |  |  |  |  |  |  |  | 1 |  | 0.5 |
| **CO2** |  |  |  |  |  | 1 |  | 1 |  |  |  |  |  | 1 |  | 0.5 |
| **CO3** |  |  |  |  |  | 1 |  |  |  |  |  |  |  | 1 |  | 0.5 |
| **CO4** | 1 |  |  | 1 |  |  |  |  |  |  |  |  |  | 1 |  | 0.5 |
| **CO5** |  |  |  |  |  | 1 |  |  |  |  |  |  |  | 1 |  | 0.5 |
| **CO6** |  |  |  |  |  |  |  |  |  |  | 1 |  |  | 1 |  | 0.5 |
| **Attainment(%)** | **17** |  | **17** | **17** |  | **50** |  | **17** |  |  | **17** |  |  | **50** |  |  |
| **Attainment Levels** | **1** |  | **1** | **1** |  | **3** |  | **1** |  |  | **1** |  |  | **3** |  |

The attainment levels for POs & PSOs are shown in the Table B.3.3.1d.

***Table B.3.3.1d: Defining attainment Levels***

In a similar way the POs & PSOs attainment levels are calculated for all courses. Direct attainment level of PO & PSO is determined by taking the average across all courses addressing the PO or PSO.

**Example:**PO1 is addressed for the courses C201, C302, C303 & C401 and their corresponding attainment levels are 3, 2, 1 & 3.

**The direct attainment level of PO1 = (3+2+1+3)/4=2.25**

**b)**   **Indirect Assessment:**Indirect assessment tool for evaluation of the attainment level of POs & PSOs is based on Program exit survey, Alumni Survey and employer survey. The formats are shown in the Tables B.3.3.1e to B.3.3.1g.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Program Outcomes** | **Rate your level of Attainment** | | | | |
| **Very High(5)** | **High(4)** | **Medium(3)** | **Satisfactory(2)** | **Poor(1)** |
| 1 | Apply the knowledge acquired during the program to the solution of complex engineering problems. |  |  |  |  |  |
| 2 | Analyze complex engineering problems to reach substantiated conclusions. |  |  |  |  |  |
| 3 | Design solutions for complex engineering problems with due consideration for all relevant issues. |  |  |  |  |  |
| 4 | Conduct investigations of complex problems. |  |  |  |  |  |
| 5 | Use Modern Tools with an understanding of their limitations. |  |  |  |  |  |
| 6 | Understand the societal responsibilities relevant to the professional engineering practice. |  |  |  |  |  |
| 7 | Understand the impact of the professional engineering solutions in societal and environmental contexts including the need for sustainable development. |  |  |  |  |  |
| 8 | Commit to professional ethics and responsibilities and norms of the engineering practice. |  |  |  |  |  |
| 9 | Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. |  |  |  |  |  |
| 10 | Communicate effectively on complex engineering activities with the engineering community and with society at large. |  |  |  |  |  |
| 11 | Apply engineering and management principles to manage projects including the ones in multidisciplinary environments. |  |  |  |  |  |
| 12 | Engage in independent and life-long learning in the broadest context of technological change. |  |  |  |  |  |
|  | **Program Specific Outcome** | **Very High(5)** | **High(4)** | **Medium(3)** | **Satisfactory(2)** | **Poor(1)** |
| 13 | Design, implement, and test application software systems for desktop, web, and mobile platforms to meet the specified requirements. |  |  |  |  |  |
| 14 | Use effectively and efficiently the functionality of systems software for building applications. |  |  |  |  |  |
| 15 | Understand the organization and architecture of Computer Systems, Embedded Systems, and Networked Systems. |  |  |  |  |  |

***Table B.3.3.1e: Program Exit Survey Format***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Program Outcomes** | **Rate your level of Attainment** | | | | |
| **Very High** | **High** | **Medium** | **Satisfactory** | **Poor** |
| 1 | Usefulness of Concepts of basic sciences, engineering core subjects You have learnt in solving Engineering problems in your professional practice |  |  |  |  |  |
| 2 | Level of confidence in formulating and solving Engineering problems in your career |  |  |  |  |  |
| 3 | Level of confidence and success in formulating imprecise real world problems as formal Engineering problems |  |  |  |  |  |
| 4 | Extent of critical analysis competency acquired in investigating and solving complex Engineering problems |  |  |  |  |  |
| 5 | Level of confidence in learning and usage of modern tools in your professional career |  |  |  |  |  |
| 6 | Ability to assess the effect on societal safety & cultural issues of the solutions provided for the real world problems |  |  |  |  |  |
| 7 | Ability to factor in environmental issues and sustainability in the solutions developed by you |  |  |  |  |  |
| 8 | Level of confidence in following professional values and ethical practices in your career |  |  |  |  |  |
| 9 | Level of comfort in working  as a member or a leader in project teams of multi disciplinary nature |  |  |  |  |  |
| 10 | Level of effective communication and presentation skills. |  |  |  |  |  |
| 11 | Level of application of Project management skills in the projects handled by you |  |  |  |  |  |
| 12 | Level of confidence in learning modern tools and updating your Professional knowledge continuously through Lifelong learning |  |  |  |  |  |
| **Program Specific Outcomes** | | **Very High** | **High** | **Medium** | **Satisfactory** | **Poor** |
| PSO1 | Design, implement, and test application software systems for desktop, web, and mobile platforms to meet the specified requirements. |  |  |  |  |  |
| PSO2 | Use effectively and efficiently the functionality of systems software for building applications. |  |  |  |  |  |
| PSO3 | Understand the organization and architecture of Computer Systems, Embedded Systems, and Networked Systems. |  |  |  |  |  |
| **Program Educational Objectives** | | **Very High** | **High** | **Medium** | **Satisfactory** | **Poor** |
| PEO1 | Able to have successful career in any reputed organization with ethical values. |  |  |  |  |  |
| PEO2 | Able to lead in multi disciplinary areas in a team and provide solutions to real life problems with human values. |  |  |  |  |  |
| PEO3 | Able to pursue and acquire higher educational qualifications for professional advancement. |  |  |  |  |  |

***Table B.3.3.1f:*** ***Alumni Survey Format***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Abilities of our graduates** | **Rate your Assessment** | | | | |
| **Very High** | **High** | **Medium** | **Satisfactory** | **Poor** |
| 1 | Knowledge levels in basic sciences and core subjects |  |  |  |  |  |
| 2 | Level of confidence in formulating and analyzing real world problems as formal engineering problems |  |  |  |  |  |
| 3 | competency exhibited in solving complex engineering problems |  |  |  |  |  |
| 4 | Ability to investigate complex problems using research based knowledge. |  |  |  |  |  |
| 5 | Ability to learn and use modern tools for solutions of engineering problems |  |  |  |  |  |
| 6 | Enthusiasm in participating and arranging social and cultural activities |  |  |  |  |  |
| 7 | Knowledge levels on environment and sustainability in providing solutions to real life problems |  |  |  |  |  |
| 8 | Ethical behavior |  |  |  |  |  |
| 9 | Ability to work comfortably in teams and successful in leading project teams |  |  |  |  |  |
| 10 | Communication and inter personal skills |  |  |  |  |  |
| 11 | Ability to apply project management principles in the projects being handled by them |  |  |  |  |  |
| 12 | Passion to learn and update their knowledge |  |  |  |  |  |

***Table B.3.3.1g:*** ***Employer Survey Format***

The indirect attainment level of POs & PSOs is calculated by analyzing the feedback given by the outgoing students.

The overall attainment of POs & PSOs is calculated with the weightage of 80% of Direct Assessment and 20% of Indirect Assessment.

**Example:**   Direct attainment for PO1 is 2.94 & indirect attainment for PO1 is 2.02.

                                 The Overall attainment for PO1 is (2.94\*0.8) + (2.02\*0.2) = **2.76**

**3.3.2. Provide results of evaluation of each PO&PSO (40)**

Program shall set Program Outcome attainment levels for all POs & PSOs.

(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course – PO & PSO matrix as indicated).

**PO Attainment:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO**  **11** | **PO**  **12** |
| C101  (Communicative English) | - | - | - | - | - | - | - | - | - | 3 | - | - |
| C102  (Engineering Physics) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C103  (Engineering Chemistry) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C104  (Mathematics- I) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C105  (Problem Solving & Computer  Programming) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C106  (Mathematics-II) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C107  (Basic Electrical & Electronics  Engineering) | 3 | 1 | - | - | - | - | - | - | - | - | - | - |
| C108  (Computer Programming Lab) | 3 | - | - | - | - | - | - | - | - | 3 | - | - |
| C109  (Engg. Physics & Engg. Chemistry Lab | 3 | - | - | 3 | - | - | - | - | 2 | 3 | - | - |
| C110  (Engineering & I.T. Work Shop) | 3 | - | - | - | - | - | - | - |  | 3 | - | - |
| C111  (English Language Communication Skills Lab) | - | - | - | - | - | - | - | - | 2 | 3 | - | - |
| C201  (Engineering Graphics) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C202  (Probability and Statistics) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C203  (Environmental Science) | 3 | - | - | - | - | 2 | 2 | - | - | - | - | - |
| C204  (Data Structures) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C205  (Digital Logic Design) | 3 | 3 | 3 | - | - | - | - | - | - | - | - | - |
| C206  (Discrete Mathematics) | 3 | 3 |  | - | - | - | - | - | - | - | - | - |
| C207  (Electrical and Electronics Lab) | 3 | 1 | - | - | 3 | - | - | - | - | 3 | - | - |
| C208  (Data Structures Lab) | 3 | - | 3 | - | 3 | - | - | - | - | - | - | - |
| C209  (Computer Organization &  Architecture) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C210  (Database Management Systems) | 1 | - | 1 | 1 | 3 | - | - | 1 | - | - | - | - |
| C211  (Java Programming) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C212  (Formal Languages and Automata Theory) | 1 | 3 | 2 | 1 | - | - | - | - | - | - | - | - |
| C213  (Principles Of Programming Languages) | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C214  (Design And Analysis Of Algorithms) | 1 | - | 3 | 3 | - | - | - | - | - | - | - | - |
| C215  (Database Management Systems Lab) | 1 | 1 | 3 | - | 1 | - | - | - | - | - | - | - |
| C216  (Java Programming Lab) | 3 | - | 3 | - | 3 | - | - | - | - | 1 |  | 1 |
| C217  (Human Values & Professional  Ethics) | - | - | - | - | - | - | - | 3 | 3 | - | - | - |
| C301  (Operating Systems) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C302  (Complier Design) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C303  (Unix and Shell Programming) | 2 | - | 2 |  | 3 | - | - | - | - | - | - | - |
| C304  (Software Engineering) |  | - | 2 |  |  | 1 |  | 1 |  |  | 1 |  |
| C305  (Micro Processors & Interfacing) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C306  (Managerial Economics and  Financial Analysis) | 1 | - | - | - | - | 1 |  | 1 | - | - | 2 |  |
| C307  (Operating Systems Lab) | 3 | 3 | 2 | - | - | - | - | - | - | - | - | - |
| C308  (Compiler Design and Assembly  Language Programming Lab) | 3 | - | 2 | - | 3 | - | - | - | - | - | - | - |
| C309  (Advanced English language  Comm. Skills Lab ) | - | - | - | - | - | - | - | - | - | 3 | - | - |
| C310  (Computer Networks) | 3 | 3 | - | - | - | - | - | - | - | - | - | - |
| C311  (Object Oriented Analysis  Design & Modeling) | 3 |  | 3 | - | - | - | - | - | - | - | - | - |
| C312  (Data Mining) |  | 1 | 3 | 2 |  | 3 | - | - | - | - | - | - |
| C313  (Web Technologies) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C314  (Software Testing Methodologies) | 3 | - | - | - | 2 | - | - | - | - | - | - | - |
| C315  (Big Data Technologies) | 3 | - | 2 | - | 1 | - | - | - | - | - | - | - |
| C316  (Unified Modeling Language and  Testing Lab) | 3 | - | 3 | - | 3 | - | - | - | - | - | - | - |
| C317  (Web Technologies and Data Mining Lab) | - | - | 3 | - | - | 2 | - | - | - | - | - | - |
| C401  (Software Architecture and Design Patterns) | 1 | - | 3 | - | - | - | - | - | - | - | - | - |
| C402  (Cryptography & Network Security) | 3 | 3 | 1 | - | 1 | - | - | - | - | - | - | - |
| C403  (Mobile Application Development) | 3 | - | 3 | - | 3 | - | - | - | - | - | - | - |
| C404  (Management Science) | 1 | - | - | - | - | - | - | 3 | 2 | - | 1 | - |
| C405  (Human Computer Interaction) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C406  (Information Retrieval Systems) | 3 | - | 3 | - | - | - | - | - | - | - | - | - |
| C407  (Cryptography & Network Security Lab) | 3 | - | 2 | - | 2 | - | - | - | - | - | - | - |
| C408  (Mobile Application Development Lab) | 3 | - | - | - | 2 | - | - | - | - | - | - | - |
| C409   |  | | --- | | ( Mobile  Computing) | | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C410   |  | | --- | | ( Real Time  Systems ) | | 3 | - | - | - | - | - | - | - | - | - | - | - |
| C411   |  | | --- | | ( Python  Programming ) | | 3 | - | - | - | 3 | - | - | - | - | - | - | - |
| C412  (Technical Seminar) | 3 | - | - | - | - | - | - | - | 2 | 3 | - | - |
| C413  (Project Work) | 2 | 3 | 2 | - | 3 | - | 3 | 3 | 3 | 3 | 2 | 2 |
| Direct-Attainment | 2.69 | 2.47 | 2.57 | 2.00 | 2.44 | 1.80 | 2.50 | 2.00 | 2.33 | 2.80 | 1.50 | 1.50 |
| InDirect-Attainment | 2.39 | 2.18 | 2.12 | 1.97 | 2.24 | 2.15 | 2.06 | 2.12 | 2.13 | 1.96 | 2.00 | 2.26 |
| PO Attainment | 2.63 | 2.41 | 2.48 | 1.99 | 2.40 | 1.87 | 2.41 | 2.02 | 2.29 | 2.63 | 1.60 | 1.65 |

***Table B.3.3.2a: PO Attainment***

**PSO Attainment:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course** | **PSO1** | **PSO2** | **PSO3** |
| C101  (Communicative English) | - | - | - |
| C102  (Engineering Physics) | - | - | - |
| C103  (Engineering Chemistry) | - | - | - |
| C104  (Mathematics- I) | 2 | - | - |
| C105  (Problem Solving & Computer  Programming) | 3 | - | - |
| C106  (Mathematics-II) | 2 | - | - |
| C107  (Basic Electrical & Electronics  Engineering) | - | - | - |
| C108  (Computer Programming Lab) | 3 | - | - |
| C109  (Engg. Physics & Engg. Chemistry Lab | - | - | - |
| C110  (Engineering & I.T. Work Shop) | 3 | - | - |
| C111  (English Language Communication Skills Lab) | - | - | - |
| C201  (Engineering Graphics) | - | - | - |
| C202  (Probability and Statistics) | - | - | 2 |
| C203  (Environmental Science) | - | - | - |
| C204  (Data Structures) | 3 | - | - |
| C205  (Digital Logic Design) | - | - | 3 |
| C206  (Discrete Mathematics) | 2 | 3 | - |
| C207  (Electrical and Electronics Lab) | - | - | - |
| C208  (Data Structures Lab) | 3 | - |  |
| C209  (Computer Organization &  Architecture) | - | - | 3 |
| C210  (Database Management Systems) | 3 |  | - |
| C211  (Java Programming) | 3 | 3 | - |
| C212  (Formal Languages and Automata Theory) | - | 3 | - |
| C213  (Principles Of Programming Languages) | 3 | - | - |
| C214  (Design And Analysis Of Algorithms) | 3 | 3 | - |
| C215  (Database Management Systems Lab) | 3 | - | - |
| C216  (Java Programming Lab) | 3 | - | - |
| C217  (Human Values & Professional  Ethics) | - | - | - |
| C301  (Operating Systems) | - | 3 | - |
| C302  (Complier Design) | - | 3 | - |
| C303  (Unix and Shell Programming) | - | 3 | - |
| C304  (Software Engineering) | 3 | - | - |
| C305  (Micro Processors & Interfacing) | - | - | 3 |
| C306  (Managerial Economics and  Financial Analysis) | - | - | - |
| C307  (Operating Systems Lab) | - | 3 |  |
| C308  (Compiler Design and Assembly  Language Programming Lab) | - | 2 | 3 |
| C309  (Advanced English language  Comm. Skills Lab ) | - | - | - |
| C310  (Computer Networks) | - | - | 3 |
| C311  (Object Oriented Analysis  Design & Modeling) | 3 | - | - |
| C312  (Data Mining) | 3 | - | - |
| C313  (Web Technologies) | 3 | - | - |
| C314  (Software Testing Methodologies) | 3 | - | - |
| C315  (Big Data Technologies) | 3 | - | - |
| C316  (Unified Modeling Language and  Testing Lab) | 3 | - | - |
| C317  (Web Technologies and Data Mining Lab) | 3 | - | - |
| C401  (Software Architecture and Design Patterns) | 3 | - | - |
| C402  (Cryptography & Network Security) | - | - | 3 |
| C403  (Mobile Application Development) | 3 | - | - |
| C404  (Management Science) | - | - | - |
| C405  (Human Computer Interaction) | 3 | - | - |
| C406  (Information Retrieval Systems) | 3 | - | - |
| C407  (Cryptography & Network Security Lab) | - | - | 3 |
| C408  (Mobile Application Development Lab) | 3 | - | - |
| C409   |  | | --- | | ( Mobile Computing) | | - | - | 3 |
| C410   |  | | --- | | ( Real Time Systems ) | | - | - | 3 |
| C411   |  | | --- | | ( Python Programming ) | | 3 | - | - |
| C412  (Technical Seminar) | 3 | - | - |
| C413  (Project Work) | 3 | 3 | 2 |
| Direct-Attainment | **2.90** | **2.90** | **2.82** |
| Indirect-Attainment | **2.31** | **2.09** | **2.02** |
| PSO Attainment | **2.78** | **2.74** | **2.66** |

