

Teaching Scheme

Tutorials: 6 Hrs/Week

Examination Scheme

Term Work Assessment: 100

Oral Assessment: 50

Course Objectives:

- To develop problem solving abilities using mathematics;
- To apply algorithmic strategies while solving problems;
- To develop time and space efficient algorithms;
- To develop software engineering documents and testing plans;
- To use algorithmic solutions using distributed, Embedded, concurrent and parallel environments.
- To encourage and expose students for participation in National/ International paper presentation activities.
- Exposure to Learning and knowledge access techniques using Conferences, Journal papers and participation in research activities.

Course Outcomes:

- To write review SRS, reliability testing reports, and other software engineering documents in the project report;
- To write problem solution using multi-core, distributed, embedded, concurrent/Parallel environments;
- To write the test cases to demonstrate the results of the project;
- To write conference paper;
- To write code using FOSS tools and technologies or proprietary Tools as per requirements;
- To practice presentation, communication and team-work skills.

Tools:

Preferably 64-bit FOSS tools but if sponsoring company's requirement is non-open source platform then it must be latest and current version of non-absolute tools. Latest SAN, 3-tier architectures along with latest version of FOSS Operating systems like Fedora 21 or equivalent, LAMP tools, WEB server, Applications servers, Database servers, MongoDB or latest open source BigDATA tools, FOSS Programming Tools like gcc,g++,Eclipse, Python, Java and other tools are per requirement of the SRS. The documentation tools like Open office, GIT, Latex, Latex-Presentation.

1. Project workstation selection, installations and setup along with report to the guide. (recommended submission date:- 3 weeks after commencement of second term)
2. Programming of the project, GUI (if any) as per 1 st Term term- work submission.(recommended submission date:- Progress report every week during laboratory)
3. Test tool selection for various testing recommended by preferably external guide and generate various testing result charts, graphs etc. including reliability testing. (7 weeks before Term II Conclusion)
4. Review of design and necessary corrective actions taking into consideration feedback report of Term I assessment, and other competitions/conferences participated like IIT, Central Universities, University Conferences or equivalent centers of excellence etc.
5. Students must submit and preferably publish atleast one technical paper in the conferences held by IITs, Central Universities or UoP Conference or International Conferences in Europe or US.

6. Final term work submissions in the prescribed format given by the guides consisting of a project report consisting of a preliminary report prepared in term-I, detailed design (all necessary UML diagrams) document, User Interface design, Laboratory assignments on test cases and test results generated by selected project testing tool, conclusions, appendix (if necessary), glossary, tools used and references at the end of Term-II **after checking, removing/ avoiding the plagiarism. Give an additional assignment per reporting plagiarism to be submitted in the report under the Annex heading extra-work. If the project is the replica of any other previous project or work from other unrelated persons than the students team, such project should be rejected for the term work.**
7. The Term II examination is conducted by panel of examiners (preferably guide and expert from Industry having atleast 5 years subject experience (or senior teacher in the subject in case of non- availability of industry expert). The project assessment shall be done using Live Project Demonstration [in existing functional condition], using necessary simulators (if required) and presentation by the students. The remarks of Term I assessment and related corrective actions must be assessed during examining the term-work.

Term-II Project Laboratory Assignments:

1. Review of design and necessary corrective actions taking into consideration the feedback report of Term I assessment, and other competitions/conferences participated like IIT, Central Universities, University Conferences or equivalent centers of excellence etc.
2. Project workstation selection, installations along with setup and installation report preparations.
3. Programming of the project functions, interfaces and GUI (if any) as per 1 st Term term-work submission using corrective actions recommended in Term-I assessment of Term-work.
4. Test tool selection and testing of various test cases for the project performed and generate various testing result charts, graphs etc. including reliability testing.

Additional assignments for the Entrepreneurship Project:

5. Installations and Reliability Testing Reports at the client end.
6. To study Clients Feedback reports and related fix generations.
7. To create Documents Profit and Loss accounts and balance-sheet of the company.

Note: If the students fails to complete the Entrepreneurship assignment successfully then the project shall be treated as Internal Project for the purpose of assessment.

Reference Books:

Sl.No.	Reference Books
1.	Term-I Project Report with Corrections, Reliability testing reports, plagiarism reports
2.	Journals references necessary for the Project
3.	BoS Content: Books, Course Notes, Digital contents, Blogs developed by the BoS for bridging the gaps in the syllabus, problem solving approaches and advances in the course