SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Bachelor of Technology

B. Tech. Semester VIII

Subject Name: Project/Industrial Internship **Subject Code: BTEC16801**

Type of course: PCC

Prerequisite: Electronics engineering courses (Basic science, Engineering Science and core courses), Effective Technical Communication.

Rationale: To enhance employability skills of the students; Industrial Internship or Project work is required. It provides practical experience in the field of Electronics and Communication Engineering and helps to reinforce theoretical knowledge gained in different courses to solve real life challenges. Industrial Internship or Project work is the effective way to transfer the theoretical knowledge gained within the classroom to the real field application. It will provide a platform for the students to get a close glimpse about the functioning of the industry and how real-life challenges are solved in the domain of Electronics and Communication Engineering with practical exposure. Thus, the Industrial Internship or Project work will equip them with skill-sets which is essential from the perspective of employability as well.

Teaching and Examination Scheme:

Teaching Scheme				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	100
0	0	24	12	--	--	--	60	40	

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Final semester of Electronics and Communication Engineering branch offers Major project work or Industrial Internship

Major Project Work

It will be conducted largely as an individual or group of 2 students under the direct supervision of faculty reflecting the common interests and expertise of the student(s) and supervisor.

Objectives of Major project work:

1. To undertake problem identification, formulation and solution.
2. To design engineering solutions to complex problems utilizing a systematic approach and team work.
3. To communicate with engineers and the community at large in written and oral forms.
4. To demonstrate the knowledge and understanding of engineering and management principle and apply it to assigned project.

5. To demonstrate an awareness and application of appropriate personal, societal, and professional ethical standards.

Guidelines for Major Project Work

Students will be required to:

1. Provide detailed and extensive explanation of the purpose and need of the project.
2. Perform a literature search to review current knowledge and developments in the chosen technical area.
3. Undertake detailed technical work in the chosen area using one or more of:
    - Theoretical analysis
    - Software simulations
    - Hardware prototype
4. Completion of major project till demonstration level
    - Perform proper analysis of technical, operational and economic aspects of the proposed work.
    - Identify methodology for the proposed work.
    - Decide implementation method and enlist components or parts/peripherals required.
    - Compare results with other similar design specification.
    - Point out the practical difficulties faced during implementations, identify bugs and devise mechanisms to solve them.
    - Reiterate design to optimize the project in terms of results, cost, size, power consumption, computational complexity etc.
5. Prepare progressive reports and schedule future work progress.
6. Prepare a formal report describing the work undertaken and results obtained.
7. Appear for an oral Viva-Voce examination in form of PowerPoint presentation followed by hardware/software demonstration at the end of the semester.

Industrial Internship

Minimum twelve weeks in an Industry to get an exposure to the practical aspects in the field of Electronics and Communication. In addition, the student may also work on a specified task or a project which may be assigned by an industry mentor. The outcome of the Industrial Internship should be presented in the form of a report.

Objectives of Industrial Internship:

1. To expose students to the industrial environment.
2. To create competent professionals for the industry.
3. To provide possible opportunities to learn, understand and sharpen the real time technical and managerial skills required at the job.
4. To work on a problem assigned by a mentor in industry, prepare an action plan and complete within a time limit.
5. To expose students to the current technological developments relevant to the subject area of internship.
6. To apply the technical knowledge in real industrial situations.
7. To explore possibilities of patent or research paper publications.
8. To expose students towards the engineer's responsibilities and ethics.
9. To familiarize with various materials, processes, products and their applications along with relevant aspects of quality control.

10. To understand the social, economic and administrative considerations that influence the working environment of industrial organizations.
11. To understand the psychology of the employees and their habits, attitudes and approaches to problem solving.
12. To strengthen industry-institute linkage and increase employability of the students.

Guidelines for Industrial Internship:

1. A student shall submit a brief proposal about the work to be carried out in the internship, to a committee of the department within 1 week, after starting the internship.
2. A detailed weekly diary is supposed to be maintained by the intern. It shall be signed duly by the concerned supervisor of industry. It shall be submitted to the department.
3. A plan for the whole internship duration shall be prepared after joining the industry after consultation with the supervisor/mentor/guide of industry. It shall contain the activities/ visits to different sections etc with appropriate timelines.
4. A comprehensive report is required to be prepared and submitted to the department at the end of the semester which may include the objective of Internship, about the industry, process, product line, equipment/machineries involved, divisions/sections in the industry, scope of some improvement in the process/product/efficiency, benefit from the Internship, work done by the intern etc.
5. Completion certificate shall be attached with a report duly signed by the competent authority of the industry for the successful completion of the internship.
6. The internal evaluation shall be done periodically during the semester.
7. At the end of the semester an oral Viva-Voce examination will be conducted in the form of PowerPoint presentation followed by hardware/software demonstration. The industry supervisor may be invited at the time of external examination of the internship.

N.B Students undergoing Industrial/company based Internship could be provided some Stipend, (by the Industry/company) to motivate their innovative skills and work done for the betterment of the society.

Course Outcome:

Sr. No.	CO Statement After learning this subject students will be able to	Marks % weightage
CO-1	Design engineering solutions to engineering problems utilizing a systematic approach	15
CO-2	Become a good team member to solve complex engineering solutions utilizing a systematic approach	25
CO-3	Communicate with engineers and the community at large in written and oral forms	15
CO-4	Apply appropriate personal, societal and professional ethical standards.	25
CO-5	Explore possibilities of patent or research paper publications.	20

Mapping with POs:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO-1	2	2	2	2	2	2	1	1	2	2	2	1	3	2	2
CO-2	1	1	1	2	2	2	3	3	1	1	2	2	1	1	1
CO-3	1	1	1	2	2	2	3	3	1	1	2	2	1	1	1
CO-4	1	1	1	1	3	3	3	3	1	2	2	2	1	1	1
CO-5	3	3	3	2	2	2	1	1	2	2	2	2	3	2	2