***Table B.3.3.2b: PSO Attainment***

|  |  |  |
| --- | --- | --- |
| **CRITERION 4** | **Student’s Performance** | **150** |

**4. STUDENT’S PERFORMANCE (150)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Item**  **(Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)** | **(2018-19)** | **(2017-18)** | **(2016-17)** |
| Sanctioned Intake of the program (N) | 120 | 120 | 120 |
| Total number of students admitted in first year minus number of students migrated to other programs/institutions plus No. of students migrated to this program (N1) |  | 120 | 120 |
| Number of students admitted in 2nd year in the same batch via lateral entry (N2) |  |  | 4 |
| Separate division students, if applicable (N3) |  | NIL | NIL |
| Total Number of students admitted in the Program (N1+N2+N3) |  |  | 124 |

***Table B.4a***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year of Entry** | **N1 + N2+N3**  **(As defined Above)** | **Number of students who have successfully graduated without backlogs in any semester/year of study**  **(Without Backlog means no compartment or failures in any semester/year of study)** | | | |
| **I Year** | **II Year** | **III Year** | **IV Year** |
| (2018-19) |  |  |  |  |  |
| (2017-18) | 120 |  |  |  |  |
| (2016-17) | 124(120+4) | 44 |  |  |  |
| (2015-16) | 118(114+4) | 62 | 43 |  |  |
| (2014-15) | 118(116+2) | 37 | 23 | 22 | 21 |
| (2013-14) | 115(110+5) | 47 | 31 | 22 | 21 |
| (2012-13) | 126(120+6) | 47 | 26 | 18 | 13 |

***Table B.4b***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year of Entry** | **N1 + N2+N3**  **(As defined Above)** | **Number of students who have successfully graduated**  **(Students with backlog in stipulated period of study)** | | | |
| **I Year** | **II Year** | **III Year** | **IV Year** |
| 2018-19 |  |  |  |  |  |
| 2017-18 | 120 | 115 |  |  |  |
| 2016-17 | 124(120+4) | 118 | 115 |  |  |
| 2015-16 | 118(114+4) | 114 | 115 | 114 |  |
| 2014-15 | 118(116+2) | 111 | 112 | 111 | 48 |
| 2013-14 | 115(110+5) | 106 | 104 | 101 | 79 |
| 2012-13 | 126(120+6) | 119 | 112 | 110 | 98 |

***Table B.4c***

**4.1 Enrolment Ratio (20)** Enrolment Ratio= N1/N

|  |  |
| --- | --- |
| **Item**  (Students enrolled at the First Year Level on average basis during the previous three academic years starting from current academic year) | **Marks** |
| >=90% students enrolled | 20 |
| >=80% students enrolled | 18 |
| >=70% students enrolled | 16 |
| >=60% students enrolled | 14 |
| >=50% students enrolled | 12 |
| Otherwise | 0 |

***Table B.4.1:***

* 1. **Success Rate in the stipulated period of the program (40)**

**4.2.1 Success rate without backlogs in any semester/year of study (25)**

**SI = (***Number of students who have graduated from the program without backlog)/*

*(Number of students admitted in the first year of that batch and actually admitted in 2nd year via lateral entry and separate division, if applicable)*

*Average SI = Mean of Success Index (SI) for past three batches*

*Success rate without backlogs in any year of study = 25 × Average SI*

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **2014-18** | **2013-17** | **2012-16** |
| Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable | 118(114+4) | 115(110+5) | 126(120+6) |
| Number of students who have graduated without backlogs in the stipulated period | 21 | 21 | 13 |
| Success Index (SI) | 0.18 | 0.18 | 0.10 |
| Average SI | **0.15** | | |

***Table B.4.2.1:***

**4.2.2 Success rate with backlog in stipulated period of study (15)**

*SI= (Number of students who graduated from the program in the stipulated period of course duration)/ (Number of students admitted in the first year of that batch and actual admitted in 2nd year via lateral entry and separate division, if applicable)*

*Average SI = mean of Success Index (SI) for past three batches*

*Success rate = 15×Average SI*

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **2014-18** | **2013-17** | **2012-16** |
| Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable | 118(114+4) | 115(110+5) | 126(120+6) |
| Number of students who have graduated with backlogs in the stipulated period | 48 | 79 | 98 |
| Success Index (SI) | 0.42 | 0.68 | 0.77 |
| Average SI | **0.62** | | |

#### *Table B.4.2.2:*

#### 4.3 Academic Performance in Third Year (15)

*Academic Performance = 1.5 \* Average API (Academic Performance Index)*

***API*** *= ((Mean of 3rd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Third Year/10)) x (number of successful students/number of students appeared in the examination)*

*Successful students are those who are permitted to proceed to the final year*

|  |  |  |  |
| --- | --- | --- | --- |
| **Academic Performance** | **2017-18** | **2016-17** | **2015-16** |
| Mean of CGPA or Mean Percentage of all successful students (X) | 7.87 | 7.67 | 7.65 |
| Total no. of successful students (Y) | 114 | 111 | 101 |
| Total no. of students appeared in the examination (Z) | 115 | 112 | 104 |
| API = x\* (Y/Z) | 7.80 | 7.60 | 7.42 |
| Average API = (AP1 + AP2 + AP3)/3 | 7.60 | | |

***Table B.4.3:***

**4.4 Academic Performance in Second Year (15)**

*Academic Performance Level = 1.5 \* Average API (Academic Performance Index)*

***API*** *= ((Mean of 2nd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Second Year/10)) x (number of successful students/number of students appeared in the examination)*

*Successful students are those who are permitted to proceed to the Third year.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Academic Performance** | **2017-18** | **2016-17** | **2015-16** |
| Mean of CGPA or Mean Percentage of all successful students (X) | 7.52 | 7.43 | 6.68 |
| Total no. of successful students (Y) | 115 | 115 | 112 |
| Total no. of students appeared in the examination (Z) | 118 | 114 | 111 |
| API = X\* (Y/Z) | 7.32 | 7.36 | 6.74 |
| Average API = (AP1 + AP2 + AP3)/3 | 7.14 | | |

***Table B.4.4***

**4.5 Placement, Higher Studies and Entrepreneurship :( 40)**

Assessment points = 40 x average placement = 22.8

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **2017-2018** | **2016-2017** | **2015-2016** |
| Total No. of Final Year Students (N) | 111 | 101 | 110 |
| No. of students placed in companies or Government Sector (x) | 50 | 62 | 58 |
| No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (y) | NIL | 4 | 7 |
| No. of students turned entrepreneur in engineering/technology (z) | NIL | 2 | NIL |
| x + y + z = | 50 | 68 | 65 |
| Placement Index : (x + y + z )/N | 0.45 | 0.67 | 0.59 |
| Average placement= (P1 + P2 + P3)/3 | 0.57 | | |

***Table B.4.5:***

**4.5a. Provide the placement data in the below mentioned format with the name of the program and the assessment year:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No of students placed in the companies or government sector 2017-2018 | | | | |
| **S.No.** | **Name of the student**  **placed** | **Enrollment no.** | **Name of the Employer** | **Appointment letter reference**  **no. with date** |
| 1 | Afreen S S |  | Wissen Infotech |  |
| 2 | Ajay Kumar C |  | West Line | 25/2/2018 |
| 3 | Anil Rao M |  | Syntel | 06/06/2018 |
| 4 | Anusha G | 2354904 | MPHASIS | APPS/1067906/07703623/Bangalore/May/V0 |
| 5 | Dharani Sree P |  | VESPA | 09/02/2018 |
| 6 | Divya N |  | Wissen Infotech, Data Labs India |  |
| 7 | Kasifa Farnaaz S |  | VESPA | 09/02/2018 |
| 8 | Naga Sravanthi M |  | Data Labs India |  |
| 9 | Naga Sujana M |  | TCS, MINDTREE | 08/05/2018 |
| 10 | Nandeesh K |  | Global edge | 23/01/2018 |
| 11 | Nishad Anjum C |  | VESPA | 09/02/2018 |
| 12 | Nishma Juturu |  | TCS | TCSL/DT20163527323/Banglore doj:10/1/2018 |
| 13 | Ranga Sai Keerti V |  | TCS | TCSL/DT20163530039/Banglore doj:10/01/18 |
| 14 | Sai Pragna G |  | TCS | TCSL/DT20163530063/Banglore doj:10/01/2018 |
| 15 | Shahanaz D |  | MINDTREE |  |
| 16 | Shanthi K |  | MINDTREE | 08/05/2018 |
| 17 | Shravani M |  | TCS | 16/04/2018 |
| 18 | Tej Naveen C |  | TCS | TCSL/DT20173827741/Hyderabad doj:9/9/17 |
| 19 | Vasavi K |  | MINDTREE | 08/05/2018 |
| 20 | Vidula A |  | MINDTREE | 14/05/2018 |
| 21 | Vyshnavi P |  | Preva Systems Pvt Ltd |  |
| 22 | Bhanu Prakash Reddy B |  | Shubha Gruha Enterprises |  |
| 23 | Anil Kumar M |  | Emphasis |  |

***Table B.4.5a:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No of students placed in the companies or government sector 2016-2017 | | | | |
| **S.no.** | **Name of the student**  **placed** | **Enrollment no.** | **Name of the Employer** | **Appointment letter reference**  **no. with date** |
| 1 | Anjum V | 111 | Mymo wireless pvt ltd | MYMO/HR/OFFR/01/2018 doj 28-12-2017 |
| 2 | Bansi Patel K |  | Cisco |  |
| 3 | Charan Kumar J |  | IonIdea |  |
| 4 | Divya sree V | 805 | Mindtree |  |
| 5 | Farhana M | dli0022 | Data Labs India |  |
| 6 | Harsha Vardhan K | 410818 | Suture Group |  |
| 7 | Jahnavi P |  | Broadcom |  |
| 8 | Kalpana R | 69199 | Cognizant |  |
| 9 | Karthikeya K S | 701247 | Cognizant | 11/05/2018 |
| 10 | Lavanya A |  | Accenture |  |
| 11 | Lekha P | M1043032 | Mindtree |  |
| 12 | Meena B |  | Cognizant |  |
| 13 | Mounika M | Ki0324 | Kore.ai | 04/04/2017 |
| 14 | Mubeena D |  | Schneider electric India |  |
| 15 | Naga Venkata Hasvitha G | 1361884 | TCS |  |
| 16 | Prashanthi G |  | Cognizant |  |
| 17 | Priyanka B |  | Accenture |  |
| 18 | Puspalatha K M |  | TCS |  |
| 19 | Pushyami |  | Indegene pvt ltd |  |
| 20 | Ramana P | AVN7YR | IBM | 666193 doj:24/04/2018 |
| 21 | Ramya Teja G |  | Iapps track |  |
| 22 | Rehanataj D |  | IBM |  |
| 23 | Rudresh C | 3906 | Nielsen sports |  |
| 24 | Safeera Banu S | 140359 | Capgemini |  |
| 25 | Sai Likhitha K | 93080 | Capgemini |  |
| 26 | Sainath P |  | Cognizant |  |
| 27 | Santhi V | 20209400 | Idea Infinity it solutions pvt ltd |  |
| 28 | Shilpa B |  | Wittyparrot pvt ltd | 01/01/2018 |
| 29 | Shilpa L |  | Virtusa | 29/12/2017 |
| 30 | Shivani G |  | Mindtree |  |
| 31 | Sindhu Sree C | 792221 | Infosys | HRD/3T/18-19/12329098  DOJ:16/04/2018 |
| 32 | Soumya J | M1041799 | Mindtree |  |
| 33 | Supriya K | 107195 | GT NEXUS | 12/06/2017 |
| 34 | Vanitha S |  | Cognizant |  |
| 35 | Venkata Pruthvi Raj N | 2267 | Tejas Networks | 28/04/2017 |
| 36 | Venkateswarlu M | 1361854 | TCS | 22/06/2017 |
| 37 | Vyshnavi devi K | 11274165 | Cognizant | 14/03/2018 |
| 38 | Shareef S | M1043018 | Mindtree |  |

***Table B.4.5b***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No of students placed in the companies or government sector 2015-2016 | | | | |
| **S.no.** | **Name of the student**  **placed** | **Enrollment no.** | **Name of the Employer** | **Appointment letter reference**  **no. with date** |
| 1 | Ajitha Y |  | Wipro |  |
| 2 | Bhavani P | 121829 | Capgemini |  |
| 3 | Deepika C | 152992 | Cotivici |  |
| 4 | Harika L |  | Infosys |  |
| 5 | Himaja V | 1108479 | EMC2 | 09/02/2018 |
| 6 | Kalavathi N |  | Talent hire HR |  |
| 7 | Lakshmi Harshitha K R | 10712442 | 24/7 |  |
| 8 | Meena D S |  | Amazon |  |
| 9 | Mounika D |  | Genpack |  |
| 10 | Naresh M D | 474058 | Tech Mahindra |  |
| 11 | Pramodh Kumar M F |  | Cisco |  |
| 12 | Sai Bhargavi G |  | TCS |  |
| 13 | Santosh R | TSTE | Goodbox | TSTE139 |
| 14 | Saritha Reddy P | 51623872 | HCL |  |
| 15 | Shama Parveen S |  | Pie robotics |  |
| 16 | Shirisha S |  | Amazon |  |
| 17 | Shivani K | 1289833 | TCS | TCSL/DT20163319372/937379 |
| 18 | Sivananda Reddy G |  | TCS |  |
| 19 | Sravani M K |  | Infosys |  |
| 20 | Sreevidya B |  | Formac |  |
| 21 | Ramakrishna Y | 240 | Y sec it software ltd |  |
| ***Table B.4.5c***  **4.6. Professional Activities (20)**  **4.6.1. Professional societies / chapters and organizing engineering events (5)**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **#** | **Academic**  **Year** | **Name of Professional Societies/Chapters** | **Organized Event and Title** | **Organized Date** | **Level (**Institute/State/National/International) | | **1** | **2015-16** | CSI | A one day seminar on “Big Data Tools & Technologies” | 24.08.2015 | Institute Level | | **2** | CSI | A Two Day Workshop on “Python Programming” | 26.09.2015  to  27.09.2015 | National Level | | **3** | CSI | A one day seminar on “Effective Communication Skills” | 22.04.2016 | Institute Level | | **4** | **2016-17** | CSI | Network Setup, Web Hosting & Administration | 18. 08.2016  to  19. 08.2016 | Institute Level | | **5** | IEEE | Data Modeling, Analysis and Visualization | 14.09.2016  to  15.09.2016 | Institute Level | | **6** | IEEE | Online Sequential Learning Algorithm with Applications to Signal Processing and Control | 05.10.2016 | Institute Level | | **7** | CSI | Computer Science- The Past, Present and Future | 10.01.2017 | Institute Level | | **8** | CSI | Python Programming | 17.03.2017  to  18.03.2017 | Institute Level | | **9** | **2017-18** | IEEE | Research Perspectives in Machine Learning | 22.07.2017 | Institute Level | | **10** | IEEE | Hadoop Basics and Advanced | 28.07.2017  to  30.07.2017 | Institute Level | | **11** | APSSDC | Android Developer Fundamentals  (Phase – I) | 03.10.2017  to  05.10.2017 | Institute Level | | **12** | APITA | Oracle Database | 16.10.2017  to  18.10.2017 | Institute Level | | **13** | IEEE | Hadoop Basics and Advanced with introduction to SPARK | 06.01.2018  to  07.01.2018 | Institute Level | | **14** | APSSDC | Android Developer Fundamentals  (Phase – II) | 08.01.2018  to  10.01.2018 | Institute Level | | **15** | APSSDC | Python Programming | 08.03.2018  to  10.03.2018 | Institute Level |   ***Table B.4.6.1***  **4.6.2. Publication of technical magazines, newsletters, etc. (5)**  The department of Computer Science and Engineering has taken the initiative of publishing Newsletter which includes the events organized or participated under Professional Society/ chapters, activities of Student Club, achievements of students and staff members in academic and social activities. **AROHAN** is the name of our department newsletter.   |  |  |  | | --- | --- | --- | | **S. No** | **Year** | **Number of Issues (Frequency)** | | 1 | 2015 | 12 (Monthly) | | 2 | 2016 | 12 (Monthly) | | 3 | 2017 | 12 (Monthly) |   *Table B.4.6.2a: Publication of newsletters*   |  |  |  |  | | --- | --- | --- | --- | | **Academic Year** | **Name of the Newsletter** | **Name(s) of the Editors** | **Name(s) of Publisher(s)** | | **2015-16** | AROHAN | **Faculty:**   1. Dr. T. Hitendra Sarma 2. Mr. C. Sudheer Kumar 3. Mrs. Manjeera Patil   **Students:**   1. Ms. V. Anjum 2. Mr. N.V Pruthvi Raj 3. Ms. K. Shivani 4. Ms. D. Nandini 5. Ms. B. Padmaja 6. Mr. S. Riyaz Ahmed | Department of CSE,  SRIT | | **2016-17** | AROHAN | **Faculty:**   1. Dr.T. Hitendra Sarma 2. Mr. C. Sudheer Kumar   **Students:**   1. Mr. Y. Manoj Kumar 2. Mr. V. Pruthvi Raj Reddy 3. Mr. M. Anil Rao 4. Ms. S. Shama Afreen 5. Mr.A.BhanuPrakash Reddy 6. Ms. V. Sunitha | Department of CSE,  SRIT | | **2017-18** | AROHAN | **Faculty:**   1. Dr. T. Hitendra Sarma 2. Mr. C. Sudheer Kumar   **Students:**   1. Mr. M. Anil Rao 2. Ms. V. Sunitha 3. Ms. P. Vyshnavi 4. Mr. M. Dileep 5. Mr.V.Damodar Reddy 6. Mr. M. Sai Rahul | Department of CSE,  SRIT |   ***Table B.4.6.2a: newsletter details***  The department also publishes the Technical Magazine which includes technical articles by the faculty and students. The detail of the Technical Magazine published by the department is shown in the Table B.4.6.2b   |  |  |  |  | | --- | --- | --- | --- | | **Academic Year** | **Name of the Magazine** | **Name(s) of the Editors** | **Name(s) of Publisher(s)** | | **2015 -16** | **TECH VEDA** – Vol 2 | **Faculty:**  **1.** Dr. T. Hitendra Sarma  **2**. Mr. C. Sudheer Kumar  **3**. Ms. M. Hema Latha  **4**. Mr. B. Sreedhar  **Students:**   1. Mr. T. Shabareesh 2. Miss. P. Prathibha 3. Miss. V. Mahima 4. Mr. P. Baba Fakruddin | Department of CSE,  SRIT | | **2016 - 17** | **TECH VEDA** – Vol 3 | **Faculty:**   1. Dr. T. Hitendra Sarma 2. Mr. C. Sudheer Kumar 3. Ms. M. Hema Latha 4. Mr. B. Sreedhar   **Students:**   1. Mr. T. Shabareesh 2. Miss. P. Prathibha 3. Miss. V. Mahima 4. Mr. P. Baba Fakruddin | Department of CSE,  SRIT | | **2017 - 18** | **TECH VEDA** – Vol 4 | **Faculty:**   1. Dr. T. Hitendra Sarma 2. Mr. C. Sudheer Kumar 3. Ms. M. Hema Latha 4. Mr. B. Sreedhar   **Students:**  **1.**Mr. T. Shabareesh  **2**.Miss. P. Prathibha  **3**.Miss. V. Mahima  **4**.Mr. P. Baba Fakruddin | Department of CSE,  SRIT |   *Table B.4.6.2b: Details of Magazines*  **4.6.3. Participation in inter-institute events by students of the program of study (10)**  **4.6.3a. Participation of the students in the events within the state:**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **#** | **Academic Year** | **Student Name** | **Event Name** | **Event Type** | **College Name & Venue** | | **1** | **2015-2016** | 1. M. Anil Rao 2. T Hima Bindu | FUZON 2K16 | Paper Presentation | SKU Engineering College, Ananthapuramu | | **2** | 1. M. Anil Rao 2. R. Mounika 3. Ms. G. Shivani 4. Ms. M. Mounika 5. Ms. V. Sushmitha 6. Ms. T. Padmini 7. Ms. V. Harshitha 8. Ms. M. Pushyami 9. Ms. G. Anusha 10. Ms. B Ashritha Vardini 11. Ms. N.M. Bhagya Sree 12. Ms. E. Deepthi 13. Mr. M. Anil Kumar 14. Ms. P. Sai Likitha 15. Ms. B. Prathyusha 16. Ms. D. Shadiya | PIXEL - 16 | Paper Presentation | JNTUA, ANANTHAPURAMU | | **3** | 1. Ms. M. Pushyami 2. Ms. P. Manasa 3. Ms. R. J. Dhanya Sri 4. Ms. V. Divya Sree 5. Ms. V. Anjum 6. Ms. M. Mounika 7. Ms. V. Susmitha 8. Ms. S. Naga Sruthi 9. Mr. M. Harshavardhan 10. Mr. V. Prudvi Raj Reddy 11. Mr. J. Charan Kumar 12. Ms. P. Ramana 13. Ms. K. S. Karthikeya | Workshop on Big Data | Workshop | JNTUA, ANANTHAPURAMU | | **4** | M. Anil Rao | SHODHANA'16 | Paper Presentation | GATES Engineering College - GOOTY | | **5** | M. Anil Rao | NEXUS - 2K15 | Paper Presentation | GATES Engineering College - GOOTY | | **6** | Mr. N.V. Pruthvi Raj | Code Marathon | Coding Contest | JNTUA - ANANTHAPURAMU | | **7** | **2016 - 17** | 1. K. Vasavi 2. J Tejaswi 3. P Vyshnavi 4. N Divya 5. M Madhuri | Mohan Mantra | Workshop | Sree Vidyanikethan Educational Institutions, Tirupati | | **9** | 1. V Sunitha 2. Y Ranjitha | Jignasa – 2016 | Workshop | G. Pulla Reddy Engineering College, Kurnool. | | **10** | R Yamini Devi | IEEE Workshop | Workshop | JNTUA, Ananthapuramu. | | **11** | 1. Deepthi E 2. Divya N 3. Jayasree A 4. Jayasree Y 5. Naga Sravanthi M 6. Naga Sujana M 7. Nishad Anjum C 8. B R Aisha 9. B Chandana 10. Sai Sharada G 11. Vyshnavi P | PRESTO 2K17 | Technical Symposium | Anantha Lakshmi Institute of Technlogy and Sciences, Ananthapuaramu | | **12** | 1. Anusha C 2. Bhargavi Lakshmi B 3. Bhavana G 4. Bhavitha K 5. Darshini M 6. Dileep M 7. Gayathri B 8. Gayathri D 9. Hemalatha B 10. Neema Tabassum R 11. Prabhavathi M 12. Ruhia M 13. Saheer Sultana H 14. Vyshnavi B 15. A Nandini | Mobile Technologies | Workshop | Sanskrithi School of Engineering, Puttaparthy | | **13** | 1. Sai Sharada G 2. Vyshnavi P 3. E Deepthi 4. D Shadiya Begum 5. S Soumya 6. R Ranjitha | Technical Expo for Startups-2K17 | Workshop | JNTUA, Ananthapuramu | | **14** | 1. C. Nizad Anjum 2. A Jaya Sree 3. V Manasa | Mohan Mantra | Paper Presentation | Sree Vidyanikethan Educational Institutions, Tirupati | | **15** | N Divya | FUZION – 2K16 | Paper Presentation | SKU Engineering College, Ananthapuramu | | **16** | N Divya | Shodana – 2K16 | Paper Presentation | Gates Engineering College, Gooty | | **17** | N Divya | Paper Presentation | PiXEl – 2K16 | JNTUA , Ananathapuramu | | **18** | 1. P Sai Lalitha 2. B Vasanthi | Workshop | Workshop | SSE, Puttaparthy | | **19** | **2017 - 18** | 1. Sai Rahul M 2. Srujana P 3. Skandha D 4. Sai Lekhya K 5. Vamsi Krishna C 6. Ramya Sai N | Internet of Things | Workshop | Muffakham Jah College of Engineering and Technology, Hyderabad. | | **20** | 1. Deepika P 2. Divya J 3. V P Mounika 4. Asha S 5. Gowthami U 6. Bhavana S 7. Mounika Bai P | Mohan Mantra | Paper Presentation | Sree Vidyanikethan, Tirupathi | | **21** | 1. V P Mounika 2. Asha S 3. Deepika P 4. Lavanya C | Phreak – 2k17 | Paper Presentation | SVIT - Ananthapuramu | | **22** | 1. Anil M 2. Anil Rao M 3. Ashwaq S 4. Mounika J 5. Bhargavi R 6. Afreen S 7. Alekhya B 8. Naga Sujana M 9. Nandessh K 10. Nikitha T 11. Naga Sravanthi M 12. Akshaya M 13. Lasya GNS 14. Keerthi D 15. Sharanya V | University Level Engg Tech Fest – 2K18 | Design Contest | JNTUA - Ananthapuramu | | **23** | 1. Rohitha A 2. Manisha P | Workshop | Student Workshop | MITS - Madanapalle | | **24** | 1. Tarakeshwar S 2. Manasa S V 3. Harshitha P 4. Hemalatha B | Workshop | Student Workshop | SVU College of Engineering, Tirupathi | | **25** | 1. Bhargava Lakshmi B 2. Anusha C 3. Vyshnavi P | FUZON 2K18 | Technical Symposium | SKU College of Engineering, Ananthapuramu | | **26** | Hemalatha B | PIXEL 2K18 | Coding Contest | JNTUA - Ananthapuramu | | **27** | 1. Vyshnavi P 2. Sai Sharadha G | PIXEL 2K18 | Paper Presentation | JNTUA - Ananthapuramu | | **28** | Nandini A | TECHNITUOE – 2K18 | Paper Presentation | PVKKIT - Ananthapuramu |   ***Table B.4.6.3a:*** | | | | |

**4.6.3b. Participation of the students in the events outside the state:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Academic Year** | **Student Name** | **Event Name** | **Event Type** | **College Name**  **& State** |
| **1** | **2016-2017** | 1. Y**.** Manoj Kumar Reddy 2. S. Shama Afreen 3. T. Nikitha | Master Orator Championship – 2016 | Paper Presentation | BVRIT Bachipally, Hyderabad. |
| **2** | 1. Ms. Anjum Anju 2. Ms. Farhana 3. Ms. P.Lekha | Pravega – 2016 | Workshop | IISc Bangalore |

***Table B.4.6.3b:***

**4.6.3c. Prizes/Awards received by the students in various events:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Academic Year** | **Student Name** | | **Event Name** | **Event Type** | **College Name & State** | **Achievement** |
| **1** | **2015 -2016** | | Mr. N. V. Pruthvi Raj | Code Marathon | Coding Contest | JNTUA , Ananathapuramu, Andhra Pradesh | Second Prize |
| **2** | **2016 - 2017** | | N Divya | Shodana – 2K16 | Paper Presentation | Gates Engineering College, Gooty | First Prize |
| **3** | **2017 - 2018** | | 1. Bhargava Lakshmi B 2. Anusha C 3. Vyshnavi P | FUZON 2K18 | Technical Symposium | SKU College of Engineering, Ananthapuramu | Second Prize |

***Table B.4.6.3c:***

|  |  |  |
| --- | --- | --- |
| **CRITERION 5** | **Faculty Information and Contributions** | **200** |

**5. FACULTY INFORMATION AND CONTRIBUTIONS (200)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of the Faculty Member | Qualification | | | Association with the institution | Designation | Date on which designated as Professor/Associate professor | Date of joining the institution | Department | Specialization | Academic research | | | Currently associated (Y/N) date of leaving (In case currrently associated is (‘’No’’) | Nature of association( Regular / Contract) |
| Degree  (Highest degree) | University | Year of attaining higher qualification | Research paper publications | Ph.D. Guidance | Faculty receiving Ph.d. during the assesment years |

**Note:** *Please provide details for the faculty of the department, cumulative information for all the shifts for all academic years starting from current year in above format in Annexure - II.*

**5.1. Student-Faculty Ratio (SFR) (20)**

(To be calculated at Department Level)

No. of UG Programs in the Department (n): \_\_\_\_1\_\_\_\_\_\_

No. of PG Programs in the Department (m): \_\_\_\_1\_\_\_\_\_\_

No. of Students in UG 2nd Year= u1

No. of Students in UG 3rd Year= u2

No. of Students in UG 4th Year= u3

No. of Students in PG 1st Year= p1

No. of Students in PG 2nd Year= p2

**No. of Students = Sanctioned Intake + Actual admitted lateral entry students**

(The above data to be provided considering all the UG and PG programs of the department)

S=Number of Students in the Department = UG1 + UG2 +… +UGn + PG1 + …PGn

F = Total Number of Faculty Members in the Department (excluding first year faculty)

**Student Teacher Ratio (STR) = S / F**

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **2017-18** | **2016-17** | **2015-16** |
| u1 | **120+24=144** | **120+24=144** | **120+24=144** |
| u2 | **120+24=144** | **120+24=144** | **120+24=144** |
| u3 | **120+24=144** | **120+24=144** | **120+24=144** |
| UG1 | **432** | **432** | **432** |
| p1 | **24** | **24** | **24** |
| p2 | **24** | **24** | **24** |
| PG1 | **48** | **48** | **48** |
| Total No. of Students in the  Department **(S)** | **480** | **480** | **480** |
| No. of Faculty in the  Department **(F)** | **28** | **28** | **28** |
| Student Faculty Ratio (SFR) | **SFR1=S1/F1**  **=480/28**  **=17.142** | **SFR1=S1/F1**  **=480/28**  **=17.142** | **SFR1=S1/F1**  **=480/28**  **=17.142** |
| Average SFR | **SFR=(SFR1+SFR2+SFR3)/3**  **=17.14+17.14+17.14/3**  **=17.142** | | |

***Table B.5.1:***

***Note:*** Marks to be given proportionally from a maximum of 20 to a minimum of 10 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below:

< = 15 - 20 Marks

< = 17 - 18 Marks

< = 19 - 16 Marks

< = 21 - 14 Marks

< = 23 - 12 Marks

< = 25 - 10 Marks

> 25.0 - 0 Marks

* Minimum 75% should be Regular/ full time faculty and the remaining shall be Contractual Faculty as per AICTE norms and standards.
* The contractual faculty (doing away with the terminology of visiting/adjunct faculty, whatsoever) who have taught for 2 consecutive semesters in the corresponding academic year on full time basis shall be considered for the purpose of calculation in the Student Faculty Ratio.

**5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:**

|  |  |  |
| --- | --- | --- |
|  | **Total number of regular faculty in**  **the department** | **Total number of contractual**  **faculty in the department** |
| **2017-18** | 28 | 0 |
| **2016-18** | 28 | 0 |
| **2015-16** | 28 | 0 |

***Table B.5.1.1:***

**5.2 Faculty Cadre Proportion (25)**

The reference faculty cadre proportion is 1(F1):2(F2):6(F3)

F1: Number of Professors required = 1/9 x Number of faculty required to comply with 20:1 Student-teacher ratio based on No. of students (N) as per 5.1

F2: Number of Associate Professors required = 2/9 x Number of faculty required to comply with 20:1 Student-faculty ratio based on No. of students (N) as per 5.1

F3: Number of Assistant Professors required = 6/9 x Number of faculty required to comply with 20:1 Student-faculty ratio based on No. of students (N) as per 5.1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Professors** | | **Associate Professors** | | **Assistant Professors** | |
|  | Required F1 | Available F1 | Required F2 | Available F2 | Required F3 | Available F3 |
| **2017-18** | 2.67 | 2 | 5.34 | 1 | 16.02 | 25 |
| **2016-17** | 2.67 | 2 | 5.34 | 1 | 16.02 | 25 |
| **2015-16** | 2.67 | 2 | 5.34 | 1 | 16.02 | 25 |
| **Average numbers** | **RF1=2.67** | **AF1=2** | **RF2=5.34** | **AF2=1** | **RF3=16.02** | **AF3=25** |

***Table B.5.2:***

Cadre Ratio Marks = 

= [0.749+(0.187x0.6) +(1.56x0.4)]x12.5

= (0.749+0.1122+0.624) x12.5

=**18.56**

* If AF1 = AF2= 0 then zero marks
* Maximum marks to be limited if it exceeds 25

Example: Intake = 60 (i.e. total no. of students= 180); Required number of Faculty: 9; RF1= 1,RF2=2 and RF3=6

**Case 1:** AF1/RF1= 1; AF2/RF2 = 1; AF3/RF3 = 1; Cadre proportion marks = (1+0.6+0.4) x 12.5= 25

**Case 2:** AF1/RF1= 1; AF2/RF2 = 3/2; AF3/RF3 = 5/6; Cadre proportion marks = (1+0.9+0.3) x12.5 = limited to 25

**Case 3:** AF1/RF1=0; AF2/RF2=1/2; AF3/RF3=8/6; Cadre proportion marks = (0+0.3+0.53) x12.5 = 10.4

**5.3 Faculty Qualification (25)**

FQ = 2.5 \* [((10X +4Y)/F)] where X is no. of faculty with Ph.D.; Y is no. of regular faculty with M.Tech; F is no. of regular faculty required to comply 1:20 Faculty Student ratio (no. of faculty and no. of students required are to be calculated as per 5.1)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Years** | **X** | **Y** | **F** | **FQ = 2.5 \* [((10X +4Y)/F)]** |
| **2017-18** | 3 | 25 | 24 | =2.5\*[((10\*3+4\*25)/24)]  = **13.54** |
| **2016-17** | 3 | 25 | 24 | =2.5\*[((10\*3+4\*25)/24)]  = **13.54** |
| **2015-16** | 3 | 25 | 24 | =2.5\*[((10\*3+4\*25)/24)]  = **13.54** |
| **Average Assessment** | | | | **Average Assessment** |

***Table B.5.3:***

**5.4. Faculty Retention (25)**

**No. of regular faculty members in 2015-2016 =** 31 **2016-2017=** 31 **2017-2018=**29

|  |  |
| --- | --- |
| **Item**  (% of faculty retained during the period of assessment keeping CAYm3 as base year) | Marks |
| >=90% of required Faculty members retained during the period of assessment keeping CAYm3 as base year) | 25 |
| >=75% of required Faculty members retained during tfhe period of assessment keeping CAYm3 as base year) | 20 |
| >=60% of required Faculty members retained during the period of assessment keeping CAYm3 as base year) | 15 |
| >=50% of required Faculty members retained during the period of assessment keeping CAYm3 as base year) | 10 |
| <50% of required Faculty members retained during the period of assessment keeping CAYm3 as base year) | 0 |

***Table B.5.4a:***

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **2015-16** | **2016-17** | **2017-18** |
| **No of faculty retained** | 25 | 20 | 19 |
| **Total No of faculty** | 28 | 28 | 28 |
| **% of faculty retained** | **89.28** | **71.42** | **67.86** |

***Table B.5.4b:***

Average: 76.18

Assessment Marks: 20.00

**5.5 Innovations by the Faculty in Teaching and Learning (20) Institution Marks: 20.00**

*Innovations by the Faculty in teaching and learning shall be summarized as per the following description.*

Srinivasa Ramanujan Institute of Technology provides innovative teaching and learning methods to impart knowledge to the students. The purpose of these innovative methods is to improve knowledge, empower students and strengthen them to achieve their goals. The following innovative methods are followed by the faculty to improve the learning process in addition to conventional methods:

* **Development of e-content**: After allotment of subjects to the faculty, a detailed e-content material is prepared by every faculty on all subjects. The prepared e-content material is reviewed by a team of senior faculty members of the department concerned. This e-content material is uploaded in srit website, well in advance, where every student can access and use this study material and is available in the public domain.
* **Video Presentations**: Faculty will prepare video presentations on certain topics or subjects allotted to them. The delivery of the lecture in the classroom will be done with the aid of video presentations which helps the students in clear understanding of the concepts.
* **Collaborative Learning**: The teacher will create an environment that fosters creativity, bringing together multi-talented groups of students who work in close collaboration together for exchanging knowledge, ideas and innovations to flourish.
* **Group Discussions:**The students are allowed to participate in Group Discussions, which let the students to share their views and opinions with other students on a given topic. The teacher will moderate the discussion and this activity helps the students to learn leadership qualities, cooperation skills, communication skills, analytical skills and ability to work in a team.
* **Mini Projects:**Teacher will propose certain Mini Projects and students will execute as a team, which will help them in enhancing their subject knowledge.
* **Technical quiz:** The faculty concerned will conduct a technical quiz on the topics which have been covered at the end of every unit of the syllabus. Conducting this kind of technical quiz will provide the students better understanding on the subject.
* **Demonstrations:**Students are taken to the laboratory and are demonstrated the working of the equipment and their characteristics. The demonstration helps the students to connect hard time theories and to understand application of theories. The demonstration models are used by the faculty concerned to make their explanation more effective in certain subjects.
* **Virtual Labs:** In every laboratory course, the student is doing at least one or two experiments using virtual labs. This will facilitate the student better learning which will promote the development of methodological skills and competencies, investigation through experiments, team work and communication among students.
* **Industrial visits:** Students are taken for industrial visits to familiarize them with industrial practices and have thorough understanding of engineering principles and their practical application. It also provides the students an insight regarding internal working of organizations.
* **Use of NPTEL lectures:** To inculcate lifelong learning among students the teacher will use online NPTEL lectures and material from other reputed universities to improve their knowledge.

**5.6. Faculty as Participants in Faculty Development / Training Activities/STTPs (15)**

* A faculty maximum five points for participation
* Participation in 2 to 5 days faculty/faculty development program : 3
* Participation >5 days faculty/faculty development program : 5

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SNO** | **Name of the Faculty** | **Max. 5 per Faculty** | | |
| **2017-18** | **2016-17** | **2015-16** |
| 1 | Dr. T. Hitendra Sarma | 5 | 5 | 5 |
| 2 | Dr. B. Lakshmi Narayana Reddy | 5 | 3 | 3 |
| 3 | Dr. G. K. Venkata Narasimha Reddy | 0 | 0 | 3 |
| 4 | G. Hemanth kumar Yadav | 5 | 5 | 3 |
| 5 | B. Sreedhar | 0 | 5 | 0 |
| 6 | C. Sudheerkumar | 5 | 5 | 3 |
| 7 | G. Chinnapullaiah | 5 | 5 | 3 |
| 8 | K. Varun Kumar Reddy | 5 | 0 | 0 |
| 9 | L. Suman | 5 | 5 | 5 |
| 10 | M. Mallikarjuna | 0 | 5 | 5 |
| 11 | M. Narasimhulu | 5 | 5 | 5 |
| 12 | M. Ranjit Reddy | 3 | 3 | 5 |
| 13 | P. Veeraprakash | 5 | 5 | 5 |
| 14 | T. Venkata Naga Jayudu | 5 | 3 | 5 |
| 15 | T. Kavitha | 3 | 5 | 5 |
| 16 | M. Soumya | 5 | 5 | 0 |
| 17 | P. Manasa | 0 | 5 | 0 |
| 18 | P. Shabana | 5 | 5 | 5 |
| 19 | S.L. Sailaja | 5 | 5 | 5 |
| 20 | C. Reshma | 0 | 5 | 5 |
| 21 | M. Hemalatha | 0 | 5 | 0 |
| 22 | S. Radha | 0 | 5 | 5 |
| 23 | P. Praneel kumar | 3 | 5 | 5 |
| 24 | C. Rekha | 5 | 5 | 5 |
| 25 | G. Shabana | 5 | 0 | 0 |
|  |  |  |  |  |
| **SUM** | | **84** | **104** | **85** |
| **RF=no of faculty required to comply**  **With 20:1 student-faculty ratio as per 5.1** | | 26 | 26 | 28 |
| **Assessment = 3\*(sum/0.5 RF)**  **(marks limited to 15)** | | 3\*(84/13)  **19.38** | 3\*(104/13)  **24** | 3\*(85/14)  **18.21** |
| **Average Assessment over 3 years(marks limited to 15)= 20.53** | | | | |

***Table B.5.6:***

**5.7 Research and Development (30)**

**5.7.1 Academic Research (10)**

Academic research includes research paper publications, Ph.D. guidance, and faculty receiving Ph.D. during the assessment period.

• Number of quality publications in refereed/ SCI Journals, citations, Books/ Book Chapters etc.(6)

• Ph.D. guided / Ph.D. awarded during the assessment period while working in the institute(4)

All relevant details shall be mentioned.

The faculty of Institute participate actively in research leading to various paper publications in good number of journals in view of this the following are the various publications done by the faculty in various Journals and Conferences.

**The following table indicates the detail information about the total number of papers published by the faculty.**

**5.7.1.1. Research/Book publications**

|  |  |  |
| --- | --- | --- |
| **S.No** | **Academic Year** | **Number of Publications** |
| 1 | 2017-18 | 13 |
| 2 | 2016-17 | 12 |
| 3 | 2015-16 | 17 |

***Table B.5.7.1.1a: Number of publications***

**2017-18**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.NO** | **Name of  Faculty** | **Title of Publication** | **Journal / Conference**  **- Details of the Journal in which paper has been published** |
|  | Dr. B.Lakshmi Narayana Reddy | Permutation Dependent Symmetric Key Cipher | International Conference on Electrical, Electronics, Computers, Communication, Mechanical & Computing (EECCMC) |
| Fibonacci Series Based Cryptography | International Conference on Electrical, Electronics, Computers, Communication, Mechanical & Computing (EECCMC) |
| Inter Image Element Loss Less Image Compression with Delimiter and Folding | International Conference on Power, Control, Signals & Instrumentation Engineering - (ICPCSI - 2017) |
|  | DrT.HitendraSarma | Improved k-means for Big Data clustering | IEEE International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing (EECCMC) |
| Consistent and Composite Key Cryptosystem for secure Data Storage and Access in Cloud | IEEE International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing (EECCMC) |
|  | Dr. G. K. VenkataNarasimha Reddy | Permutation Dependent Symmetric Key Cipher | International Conference on Electrical, Electronics, Computers, Communication, Mechanical & Computing (EECCMC) |
| Fibonacci Series Based Cryptography | International Conference on Electrical, Electronics, Computers, Communication, Mechanical & Computing (EECCMC) |
|  | G. Hemanthkumaryadav | A Survey on SLA Based Resource Allocation Strategies in Cloud Computing Environment | International Conference on Electrical, Electronics,Computers,Communication,Mechanical& Computing (EECCMC-2018) |
|  | P. Veeraprakash | Permutation Dependent Symmetric Key Cipher | International Conference on Electrical, Electronics, Computers, Communication, Mechanical & Computing (EECCMC) |
| Fibonacci Series Based Cryptography | International Conference on Electrical, Electronics, Computers, Communication, Mechanical & Computing (EECCMC) |
| 6. | P. Praneel Kumar | Inter Image Element Loss Less Image Compression with Delimiter and Folding | International Conference on Power, Control, Signals & Instrumentation Engineering - (ICPCSI - 2017) |

***Table B.5.7.1.1b: Publications in the academic year 2017-18***

**2016-17**

|  |  |  |  |
| --- | --- | --- | --- |
| **SNO.** | **Name of  Faculty** | **Title of Publication** | **Journal / Conference**  **- Details of the Journal in which paper has been published** |
|  | Dr B.Lakshmi Narayana Reddy | Loss Less Color Image Compression Using Intra Pixel Redundancy With Folding | International Conference on Smart Cities(ICSC'16) |
|  | Dr G. K. VenkataNarasimha Reddy | A Data Allocation Stratagy for Dyanamic Groups in Cloud Based On Protected Anti Collision | International Journal of Reasearch,  https://edupediapublications.org/journals/index.php/IJR/article/view/5286/5088 |
|  | Dr T.HitendraSarma | Speeding-up the prototype based kernel k-means clustering method for large data sets | The International Joint Conference on Neural Networks |
|  | K. Varun Kumar Reddy | Improving URL Analysis Model for Focused Crawler | Improving URL Analysis Model for Focused Crawler ISSN: 2277 128X Under IJARCSSE |
| A Dual Encryption is providing a Better Security on the Public Cloud Security Mechanism | A Dual Encryption is providing a Better Security on the Public Cloud Security Mechanism ISSN(Online) : 2320-9801, ISSN(Print) : 2320-9798 Under IJIRCCE, DOI : 10.15680/IJIRCCE. |
| An Analytical Study and Implementation of Multi-Path File Sharing On Distributed Network | An Analytical Study and Implementation of Multi-Path File Sharing On Distributed Network ISSN(Online) : 2319-8753, ISSN(Print) : 2347-6710 Under IJIRSET, DOI : 10.15680/IJIRSET |
| 5 | T.Venkata Nagajayudu | Detecting Truthfulness of Packet dropping Attacks using Public Auditing System in Wireless Ad hoc Networks | International Journal of Research (IJR), ISSN: 2348-6848 |
| 6 | S.L. Sailaja | Confrontation and Oppurtunities of Big data-Survey | International Conference on Big Data Analytics and Computational Intelligence |

***Table B.5.7.1.1c: Publications in the academic year 2016-17***

**2015-16**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.NO** | **Name of  Faculty** | **Title of Publication** | **Journal / Conference**  **- Details of the Journal in which paper has been published** |
| **1** | Dr. T HitendraSarma | Speeding-up the prototype based kernel k-means clustering method for large data sets | The International Joint Conference on Neural Networks, July 2016. |
| 2 | P Praneel Kumar | A Novel approach for Broken character Recognition on vehicle license plates using SVMS | International Journal of Innovative Research in  Computer and Communication Engineering. ISSN:2320-9801,Aug-2015. |
| A Novel Technique for Edge Detection using Gabor Transform and K-Means with FCM Algorihtms | 2nd International Conference on Emerging Trends in Electrical, Communication and Information Technologies - (ICECIT-2015),Dec-2015. |
| 3 | DrB.Lakshmi Narayana Reddy | Lossless Grayscale Image Compression Using Intra Pixel Redundancy | International Journal of Applied Engineering Research, ISSN 0973-4562 |
| 4 | Dr GKVN Reddy | Data Retrieval for Decentralized Tolerant Military Networks | International Journal of Reasearch  <https://edupediapublications.org/journals/IJR/article/view/2746/2633> |
| Public Auditing and privacy preserving data sharing in the cloud | International Journal of Reasearch  https://edupediapublications.org/journals/IJR/article/view/2748/2635 |
| 5 | G Hemanth Kumar Yadav | Intrusion Detection System with Traffic Analysis in Mobile Adhoc Networks | National Conference on NCRICN 2015 |
| 6 | P. Shabana | Secure Data Privacy Through Linear Programming In Cloud Computing | PEZZOTTAITE International journal of entrepreneurship and business environment ISSN 2319-9016 Volume 4 Number 2 (2015), pp. 1421-1424. |
| 7 | M.Soumya | Energy Efficient Secure Aggregation Technique in WIRELESS Sensor Network | National Conference on Recent Innovations in Computer Networks |
| 8 | T. VenkataNagajayudu | Secure Snapshot And Continuous Location Privacy for Location Based Systems | International Journal of Innovative Technology and Research (IJITR), ISSN: 2320-5547 |
| A Routing policy for Minimizing Distortion for Video Traffic in Wireless Multihop Networks | International Journal of Innovative Technology and Research (IJITR), ISSN: 2320-5547 |
| Minimizing the Test Packet Failures by Applying Threshold on Test Packet Generation in Debugging and Network Testing | International Journal of Computer Techniques ISSN :2394-2231 |
| 9 | P. VeeraPrakash | A Customized Framework for Improving the Quality of Web Search | International Journal of Advanced Ressearch in Computer Science and Software Engineering -ISSN:2277128X |

***Table B.5.7.1.1d: Publications in the academic year 2015-16***

**5.7.1.2. Ph. D Guided/Awarded:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Academic Year** | **Faculty Name** | **Title of the Thesis** | **University** |
| 1 | 2015-16 | Dr. B.Lakshmi Narayana Reddy | Intra-pixel & delimiter based multi-dimensional  compressions for images | Yogi vemana,  kadapa. |

***Table B.5.7.1.2a: Ph. D Awarded List***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SNO.** | **Name of Faculty guiding Students** | **Name of candidate pursuing Ph.d** | **Year of Completion** | **Title of Thesis** | **Co-guides (if any)** | **University** |
| 1 | Dr.T.HitendraSarma | O.Subhashchandergoud | Ongoing | Expecation&Maximisation of prediction utilizing frequency patterns and non corelationcomparision methods on a data set | Prof. C.Shobabindu | Jawaharlal Nehru Technological University, Anantapur |
| MuraliKanth | Ongoing | MVD Classifier for Share market Prediction Achieving Efficiency and fidelity | Prof.  C.Shobabindu | Jawaharlal Nehru Technological University, Anantapur |
| D.D.Suribabu | Ongoing | some improvements over k-means for clustering the data | Prof. C.Shobabindu | Jawaharlal Nehru Technological University, Anantapur |

***Table B.5.7.1.2b: Ph. D Guidance by Faculty***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Faculty Name** | **Title of the Thesis** | **Supervisor/Guide** | **University** |
| 1 | M Rajith Reddy | Traffic management at signalized intersection using machine learning techniques. | Prof. K.G.Srinivasan | JNTUA Anantapur |
| 2 | M Narasimhulu | Increasing bandwidth utilization in IEEE 802.16 Networks | Prof. P. Chenna Reddy | JNTUA Anantapur |
| 3 | M MalliKarjuna |  |  | KLU Univeristy |
| 4 | S L Sailaja |  | Dr. P. Rajesh | KLU Univeristy |
| 5 | G.Hemanth Kumar Yadav | Design of Service Level Agreement based resource allocation strategies on cloud computing framework | Dr. K. Madhavi | JNTUA Anantapur |
| 6 | T.Venkata Naga Jayudu | Energy efficient routing for event-triggered vicccdeo streaming in WMSNs. | Dr. M. Rama Krishna reddy | JNTUA Anantapur |
| 7 | R. Sandeep Kumar |  | Dr. Raghavendra V Kulkarni | MS Ramaiah University of Applied Sciences |

***Table B.5.7.1.2c: Ph. D Pursuing Faculty***

**5.7.2 Sponsored Research (5)**

**2015-16:**

|  |  |  |  |
| --- | --- | --- | --- |
| Project Title | Duration | Funding Agency | Amount (Rs.) |
| ------ | ------ | ------ | 0.00 |
| ------ | ------ | ------ | Total Amount(X): 0.00 |

**2016-17:**

|  |  |  |  |
| --- | --- | --- | --- |
| Project Title | Duration | Funding Agency | Amount (Rs.) |
| ------ | ------ | ------ | 0.00 |
| ------ | ------ | ------ | Total Amount(X): 0.00 |

**2017-18:**

|  |  |  |  |
| --- | --- | --- | --- |
| Project Title | Duration | Funding Agency | Amount (Rs.) |
| ------ | ------ | ------ | 0.00 |
| ------ | ------ | ------ | Total Amount(Y): 0.00 |

**Cumulative Amount (X + Y + Z) = 0**

**5.7.3 Development Activities (10)**

**Provide details:**

• Product Development

• Research laboratories

• Instructional materials

• Working models/charts/monograms etc.

The Department regularly encourages the students to develop various working models which are innovative in nature thus bringing out the technological talents of the students.

**5.7.3a. Product Development:**

|  |  |  |
| --- | --- | --- |
| **SNO.** | **Product** | **Faculty Name** |
| 1 | Smart Anantha | G. ChinnaPullaiah |
| 2 | SRIT e-wallet | Dr. T. HitendraSarma |
| 3 | Online Exam | P. Praneel Kumar |
| 4 | Blood Bank | Dr. G.K.V.Narasimha Reddy |
| 5 | Leave Management | P. Veera Prakash |
| 6 | Text Expander | C. Sudheer Kumar |
| 7 | Student feedback | M. Ranjith Reddy |

***Table B.5.7.3a: Product Development Details***

**5.7.3b. Research Laboratories:**

|  |  |  |
| --- | --- | --- |
| **S.No** | **Research Lab** | **Faculty Name** |
| 1 | Machine learning lab | Dr.T.Hitendrasarma |
| 2 | Data communication & security lab | Prof. B. LakshmiNarayana Reddy,  Prof. G.K.VenkataNarasimha Reddy |

***Table B.5.7.3b: Research Laboratories details***

**5.7.3c. Instruction Materials:**

|  |  |  |
| --- | --- | --- |
| **S.No** | **Class** | **Link** |
| 1 | II B. Tech I Sem | https://sites.google.com/srit.ac.in/sritcs/ii-btechr15/i-sem |
| 2 | II B. Tech II  Sem | https://sites.google.com/srit.ac.in/sritcs/ii-btechr15/ii-sem |
| 3 | III B. Tech I Sem | https://sites.google.com/srit.ac.in/sritcs/iii-btechr15/i-sem |
| 4 | III B. Tech II  Sem | https://sites.google.com/srit.ac.in/sritcs/iii-btechr15/ii-sem |
| 5 | IV B. Tech I Sem | https://sites.google.com/srit.ac.in/sritcs/iv-b-tech/i-sem-r13 |
| 6 | IV B. Tech II  Sem | [https://sites.google.com/srit.ac.in/sritcs/iv-b-tech/ii-sem-r13](https://sites.google.com/srit.ac.in/sritece/iv-b-tech/ii-sem-r13) |

***Table B.5.7.3c: Developed Instruction Material Portal links***

**5.7.3d. Instruction Materials for Laboratories**

|  |  |  |
| --- | --- | --- |
| **SNO** | **Name of the Laboratory** | **Faculty Name** |
| 1 | Database Management Systems Laboratory | Mr. P. Veera Prakash |
| 2 | Object Oriented Analysis and Design & Software Testing Laboratory | Ms. C.Rekha |
| 3 | Operating Systems Laboratory | Dr. G. K. VenkataNarasimha Reddy |
| 4 | Computer Networks & Network Security Lab | Mr. Y. Ramesh |
| 5 | Mobile Application development Lab | Mrs. P. Shabana |
| 6 | Java Programming Laboratory | Mr. K.Varun Kumar Reddy |
| 7 | Web and Internet Technologies Laboratory | Mr. G. Hemath Kumar Yadav |
| 8 | Data Warehousing & Mining Laboratory | Mrs. S. L. Sailaja |
| 9 | Data Structures Lab | Dr. B. Lakshmi Narayana Reddy |
| 10 | IT Workshop | Mr. C. Sudheer Kumar |
| 11 | Compiler Design and Assembly Language Programming Lab | Mr. L. Suman, Mr. D. Maruthi Kumar |
| 12 | Computer Programming Lab | Mr. G. ChinnaPullaiah |
| 13 | Software Testing & CASE Tools Lab | Mr. M. Siva Sankar |
| 14 | Web Technologies & Data Mining Lab | Mrs. P.Shabana |

***Table B.5.7.3d: Instruction Materials for Laboratory Details***

**5.7.3e. Working Models/Charts/Monograms:**

|  |  |  |  |
| --- | --- | --- | --- |
| **SNO.** | **Description** | **Type(Working Models/Charts/monograms)** | **Faculty Name** |
| 1 | Map Reduce for Beginners | Monograph | P.Praneelkumar,  S.L.Sailaja,  C.Sudheer Kumar. |
| 2 | Improvements to nearest neighbouring classifier:Pattern synthesis,compact data representation & other schems | Monograph | Dr.T.Hitendrasarma |
| 3 | Android versions | Chart | P.Manjeera |
| 4 | Top 10 Anti-virus | Chart | P.Veera Prakash |
| 5 | FLAT grammars | Chart | S.L.Sailaja |
| 6 | Automata Grammar Genarations | Chart | S.L.Sailaja |
| 7 | Model for Testing | Chart | M.Sivashankar |
| 8 | Mapping functions | Chart | M.Narasimhulu |
| 9 | Basic building blocks of UML | Chart | C.Rekha |
| 10 | Diagrams of UML | Chart | T.Kavitha |
| 11 | Smart Anantha | working model | G.ChinnaPullaiah |
| 12 | SRIT e-wallet | working model | T.HitendraSarma |
| 13 | Online Exam | working model | P.Praneel Kumar |
| 14 | Blood Bank | working model | G.K.V.Narasimha Reddy |
| 15 | Leave Management | working model | P.Veera Prakash |
| 16 | Text Expander | working model | C.Sudheer Kumar |
| 17 | Student feedback | working model | M.Ranjith Reddy |

***Table B.5.7.3e: Working Models/Charts/Monograms***

**5.7.4 Consultancy (from industry) (5)**

(Provide a list with Project Title, Funding Agency, Amount and Duration) Funding amount (Cumulative during assessment years)

**2017-18:**

|  |  |  |  |
| --- | --- | --- | --- |
| Project Title | Duration | Funding Agency | Amount (Rs.) |
| ------ | ------ | ------ | 0.00 |
| ------ | ------ | ------ | ------ |

**2016 – 17:**

|  |  |  |  |
| --- | --- | --- | --- |
| Project Title | Duration | Funding Agency | Amount (Rs.) |
| ------ | ------ | ------ | 0.00 |
| ------ | ------ | ------ | ------ |

**2015 – 16:**

|  |  |  |  |
| --- | --- | --- | --- |
| Project Title | Duration | Funding Agency | Amount (Rs.) |
| ------ | ------ | ------ | 0.00 |
| ------ | ------ | ------ | ------ |

|  |
| --- |
|  |

**5.8 Faculty Performance Appraisal and Development System (FPADS)(30)**

Faculty Performance Appraisal and Development System is developed to improve the performance of the faculty members in Teaching, Learning And Evaluation Related Activities, Profession Related Contribution & Research And Related Contributions.

**Faculty Performance Appraisal System:**The performance appraisal of the faculty is evaluated based on the academic performance indicators (APIs) at the end of every academic year.  The performance is evaluated by every faculty for 100 points as given below.

* Teaching, Learning And Evaluation Related Activities (65 Points).
* Additional Teaching Work Load (5 Points)
* Course File & Material/Lab Manual Completion (20 Points)
* Student Feedback (20 Points)
* Results (20 Points)
* PROFESSION – RELATED CONTRIBUTION**(**20 Points**)**
* Additional Responsibilities (5 Points)
* Memberships (5 Points)
* Workshops/FDPs/Conferences Attended as a Participant or Resource person/Year (10 Points)
* RESEARCH AND RELATED CONTRIBUTIONS**(**15 Points**)**
* Publications/Reviewer (10 Points)
* Funded Projects (Ongoing/Completed) (5 Points)

**Faculty Development System:**Every staff member should get the minimum of 60 points of API score. In case if any staff member getting a lower API score depending on strengths & weaknesses, for his/her development the following suggestions are made and reviewed after every year.

* To adopt better teaching methodologies to improve the academic performance of the students.
* To attend faculty development programs to update their knowledge.
* To attend conferences & research oriented programs to his/her improve research activities.
* To become a member of professional bodies.

**5.9. Visiting/Adjunct Faculty/Emeritus Faculty etc. (10)**

The following are the industry experts who have visited the college and delivered appropriate courses. The details are as shown in the Table B.5.9.1:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SNO** | **Academic Year** | **Details of Visiting/Adjunct Faculty** | **Number of hours handling** | **Class** | **Subject** |
| 1 | 2015-16 | M. Kishore Kumar,  Project manager,  Cognizant. | 50 | II B. Tech I Sem | OOPS through Java |
| 2 | 2016-17 | P Pavan Kumar,  ,Project Manager  TCS | 50 | IV B.Tech I Sem | Android Programming |
| 3 | 2017-18 | P. Viswanath,  Professor,  IIIT, Sri City,  Chittoor. | 50 | III B.Tech I  Sem | Data Mining &  Ware Housing |

***Table B.5.9.1:* *Details of Visiting/Adjunct Faculty***

|  |  |  |
| --- | --- | --- |
| **CRITERION 6** | **Facilities and Technical Support** | **80** |
|  |  |  |

**6. FACILITIES AND TECHNICAL SUPPORT (80)**

**6.1. Adequate and well equipped laboratories and technical manpower (30)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sr.**  **No.** | **Name of**  **the**  **Laboratory** | **No. of**  **students**  **per**  **setup**  **(Batch**  **Size)** | **Name of the**  **Important**  **equipment** | **Weekly utilization status**  **(all the courses for which the lab is utilized)** | **Technical Manpower support** | | |
| **Name of the**  **Technical staff** | **Designation** | **Qualification** |
| 1. | C & DS Lab | 1 | HP Core 2 DUO,  2 GB RAM,  160 GB HDD, 15.6” LCD Monitor, Keyboard/Mouse  GCC/Dev C/C++/  Ubuntu | Computer Programming Lab (I Year I Sem CIV/CSE/ECE/EEE/MEC) | Mr K. Ramesh | System Administrator | B.Com Computers, CCNA, MCSA |
| 2. | C & DS Lab | 1 | HP Core 2 DUO,  2 GB RAM,  160 GB HDD, 15.6”LCD Monitor, Keyboard / Mouse  GCC/Dev C/C++/  Ubuntu | Data Structures Lab (I Year II Sem CSE) | Mr K. Ramesh | System Administrator | B.Com Computers, CCNA, MCSA |
| 3. | C & DS Lab | 1 | HCL DESKTOP DC2.8/2GB/320GB/18.5” LCD Monitor/ Keyboard / Mouse  Open-Office/Ubuntu | IT Workshop Lab  (I Year II Sem CIV/CSE/ECE/EEE/MEC) | Mr K. Ramesh | System Administrator | B.Com Computers, CCNA, MCSA |
| 4. | B-Block Computer Center-S3 | 1 | HP-3090 Pro/Dual Core 3.0 GHZ/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard / Mouse  Oracle11g Express edition/ Ubuntu | DBMS Lab(II Year I SEM CSE) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 5. | B- Block Computer Center-S1,S2 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/ Mouse  JDK/Ubuntu | Java Programming Lab (II Year II Sem CSE) | Mr. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 6. | B- Block Computer Center-S1,S2 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard /Mouse  GCC compiler/Ubuntu | Operating Systems Lab (III Year I Sem CSE) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 7. | B- Block Computer Center-S1,S2 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/Mouse  DIA tool, Dev C/C++, Xrunner/Ubuntu | Object Oriented Analysis and Design& Software Testing Lab (III Year I Sem CSE) | Mr. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 8. | B- Block Computer Center-S1,S2 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard /Mouse  WAMP, Tomcat servers, Webbrowser, Note pad/Ubuntu | Web and Internet Technologies Lab (III Year II Sem CSE) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA, Linux administration. |
| 9. | B- Block Computer Center-S1,S2 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/ Mouse  WEKA Tool, Dev C/C++/ Ubuntu | Data Warehousing&Mining Lab (III Year II Sem CSE) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 10. | B-Block Computer Center-S1,S2 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/Mouse  GCC/C++/Wireshark/OpenSSL/ /GNU PGP/NMAP/ETHEREAL/ Ubuntu | Computer Networks & Network Security(IV year I Sem | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 11. | B-Block Computer Center-S1,S2 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard & Mouse  J2ME WIRELESS TOOLKIT, Android ADT Bundle/Ubuntu | Mobile Application  Development  (IV Year I Sem CSE) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 12. | B-Block Computer Center-S3 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard  GCC/ Ubuntu | Advanced Data Structures and Algorithms Lab (M.Tech I Year I Sem CS) | Mr. K. Shakir Ahmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 13. | B-Block Computer Center-S3 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/Mouse  R Software, Mongo DB, PIG, Hive Hadoop/Ubuntu | R & Analytics Lab (M.Tech I Year I Sem CS) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 14. | B-Block Computer Center-S3 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/Mouse  Dev C/C++, Web Browser, **Application Server**/Ubuntu | Software Patterns Lab (M.Tech I Year I Sem CS) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 15. | B-Block Computer Center-S3 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/Mouse  Xrunner, Test link, Selenium/Ubuntu | Advances in Software Testing Lab (M.Tech I Year II Sem CS) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 16. | B-Block Computer Center-S3 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/Mouse  Apache server/Hadoop/Ubuntu | Map Reduce Programming Lab  (M.Tech I Year II Sem CS) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |
| 17. | B-Block Computer Center-S3 | 1 | HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor/Keyboard/Mouse  J2ME WIRELESS TOOLKIT, Android ADT Bundle/Ubuntu | Mobile Application Development Lab(M.Tech I Year II Sem CS) | Mr. K. Shakeer Ahmmed | System Administrator | M.C.A,.CCNA,Linux administration |

***Table B.6.1: Adequate and well equipped laboratories, and technical manpower***

**6.2 Additional facilities created for improving the quality of learning experience in laboratories (25)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Facility Name** | **Details** | **Reason(s) for creating facility** | **Utilization** | **Areas in which students are expected to have enhanced learning** | **Relevance of POs/PSOs** |
| 1 | Internet Facility | BSNL and Vodafone/  90Mbps | Self-learning /Assignments | I, II, III and IV B.Tech students utilize these services to get knowledge | Web  Programming/Latest technologies related to curriculum | PO5,PO12 |
| 2 | Projectors | Epson | Presentations/workshops | II, III and IV B.Tech students utilize these services to get knowledge | Latest technologies related to curriculum | PO5 |
| 3 | Head set | **Zebronics** | To demonstrate audio/ video lectures | As Needed | Online Tutorials, Online certification Courses | PO5 |
| 4 | Speakers |  | To demonstrate audio/ video lectures | As Needed | Webinars and Video Lectures | PO5 |
| 5 | NPTEL Videos | NPTEL provides video lectures on various courses in Computer Science & Engineering. | 1) Remote instructor for Computer Science & Engineering Courses.  2) Certification programs on Computer Science & Engineering courses. | I, II, III and IV B.Tech students utilize these services to get knowledge and certifications. | Computer Science and Engineering courses | PO1, PO2, PO3,PO9, PO12 |
| 6 | Hebeon Work  bench Program | Program workbench application provides the virtual instructor for programming languages and latest technologies | 1. Virtual Assistance in the Labs for the following things:   1) Programming Assignments using online editor and student assessment.  2) Virtual instructors for latest technologies. | To enhance the programming skills of the students. | Programming Skills,  Python,  Java,  ASP.net,  Data structures, Android,  JQuery | PO1, PO2,  PO3,PO5,PO12 |
| 7 | APSSDC Lab |  | To learn app development technologies |  | Android App Development | PO1-PO5,  & PO12  PSO1-PSO2 |
| 8 | Additional Experiments being conducted beyond the curriculum | (i) ‘C’ Programming Lab | To make the students understand the various concepts of Computer Science and Engineering | I B.Tech  I Sem CSE | i)Create an array of structures to read multiple records of students and display them in alphabetical order based on student name.  ii) Displaying the contents of file in console window.  iii)To display the number of characters, number of lines, number of spaces in a file. | PO1-PO12,  PSO1& PSO2 |
|  |  | (ii) Data Structures |  | I B.TECH  II SEM CSE | i) Develop a program for complex number arithmetic operations.  ii)Implementing operations on strings. | PO1- PO5, PSO1-PSO2 |
|  |  | (iii) IT Workshop Lab |  | I B.Tech  II Sem CSE/CIV/MECH/ECE/EEE | i)Conversion of notepad text to excel.  ii)Creation of address labels using mail merge | PO3, PO5, PO11,PO12, PSO1-PSO2 |
|  |  | (iv) Data Base Management Systems Lab |  | II B.Tech  I Sem CSE | i)Design university database by implementing several relations.  ii) Apply various queries on university database. | PO1-PO5, PO11-PO12 |
|  |  | (v) Java Programming Lab |  | II B.Tech  II Sem CSE | i) Printing Fibonacci sequence upto the given number using non recursive function ii) Checking whether given a string is a palindrome or not. | PO4-PO7, PO11-PO12, PSO1-PSO2 |
|  |  | (vi) OOAD&ST Lab |  | III B.Tech  I Sem CSE | i) UML diagrams for library management system.  iii) Study of the Jmeter testing tool.  iv)Observing the case studies using selenium tool. | PO1-PO4, PO11-PO12, PSO1-PSO2 |
|  |  | (vii)Operating Systems |  | III B.Tech  I Sem CSE | i)To study and execute the commands in UNIX.  ii)Write a program to create a process in UNIX using system calls. | PO1,PO2,PO12 |
|  |  | (viii)Web & Internet Technologies |  | III B.Tech II Sem CSE | i)Creating a calculator application using JavaScript.  ii)To find a factorial of a given number using JavaScript. | PO1,PO2,  PO3,PO5 |
|  |  | (ix)Data Warehousing and mining |  | III B.Tech IIsem  CSE | i)Explore weather data set using WEKA.  ii)Generation of association rules for transactional database using apriori algorithm | PO1,PO2,PO5 |
|  |  | (x) Computer networks and network security |  | IV B.Tech I Sem CSE | i)Extracting LSB & MSB of a word using command line arguments  ii)Displaying the operating systems environment.  iii)Count the number of 1s in the given number | PO1,PO2,PO3,  PO5,PO8 |
|  |  | (xi) Mobile Application Development Lab |  | IV B.Tech I sem  CSE | i)Develop an android application that generates notification upon receiving a message.  ii)Calculator application | PO1,PO2,  PO3,PO5 |

***Table B.6.2: Additional facilities created for improving the quality of learning experience in laboratories***

1. **Laboratories: Maintenance and overall ambiance (10)**

**6.3.1. Maintenance:**

1. **Preventive maintenance:**

At the end of every semester, the laboratory equipment is checked and maintained in good working condition in all laboratories as preventive maintenance.

1. **Corrective maintenance:**

If any equipment is damaged during laboratory classes necessary steps are taken to service the equipment immediately as corrective maintenance

1. Do’s and don’ts and safety measures are displayed in each laboratory.

2. The preventive maintenance of computer science and engineering equipment is done every semester by technical staff under supervision of laboratory in-charge.

3. If any equipment is damaged during laboratory classes steps are taken to service the equipment immediately under corrective maintenance.

4. All systems and application software are installed and checked periodically, the systems are checked by using antivirus software at the end of every semester.

**6.3.2. Ambiance:**

1. Department has well-furnished laboratories which shall cater to all UG and PG courses as per curriculum requirements.

2. Laboratories are furnished with good working tables and quality furniture.

3. Department has experienced faculty to guide the students in all laboratories.

4. Laboratory experiments are evaluated every week as per the rubrics for laboratory evaluation.

5. Computer Laboratory is equipped with systems with high end configuration to conduct experiments as per program specific curriculum.

6. Laboratory manuals are maintained in each laboratory and distributed to students.

7. The laboratories are well ventilated and sufficient lighting is provided.

8. Each Laboratory is provided with white/black board, computer, Internet, and necessary amenities.

9. All equipment and systems are properly earthed.

|  |  |
| --- | --- |
| **1. C&DS Lab**  Equipped with HP Core 2 DUO, 2 GB RAM, 160 GB HDD, 15.6” Monitor  Softwares used:  GCC/Dev C/C++/Ubuntu | 20160929120949.jpg |
| **3. Main Block Computer Center**  Equipped withLenovo – Dual Core, 2 GB RAM, 320 GB HDD, 18.5” Monitor  Softwares used:  Python/JDK/Ubuntu | computer lab 4.jpg |
| **IMG-20160929-WA0001.jpg** | **4. B-Block Computer Center**  HP-3090 Pro/Dual Core 3.0/ 2 GB/ 320 GB HDD/18.5” LCD Monitor  Softwares used:  Oracle 11g express edition/JDK/GCC/DIA tool/Dev C/C++/Xrunner/WAMP/Tomcat Server/WEKA tool/Wireshark/open SSL/GNU PGP/NMAP/Ethereal/J2ME wireless tool kit/Android ADT Bundle/R software/MONGO DB/PIG/HIVE Hadoop/Test Link/Selenium/Ubuntu |

***Figure B.6.3.2: Laboratories maintenance and ambiance***

1. **Project laboratory (5)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Facility Name** | **Details** | **Reason(s) for creating facility** | **Utilization** | **Areas in which students/faculty are expected to have enhanced learning** | **Relevance of POs/PSOs** |
| 1 | Research & Project Lab | Lenovo-Dual core/4GB RAM/320 GB HDD/512MB Graphics card/18.5” LCD Monitor/  90Mbps Internet facility | i)To learn advanced technologies  ii)To do innovations/Research | Faculty and IV B.Tech II Sem CSE | Web  Programming/Application development/Deep learning/Networks/image processing/IoT/BigData | PO1,PO2,  PO5,PO12 |
| NS3/Android Studio/R programming/ |

***Table B.6.4: Project Laboratory***

**6.5. Safety measures in laboratories (10)**

1. All the laboratories have been properly earthed with a total of 30 earth pits and the power from distribution board is through earth leakage relay.
2. Fire extinguishers and first aid boxes placed in laboratories where ever necessary
3. Fire fighting and sand buckets at suitable locations
4. Fire extinguishers checked regularly
5. Students are instructed to come with proper dress code at all times during laboratories
6. Electrical wiring is installed properly with good material.
7. Earth resistance at the earth pit is regularly measured.
8. All electrical installations in the campus are checked periodically and the same is certified by the concerned authorities’ i.e. electrical inspectors of a state government once in a year.
9. Campus building is provided with spacious corridors, parapet walls and railings.
10. Well trained technical supporting staff monitor the laboratories at all times.
11. Damaged equipment are identified and serviced at the earliest.
12. Periodical check-up for wiring & electrical installation.

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Name of the Laboratory** | **Safety measures** |
|  |  |  |
| **1.** | Computer Programming Lab | 1. Fire Extinguisher 2. First Aid Tool kit 3. CC Cameras 4. Air Conditioners |
| **2.** | ELCS Lab | 1. Fire Extinguisher 2. First Aid Tool kit 3. CC Cameras 4. Air Conditioners |
| **3.** | Main Block Computer Center | 1. Fire Extinguisher 2. First Aid Tool kit 3. CC Cameras 4. Air Conditioners |
| **4.** | B-Block Computer Center | 1. Fire Extinguisher 2. First Aid Tool kit 3. CC Cameras 4. Air Conditioners |
|  |  |  |

***Table B.6.5: Safety measures in laboratories***

|  |  |  |
| --- | --- | --- |
| **CRITERION 7** | **Continuous Improvement** | **50** |

**7. CONTINUOUS IMPROVEMENT (50)**

**7.1. Actions taken based on the results of evaluation of each of the POs & PSOs (20)**

Identify the areas of weaknesses in the program based on the analysis of evaluation of POs & PSOs attainment levels. Measures identified and implemented to improve POs & PSOs attainment levels for the assessment years.

Actions to be written as per table in 3.3.2.

**Examples of analysis and proposed action**

**Sample 1**-Course outcomes for a laboratory course did not measure up, as some of the lab equipment did not have the capability to do the needful (e.g., single trace oscilloscopes available where dual trace would have been better, or, non-availability of some important support software etc.). Action taken-Equipment up-gradation was carried out (with details of up-gradation)

**Sample 2**-In a course on EM theory student performance has been consistently low with respect to some COs. Analysis of answer scripts and discussions with the students revealed that this could be attributed to a weaker course on vector calculus.

Action taken-revision of the course syllabus was carried out (instructor/text book changed too has been changed, when deemed appropriate).

**Sample 3**-In a course that had group projects it was determined that the expectations from this course about PO3 (like: “to meet the specifications with consideration for the public health and safety, and the cultural, societal, and environmental considerations”) were not realized as there were no discussions about these aspects while planning and execution of the project. Action taken-Project planning, monitoring and evaluation included in rubrics related to these aspects.

**POs & PSOs Attainment Levels and Actions for improvement – CAY :( 2017-2018)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **POs** | | **Target Level** | | | | | | | | | **Attainment Level** | | | **Observations** | | | | | |
| **PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.** | | | | | | | | | | | | | | | | | | | |
| PO 1 | | 2.6 | | | | | | | | | 2.63 | | | * Target attained | | | | | |
| **Action 1:** Conducted Expert Talk on “Research Perspectives in Machine Learning “on 22.07.2017 by Prof C.A. Murthy, Machine Intelligence Unit, ISI, Kolkata.  **Action 2:** Conducted 3-day workshop on “Hadoop Basics and Advanced” on 28.07.2017 to 30.07.2017 by Mr. Swayam Prakash, Head of Data Analytics, DotWeb Technologies, Hyderabad, Mr. Arvind Agarwal, Big Data Engineer, SunnyValle, USA. Mr. P. Praneel Kumar, Asst. Professor, Dept. of CSE, SRIT, Ananthapuramu.  **Action 3:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 4:** Conducted 3-day workshop on “Oracle Database” on 16.10.2017 to 18.10.2017 by Mr. P. Bala Srinivasa Raju, Associate and Technical Trainer, APITA, Bangalore.  **Action 5:** Conducted 2-day workshop on “Hadoop Basics and Advanced with introduction to SPARK” on 06.01.2018 to 07.01.2018 by Mr. Swayam Prakash, Assitant Professor, Amity University, New Delhi.  **Action 6:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer,APSSDC.  **Action 7:** Conducted 3-day workshop on “Python Programming” on 08.03.2018 to 10.03.2018 by Mr. Shaik Bahadulla and Ms. Shaik Basiha, Python Programming Trainers, APSSDC.  **Action 8:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO2:Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.** | | | | | | | | | | | | | | | | | | | |
| PO 2 | | 2.2 | | | | | | | | | 2.41 | | | * Target attained | | | | | |
| **Action 1:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer,APSSDC.  **Action 2:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer,APSSDC.  **Action 3:** Conducted 3-day workshop on “Python Programming” on 08.03.2018 to 10.03.2018 by Mr. Shaik Bahadulla and Ms. Shaik Basiha, Python Programming Trainers, APSSDC.  **Action 4:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.** | | | | | | | | | | | | | | | | | | | |
| PO3 | | 2.4 | | | | | | | | | 2.48 | | | * Target attained | | | | | |
| **Action 1:** Conducted 3-day workshop on “Hadoop Basics and Advanced” on 28.07.2017 to 30.07.2017 by Mr. Swayam Prakash, Head of Data Analytics, DotWeb Technologies, Hyderabad, Mr. Arvind Agarwal, Big Data Engineer, SunnyValle, USA. Mr. P. Praneel Kumar, Asst. Professor, Dept. of CSE, SRIT, Ananthapuramu.  **Action 2:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 3:** Conducted 2-day workshop on “Hadoop Basics and Advanced with introduction to SPARK” on 06.01.2018 to 07.01.2018 by Mr. Swayam Prakash, Assistant Professor, Amity University, New Delhi.  **Action 4:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 5:** Conducted 3-day workshop on “Python Programming” on 08.03.2018 to 10.03.2018 by Mr. Shaik Bahadulla and Ms. Shaik Basiha, Python Programming Trainers, APSSDC.  **Action 6:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.** | | | | | | | | | | | | | | | | | | | |
| PO 4 | | 2.1 | | | | | | | | | 1.99 | | | * Target missed | | | | | |
| **Action 1:** Conducted Expert Talk on “Research Perspectives in Machine Learning “ on 22.07.2017 by Prof C.A. Murthy, Machine Intelligence Unit, ISI, Kolkata.  **Action 2:** Conducted 3-day workshop on “Hadoop Basics and Advanced” on 28.07.2017 to 30.07.2017 by Mr. Swayam Prakash, Head of Data Analytics, DotWeb Technologies, Hyderabad, Mr. Arvind Agarwal, Big Data Engineer, SunnyValle, USA. Mr. P. Praneel Kumar, Asst. Professor, Dept. of CSE, SRIT, Ananthapuramu.  **Action 3:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 4:** Conducted 3-day workshop on “Oracle Database” on 16.10.2017 to 18.10.2017 by Mr. P. Bala Srinivasa Raju, Associate and Technical Trainer, APITA, Bangalore.  **Action 5:** Conducted 2-day workshop on “Hadoop Basics and Advanced with introduction to SPARK” on 06.01.2018 to 07.01.2018 by Mr. Swayam Prakash, Assistant Professor, Amity University, New Delhi.  **Action 6:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 7:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.** | | | | | | | | | | | | | | | | | | | |
| PO 5 | | 2.4 | | | | | | | | | 2.40 | | | * Target attained | | | | | |
| **Action 1:** Conducted 3-day workshop on “Hadoop Basics and Advanced” on 28.07.2017 to 30.07.2017 by Mr. Swayam Prakash, Head of Data Analytics, DotWeb Technologies, Hyderabad, Mr. Arvind Agarwal, Big Data Engineer, SunnyValle, USA. Mr. P. Praneel Kumar, Asst. Professor, Dept. of CSE, SRIT, Ananthapuramu.  **Action 2:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 3:** Conducted 3-day workshop on “Oracle Database” on 16.10.2017 to 18.10.2017 by Mr. P. Bala Srinivasa Raju, Associate and Technical Trainer, APITA, Bangalore.  **Action 4:** Conducted 2-day workshop on “Hadoop Basics and Advanced with introduction to SPARK” on 06.01.2018 to 07.01.2018 by Mr. Swayam Prakash, Assistant Professor, Amity University, New Delhi.  **Action 5:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 6:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO6:The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.** | | | | | | | | | | | | | | | | | | | |
| PO 6 | 2.5 | | | | | | | | | 1.87 | | | | * Target missed | | | | | |
| **Action 1:** Conducted Expert Talk on “Research Perspectives in Machine Learning “ on 22.07.2017 by Prof C.A. Murthy, Machine Intelligence Unit, ISI, Kolkata.  **Action 2:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 3:** Conducted “World Space Week Competition” on 4.10.2017 to 10.10.2017 by P.Veera Prakash, Asst. Professor, Dept. of CSE, SRIT.  **Action 4:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 5:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO7:Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.** | | | | | | | | | | | | | | | | | | | |
| PO 7 | | 2.1 | | | | | | | | | 2.41 | | | | * Target attained | | | | |
| **Action 1:** Conducted “World Space Week Competition” on 4.10.2017 to 10.10.2017 by P.Veera Prakash, Asst. Professor, Dept. of CSE, SRIT.  **Action 2:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO8:Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.** | | | | | | | | | | | | | | | | | | | |
| PO 8 | | 1.5 | | | | | | | | | 2.02 | | | * Target attained | | | | | |
| **Action 1:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 2:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 3:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.** | | | | | | | | | | | | | | | | | | | |
| PO 9 | | 2.1 | | | | | | | | | 2.29 | * Target attained | | | | | | | |
| **Action 1:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 2:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 3:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO10 : Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.** | | | | | | | | | | | | | | | | | | | |
| PO 10 | | 2.5 | | | | | | | | 2.63 | | | | * Target attained | | | | | |
| **Action 1:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.** | | | | | | | | | | | | | | | | | | | |
| PO 11 | | 1.5 | | | | | | | | 1.60 | | | * Target attained | | | | | | |
| **Action 1:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 2:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 3:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | | |
| **PO12:Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.** | | | | | | | | | | | | | | | | | | | |
| PO 12 | | 1.4 | | | | | | | | | 1.65 | * Target attained | | | | | | | |
| **Action 1:** Conducted Expert Talk on “Research Perspectives in Machine Learning “ on 22.07.2017 by Prof C.A. Murthy, Machine Intelligence Unit, ISI, Kolkata.  **Action 2:** Conducted 3-day workshop on “Hadoop Basics and Advanced” on 28.07.2017 to 30.07.2017 by Mr. Swayam Prakash, Head of Data Analytics, DotWeb Technologies, Hyderabad, Mr. Arvind Agarwal, Big Data Engineer, SunnyValle, USA. Mr. P. Praneel Kumar, Asst. Professor, Dept. of CSE, SRIT, Ananthapuramu.  **Action 3:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 4:** Conducted 3-day workshop on “Oracle Database” on 16.10.2017 to 18.10.2017 by Mr. P. Bala Srinivasa Raju, Associate and Technical Trainer, APITA, Bangalore.  **Action 5:** Conducted 2-day workshop on “Hadoop Basics and Advanced with introduction to SPARK” on 06.01.2018 to 07.01.2018 by Mr. Swayam Prakash, Assistant Professor, Amity University, New Delhi.  **Action 6:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 7:** Conducted 3-day workshop on “Python Programming” on 08.03.2018 to 10.03.2018 by Mr. Shaik Bahadulla and Ms. Shaik Basiha, Python Programming Trainers, APSSDC. | | | | | | | | | | | | | | | | | | | |
| **PSOs** | | | | | **Target Level** | | | | **Attainment Level** | | | | | | | **Observations** | | |
| **PSO 1: Design, implement and test application software systems for desktop, web, and mobile platforms to meet the specified requirements.** | | | | | | | | | | | | | | | | | | |
| PSO 1 | | | 2.6 | | | 2.78 | | | | | | | | | | * Target attained | | |
| **Action 1:** Conducted Expert Talk on “Research Perspectives in Machine Learning “ on 22.07.2017 by Prof C.A. Murthy, Machine Intelligence Unit, ISI, Kolkata.  **Action 2:** Conducted 3-day workshop on “Hadoop Basics and Advanced” on 28.07.2017 to 30.07.2017 by Mr. Swayam Prakash, Head of Data Analytics, DotWeb Technologies, Hyderabad, Mr. Arvind Agarwal, Big Data Engineer, SunnyValle, USA. Mr. P. Praneel Kumar, Asst. Professor, Dept. of CSE, SRIT, Ananthapuramu.  **Action 3:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – I)” on 03.10.2017 to 05.10.2017 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 4:** Conducted 3-day workshop on “Oracle Database” on 16.10.2017 to 18.10.2017 by Mr. P. Bala Srinivasa Raju, Associate and Technical Trainer, APITA, Bangalore.  **Action 5:** Conducted 2-day workshop on “Hadoop Basics and Advanced with introduction to SPARK” on 06.01.2018 to 07.01.2018 by Mr. Swayam Prakash, Assistant Professor, Amity University, New Delhi.  **Action 6:** Conducted 3-day workshop on “Android Developer Fundamentals (Phase – II)” on 08.01.2018 to 10.01.2018 by Ms. P. Prabhu Sandhya, Google Certified- Associate Android Developer, Android Trainer, Ms. K. Bhavya, Android Trainer, Mr. B. Siva Prasad, Android Trainer, APSSDC.  **Action 7:** Conducted 3-day workshop on “Python Programming” on 08.03.2018 to 10.03.2018 by Mr. Shaik Bahadulla and Ms. Shaik Basiha, Python Programming Trainers, APSSDC.  **Action 8:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | |
| **PSO 2: Use effectively and efficiently the functionality of systems software for building applications.** | | | | | | | | | | | | | | | | | | |
| PSO 2 | | | | 2.6 | | | 2.74 | | | | | | | | | | | * Target attained |
| **Action 1:** Conducted 3-day workshop on “Python Programming” on 08.03.2018 to 10.03.2018 by Mr. Shaik Bahadulla and Ms. Shaik Basiha, Python Programming Trainers, APSSDC. | | | | | | | | | | | | | | | | | | |
| **PSO 3: Understand the organization and architecture of Computer Systems, Embedded Systems, and Networked Systems.** | | | | | | | | | | | | | | | | | | |
| PSO 3 | | | | 2.6 | | | | 2.66 | | | | | | | | | * Target attained | |
| **Action 1:** Conducted 3-day workshop on “Python Programming” on 08.03.2018 to 10.03.2018 by Mr. Shaik Bahadulla and Ms. Shaik Basiha, Python Programming Trainers, APSSDC.  **Action 2:** Conducted “Project Expo – 2018” on 17.04.2018 by Senior Professors of SRIT. | | | | | | | | | | | | | | | | | | |

***Table B.7.1a: POs & PSOs Attainment Levels and Actions for Improvement (2017-2018)***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **POs** | | **Target Level** | | | | | | | | **Attainment Level** | | | **Observations** | | | | | |
| **PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.** | | | | | | | | | | | | | | | | | | |
| PO 1 | | 2.5 | | | | | | | | 2.58 | | | * Target attained | | | | | |
| **Action 1:** Conducted a Two Day Workshop on “Python Programming” on 17.03.2017 & 18.03.2017  By Mr. Sasidhar Donaparthi, Senior Manager, Fidelity Investments, Bengaluru.  **Action 2:** Conducted a Technical Talk on “Online Sequential Learning Algorithm with Applications to Signal Processing and Control” on 05.10.2016 by Dr. Joshi K George,PSG Institute of Technology, Bengaluru.  **Action 3:** Conducted a Two Day Workshop on “Data Modeling, Analysis and Visualization” on 14.09.2016 & 15.09.2016 by Dr. V. Pattabiraman & Mr. R. Ramesh,VIT, Chennai.  **Action 4:** Conducted a Two Day Workshop on “Network Setup, Web Hosting & Administration” on 18.08.2016 & 19.08.2016 by Mr. Praneel Kumar Asst. Prof, Dept. of CSE, SRIT & Mr. Y. Ramesh, Asst. Prof, Dept. of CSE, SRIT. | | | | | | | | | | | | | | | | | | |
| **PO2:Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.** | | | | | | | | | | | | | | | | | | |
| PO 2 | | 2.0 | | | | | | | | 2.39 | | | * Target attained | | | | | |
| **Action 1:** Conducted a Two Day Workshop on “Python Programming” on 17.03.2017 & 18.03.2017 By Mr. Sasidhar Donaparthi, Senior Manager, Fidelity Investments, Bengaluru.  **Action 2:** Conducted a Two Day Workshop on “Data Modeling, Analysis and Visualization” on 14.09.2016 & 15.09.2016 by Dr. V. Pattabiraman & Mr. R. Ramesh,VIT, Chennai. | | | | | | | | | | | | | | | | | | |
| **PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.** | | | | | | | | | | | | | | | | | | |
| PO3 | | 2.2 | | | | | | | | 2.50 | | | * Target attained | | | | | |
| **Action 1:** Conducted a Two Day Workshop on “Python Programming” on 17.03.2017 & 18.03.2017 By Mr. Sasidhar Donaparthi, Senior Manager, Fidelity Investments, Bengaluru.  **Action 2:** Conducted a Technical Talk on “Online Sequential Learning Algorithm with Applications to Signal Processing and Control” on 05.10.2016 by Dr. Joshi K George, PSG Institute of Technology, Bengaluru.  **Action 3:** Conducted a Two Day Workshop on “Data Modeling, Analysis and Visualization” on 14.09.2016 & 15.09.2016 by Dr. V. Pattabiraman & Mr. R. Ramesh,VIT, Chennai.  **Action 3:** Conducted a Two Day Workshop on “Network Setup, Web Hosting & Administration” on 18.08.2016 & 19.08.2016 by Mr. Praneel Kumar Asst. Prof, Dept. of CSE, SRIT & Mr. Y. Ramesh, Asst. Prof, Dept. of CSE, SRIT. | | | | | | | | | | | | | | | | | | |
| **PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.** | | | | | | | | | | | | | | | | | | |
| PO 4 | | 2.0 | | | | | | | | 2.01 | | | * Target attained | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.** | | | | | | | | | | | | | | | | | | |
| PO 5 | | 2.4 | | | | | | | | 2.43 | | | * Target attained | | | | | |
| **Action 1:** Conducted a Two Day Workshop on “Data Modeling, Analysis and Visualization” on 14.09.2016 & 15.09.2016 by Dr. V. Pattabiraman & Mr. R. Ramesh,VIT, Chennai.  **Action 2:** Conducted a Two Day Workshop on “Network Setup, Web Hosting & Administration” on 18.08.2016 & 19.08.2016 by Mr. Praneel Kumar Asst. Prof, Dept. of CSE, SRIT & Mr. Y. Ramesh, Asst. Prof, Dept. of CSE, SRIT. | | | | | | | | | | | | | | | | | | |
| **PO6:The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.** | | | | | | | | | | | | | | | | | | |
| PO 6 | 2.75 | | | | | | | | 1.88 | | | | * Target missed | | | | | |
| **Action 1:** Conducted a One day Programme on “Walkathon-SAVE ENVIRONMENT” on 27.03.2017 by Sri A.Sambasiva Reddy, Correspondent, SRIT. | | | | | | | | | | | | | | | | | | |
| **PO7:Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.** | | | | | | | | | | | | | | | | | | |
| PO 7 | | 2.0 | | | | | | | | 2.41 | | | | * Target attained | | | | |
| **Action 1:** Conducted a One day Programme on “Walkathon-SAVE ENVIRONMENT” on 27.03.2017 by Sri A.Sambasiva Reddy, Correspondent, SRIT. | | | | | | | | | | | | | | | | | | |
| **PO8:Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.** | | | | | | | | | | | | | | | | | | |
| PO 8 | | 1.2 | | | | | | | | 1.99 | | | * Target attained | | | | | |
| **Action 1:** Conducted a Lecture on “HUMAN VALUES AND PROFESSIONAL ETHICS” on 23-01-2017 by C.S. Balachandra Sunku. | | | | | | | | | | | | | | | | | | |
| **PO9:Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.** | | | | | | | | | | | | | | | | | | |
| PO 9 | | 2.0 | | | | | | | | 2.28 | * Target attained | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **PO10 :Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.** | | | | | | | | | | | | | | | | | | |
| PO 10 | | 2.4 | | | | | | | 2.62 | | | | * Target attained | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **PO11:Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.** | | | | | | | | | | | | | | | | | | |
| PO 11 | | 1.5 | | | | | | | 1.58 | | | * Target attained | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **PO12:Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.** | | | | | | | | | | | | | | | | | | |
| PO 12 | | 1.3 | | | | | | | | 1.59 | * Target attained | | | | | | | |
| **Action 1:** Conducted a Two Day Workshop on “Python Programming” on 17.03.2017 & 18.03.2017 By Mr. Sasidhar Donaparthi, Senior Manager, Fidelity Investments, Bengaluru.  **Action 2:** Conducted a Technical Talk on “Online Sequential Learning Algorithm with Applications to Signal Processing and Control” on 05.10.2016 by Dr. Joshi K George,PSG Institute of Technology, Bengaluru.  **Action 3:** Conducted a Two Day Workshop on “Data Modeling, Analysis and Visualization” on 14.09.2016 & 15.09.2016 by Dr. V. Pattabiraman & Mr. R. Ramesh,VIT, Chennai.  **Action 4:** Conducted a Two Day Workshop on “Network Setup, Web Hosting & Administration” on 18.08.2016 & 19.08.2016 by Mr. Praneel Kumar Asst. Prof, Dept. of CSE, SRIT & Mr. Y. Ramesh, Asst. Prof, Dept. of CSE, SRIT. | | | | | | | | | | | | | | | | | | |
| **PSOs** | | | | | **Target Level** | | | **Attainment Level** | | | | | | | **Observations** | | |
| **PSO 1: Design, implement and test application software systems for desktop, web, and mobile platforms to meet the specified requirements.** | | | | | | | | | | | | | | | | | |
| PSO 1 | | | 2.5 | | | | 2.77 | | | | | | | | * Target attained | | |
| **Action 1:** Conducted a Two Day Workshop on “Python Programming” on 17.03.2017 & 18.03.2017 By Mr. Sasidhar Donaparthi, Senior Manager, Fidelity Investments, Bengaluru.  **Action 2:** Conducted a Two Day Workshop on “Data Modeling, Analysis and Visualization” on 14.09.2016 & 15.09.2016 by Dr. V. Pattabiraman & Mr. R. Ramesh,VIT, Chennai. | | | | | | | | | | | | | | | | | |
| **PSO 2: Use effectively and efficiently the functionality of systems software for building applications.** | | | | | | | | | | | | | | | | | |
| PSO 2 | | | | 2.5 | | 2.75 | | | | | | | | | | | * Target attained |
| **Action 1:** Conducted a Two Day Workshop on “Python Programming” on 17.03.2017 & 18.03.2017 By Mr. Sasidhar Donaparthi, Senior Manager, Fidelity Investments, Bengaluru. | | | | | | | | | | | | | | | | | |
| **PSO 3: Understand the organization and architecture of Computer Systems, Embedded Systems, and Networked Systems.** | | | | | | | | | | | | | | | | | |
| PSO 3 | | | | 2.5 | | | 2.67 | | | | | | | | | * Target attained | |
| **Action 1:** Conducted a Technical Talk on “Online Sequential Learning Algorithm with Applications to Signal Processing and Control” on 05.10.2016 by Dr. Joshi K George,PSG Institute of Technology, Bengaluru.  **Action 2:** Conducted a Two Day Workshop on “Network Setup, Web Hosting & Administration” on 18.08.2016 & 19.08.2016 by Mr. Praneel Kumar Asst. Prof, Dept. of CSE, SRIT & Mr. Y. Ramesh, Asst. Prof, Dept. of CSE, SRIT. | | | | | | | | | | | | | | | | | |

***Table B.7.1b: POs & PSOs Attainment Levels and Actions for Improvement (2016-2017)***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PO** | **Target Level** | | | | | | | | | | | **Attainment Level** | **Observations** | |
| **PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.** | | | | | | | | | | | | | | |
| PO 1 | 2.5 | | | | | | | | | | | 2.59 | * Target attained | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 2:** Conducted a Technical talk on “Hadoop - Distributed File System” on 20.02.2016 by Ms. T. Gowthami, Module Leader, MindTree Ltd. , Bangalore.  **Action 3:** Conducted Two Day Workshop on “Web Designing Tools” on 13.02.2016 & 20.02.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 4:** Conducted a Technical talk on “Android App Development” on 22.03.2016 by Mr. D. Riyaz Ahmed, Senior Software Engineer, Capgemini India Pvt. Ltd. Bangalore.  **Action 5:** Conducted a Two Day Workshop on “Introduction to R- Programming” on 17.10.2015 & 18.10.2015 by Prof. K. G. Srinivasa, Senior Professor, MSRIT, Bangalore.  **Action 6:** Conducted a “Two Day Workshop on Python Programming” on 26.09.2015 & 27.09.2015 by Mr. Sasidhar Donaparthi, Senior Manager, Fidelity Investments, Bangalore.  **Action 7:** Conducted Seminar on “Big Data Tools & Technologies” on 24.08.2015 by Mr. P. Chandra Mohan Reddy, Data Architect, RTL Technologies, Hyderabad. | | | | | | | | | | | | | | |
| **PO2:Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.** | | | | | | | | | | | | | | |
| PO 2 | 1.9 | | | | | | | | | | | 2.16 | * Target attained | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 2:** Conducted a Technical talk on “Android App Development” on 22.03.2016 by Mr. D. Riyaz Ahmed, Senior Software Engineer, Capgemini India Pvt. Ltd. Bangalore. | | | | | | | | | | | | | | |
| **PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.** | | | | | | | | | | | | | | |
| PO 3 | 2.2 | | | | | | | | | | | 2.25 | * Target attained | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT. | | | | | | | | | | | | | | |
| **PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.** | | | | | | | | | | | | | | |
| PO 4 | 2.0 | | | | | | | | | | | 2.01 | * Target attained | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT. | | | | | | | | | | | | | | |
| **PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.** | | | | | | | | | | | | | | |
| PO 5 | 2.4 | | | | | | | | | | | 2.59 | * Target attained | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 2:** Conducted a Technical talk on “Hadoop - Distributed File System” on 20.02.2016 by Ms. T. Gowthami, Module Leader, MindTree Ltd. , Bangalore.  **Action 3:** Conducted Two Day Workshop on “Web Designing Tools” on 13.02.2016 & 20.02.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 4:** Conducted a Technical talk on “Android App Development” on 22.03.2016 by Mr. D. Riyaz Ahmed, Senior Software Engineer, Capgemini India Pvt. Ltd. Bangalore.  **Action 5:** Conducted a Two Day Workshop on “Introduction to R- Programming” on 17.10.2015 & 18.10.2015 by Prof. K. G. Srinivasa, Senior Professor, MSRIT, Bangalore.  **Action 6:** Conducted Seminar on “Big Data Tools & Technologies” on 24.08.2015 by Mr. P. Chandra Mohan Reddy, Data Architect, RTL Technologies, Hyderabad. | | | | | | | | | | | | | | |
| **PO6:The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.** | | | | | | | | | | | | | | |
| PO 6 | 2.75 | | | | | | | 2.79 | | | | | * Target attained | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT. | | | | | | | | | | | | | | |
| **PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.** | | | | | | | | | | | | | | |
| PO 7 | 2.3 | | | | | | | | | 1.99 | | | * Target missed | |
| **Action 1:** Conducted Debate on Engineers Day Celebrations. | | | | | | | | | | | | | | |
| **PO8:Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.** | | | | | | | | | | | | | | |
| PO 8 | 1.2 | | | | | | | | | | | 1.19 | * Target missed | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 2:** Conducted Two Day Workshop on “Web Designing Tools” on 13.02.2016 & 20.02.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 3:** A one day Guest lecture on “Ethics and values in human life” by V. Srinivasan, Chief General Manager, BSNL, AP circle on 06/02/2015. | | | | | | | | | | | | | | |
| **PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.** | | | | | | | | | | | | | | |
| PO 9 | 2.0 | | | | | | | | | | | 2.09 | * Target attained | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT. | | | | | | | | | | | | | | |
| **PO10 : Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.** | | | | | | | | | | | | | | |
| PO 10 | | 2.4 | | | | | | | | | | 2.54 | * Target attained | |
| **Action 1:** Conducted a guest lecture on Communication & presentation skill on 11/12/2015 by Mrs. Waheeda Parveen, SRIT, Anantapur  **Action 2:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT. | | | | | | | | | | | | | | |
| **PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.** | | | | | | | | | | | | | | |
| PO 11 | | 1.5 | | | | | | | | | | 1.57 | * Target attained | |
| **Action 1:** Conducted guest lecture on “Entrepreneurship Orientation Program(EOP)” by G.Sudarshan, NSIC, Hyderabad on 30/09/2015.  **Action 2:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT. | | | | | | | | | | | | | | |
| **PO12:Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.** | | | | | | | | | | | | | | |
| PO 12 | | 1.3 | | | | | | | | | | 1.19 | * Target missed | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 2**: Conducted a Technical talk on “Hadoop - Distributed File System” on 20.02.2016 by Ms. T. Gowthami, Module Leader, MindTree Ltd. , Bangalore.  **Action 3:** Conducted Two Day Workshop on “Web Designing Tools” on 13.02.2016 & 20.02.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 4:** Conducted a Technical talk on “Android App Development” on 22.03.2016 by Mr. D. Riyaz Ahmed, Senior Software Engineer, Capgemini India Pvt. Ltd. Bangalore.  **Action 5:** Conducted a Two Day Workshop on “Introduction to R- Programming” on 17.10.2015 & 18.10.2015 by Prof. K. G. Srinivasa, Senior Professor, MSRIT, Bangalore.  **Action 6:** Conducted Seminar on “Big Data Tools & Technologies” on 24.08.2015 by Mr. P. Chandra Mohan Reddy, Data Architect, RTL Technologies, Hyderabad.  **Action 7:** Conducted Seminar on “Big Data Tools & Technologies” on 24.08.2015 by Mr. P. Chandra Mohan Reddy, Data Architect, RTL Technologies, Hyderabad. | | | | | | | | | | | | | | |
| **PSOs** | | | | | **Target Level** | | | | | | **Attainment Level** | | **Observations** | |
| **PSO 1: Design, implement and test application software systems for desktop, web, and mobile platforms to meet the specified requirements.** | | | | | | | | | | | | | | | |
| PSO 1 | | | | 2.5 | | | | | | 2.67 | | | | * Target attained | |
| **Action 1:** Conducted A Design Contest on “Web App Expo” on 28.03.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 2:** Conducted a Technical talk on “Hadoop - Distributed File System” on 20.02.2016 by Ms. T. Gowthami, Module Leader, MindTree Ltd., Bangalore.  **Action 3:** Conducted Two Day Workshop on “Web Designing Tools” on 13.02.2016 & 20.02.2016 by Mr. P. Praneel Kumar, Asst. prof, SRIT and Mr. M. Sreenivasulu, Alumni of SRIT.  **Action 4:** Conducted a Technical talk on “Android App Development” on 22.03.2016 by Mr. D. Riyaz Ahmed, Senior Software Engineer, Capgemini India Pvt. Ltd. Bangalore.  **Action 5:** Conducted a Two Day Workshop on “Introduction to R- Programming” on 17.10.2015 & 18.10.2015 by Prof. K. G. Srinivasa, Senior Professor, MSRIT, and Bangalore.  **Action 6:** Conducted a “Two Day Workshop on Python Programming” on 26.09.2015 & 27.09.2015 by Mr. Sasidhar Donaparthi, Senior Manager, Fidelity Investments, Bangalore.  **Action 7:** Conducted Seminar on “Big Data Tools & Technologies” on 24.08.2015 by Mr. P. Chandra Mohan Reddy, Data Architect, RTL Technologies, Hyderabad. | | | | | | | | | | | | | | | |
| **PSO 2: Use effectively and efficiently the functionality of systems software for building applications.** | | | | | | | | | | | | | | | |
| PSO 2 | | | | | 2.5 | | 2.66 | | | | | | | | * Target attained |
| **Action 1:** Conducted Seminar on “Big Data Tools & Technologies” on 24.08.2015 by Mr. P. Chandra Mohan Reddy, Data Architect, RTL Technologies, Hyderabad. | | | | | | | | | | | | | | | |
| **PSO 3: Understand the organization and architecture of Computer Systems, Embedded Systems, and Networked Systems.** | | | | | | | | | | | | | | | |
| PSO 3 | | | | | 2.5 | | | 2.54 | | | | | | * Target missed | |
| **Action 1:** Conducted a Technical talk on “Hadoop - Distributed File System” on 20.02.2016 by Ms. T. Gowthami, Module Leader, MindTree Ltd., Bangalore. | | | | | | | | | | | | | | | |

***Table B.7.1c: POs & PSOs Attainment Levels and Actions for Improvement (2015-2016)***

**7.2 Academic Audit and actions taken thereof during the period of assessment (10)**

The process of academic audit and actions taken thereof will effectively ensure in the following:

* Continuous improvement in the quality of questions set for the internal examinations.
* Continuous improvement in the evaluation methodology of internal examination answer scripts with minimal human errors.
* Continuous improvement in the attainment levels of COs, POs and PSOs.

**7.2.1 Academic Audit of internal examination question papers**

1. **Frequency of the meeting:**  Twice in a semester (before the internal examinations)
2. **Process:**

* Two sets of question papers are set by a teacher handling the subject covering the prescribed syllabus for the internal examination.
* The Department academic audit committee (having HOD, two or three faculty members and an external member from the senior faculty of other departments) will meet and check the questions on the following aspects.

1. The questions are clear without any ambiguity.
2. The questions set are correctly mapped with the relevant COs.
3. The cognitive levels of the questions are specified correctly as per the Revised Bloom’s taxonomy.
4. The question paper is well balanced and has quality questions.
5. Questions are not repeated on the same topic.

* If there are any discrepancies in the question paper, the concerned teacher is asked to rectify the deficiencies and resubmit to HOD of the department. He is also advised not to repeat such mistakes in future.
* The objective part of the question paper is also verified by the Department academic audit committee whether the questions set are within the prescribed syllabus or not.
* The two sets of audited question papers of all subjects are sent to Examination section by HOD and the principal will choose one of the two sets of question paper for the conduct of examination.
* This process has ensured the quality of questions set for the examination and avoid any mistakes or repetition of questions on the same topic.

**7.2.2 Academic Audit of valued internal examination answer scripts for review of Evaluation:**

1. **Frequency of the meeting:**  Twice in a semester (After the internal examinations)
2. **Process:**After the evaluation is completed by all faculty members handling the subjects in a semester, the Academic Audit cell of the department will review the evaluation process in the following aspects (on random basis).
3. Whether marks are entered properly on the first page and inside the answer script for each question.
4. Whether all the questions are evaluated and best three questions are considered or not for award of internal marks.
5. Whether there are any errors in totaling of marks.
6. Whether the marks are correctly entered in the award list.

If any discrepancies are found in the evaluation, the concerned teacher is asked to rectify the mistakes and advised to avoid such mistakes in future.

**7.2.3 Academic Audit on attainment of COs:**

1. **Frequency of the meeting:**  Twice in a Academic year(After the publication of university exam results)
2. **Process:**
   * The Department Academic Audit committee will meet at the end of the semester after publication of university examination results of all semesters to review the attainment process of COs for various subjects.
   * The concerned teachers will calculate the attainment levels of all COs for the various subjects handled by them in the semester based on the performance of the candidates in internal and University examinations.
   * The department academic audit committee will verify the attainment process of COs of all subjects and if any COs are not meeting the specified targets, will discuss with the concerned teachers and recommend any remedial actions to be taken in future to meet the targets.
   * In addition, it will fix the target levels of COs to be attained for each subject for next academic year based on the attainment levels achieved in this semester.

**7.2.4 Academic Audit on attainment of POs and PSOs:**

1. **Frequency of the meeting:**  Once in a Academic year(After the publication of university exam results)
2. **Process:**
   * The attainment levels of POs and PSOs are calculated based on direct and indirect methods after the publication of university examination results.
   * The department academic audit committee will meet and review the attainment levels of POs and PSOs with respect to the targets fixed for POs and PSOs.
   * Based on the attainment levels of POs & PSOs, if they are not meeting the targeted levels, they will analyze and suggests remedial actions conduct extracurricular & co curricular activities for improving the attainment levels of POs and PSOs in the next academic year.
   * They will also discuss and fix the target levels of POs and PSOs for next academic year based on the levels of attainment in the present academic year.

**7.3 Improvement in Placement, Higher Studies and Entrepreneurship (10)**

**Assessment is based on improvement in:**

• **Placement:** number, quality placement, core industry, pay packages etc.

• **Higher studies:** performance in GATE, GRE, GMAT, CAT etc., and admissions in premier institutions.

**• Entrepreneurs**

The following is the detailed analysis on the improvement made in the placement subject to number, Quality placement and industries relating to students over the various assessment years.

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **2017-2018** | **2016-2017** | **2015-2016** |
| Total No of Final Year Students(N) | 111 | 101 | 110 |
| No of students placed in the companies or  government sector(X) | 50 | 62 | 58 |
| No of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level tests, GRE, GMAT etc.) (Y) | NIL | 4 | 7 |
| No of students turned entrepreneur in  engineering/technology (Z) | NIL | 2 | NIL |
| x + y + z = | **50** | **68** | **65** |

***Table B.7.3:***

**7.4 Improvement in the quality of students admitted to the program (10)**

Assessment is based on improvement in terms of ranks/ score in qualifying state level/ national level entrances tests, percentage marks in Physics, Chemistry and Mathematics in 12th Standard and percentage marks of the lateral entry.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** |  | **2017-18** | **2016-17** | **2015-16** |
| National Level Entrance Examination  IIT­JEE, AIEEE | No of students admitted | **0** | **0** | **0** |
| Opening Score/Rank | **0** | **0** | **0** |
| Closing Score/Rank | **0** | **0** | **0** |
| State/ University/ Level Entrance Examination/ Others | No of students admitted | 84 | 84 | 78 |
| Opening Score/Rank | 11895 | 11911 | 33801 |
| Closing Score/Rank | 142727 | 130492 | 191602 |
| Name of the Entrance Examination for Lateral Entry or lateral entry details ECET | No of students admitted | 4 | 4 | 2 |
| Opening Score/Rank | 1125 | 178 | 932 |
| Closing Score/Rank | 5080 | 1254 | 3208 |
| Average CBSE/Any other board result of admitted students(Physics, Chemistry&Maths) |  | 83.6 | 82 | 81 |

***Table B.7.4:***