GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Name: System Development Methodology (Core IV)
Subject Code: 3725302

Semester II

Type of course: ME - Computer Engineering (Wireless And Mobile Computing)

Prerequisite:

1. Software Engineering
2. Software Planning & Managements

Rationale: NA

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE (V)	PA (I)	
3	2#	0	4	70	30	30	20	150

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment;

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Software Engineering, Brief concept of Software Life Cycle Models,	6	10
2	Agile Techniques for software development, Software Development Tools & Techniques,	6	10
3	Software Quality Assurance, Introduction to Coding Standards,	6	10
4	Software Testing, Different Testing Tools, Test Driven Development (TDD) Project Management,	7	20
5	Risk Analysis and Management, Introduction to MS Project, Case Study	7	20

Text Book:

1. Fundamental of Software Engineering by Rajib Mall/ PHI
2. Agile Project Management with Scrum by Ken Schwaber

References Books:

1. Ian Sommerville, Software Engineering, 7th Edition, Addison-Wesley
2. Grady Booch, James Rambaugh, Ivar Jacobson, “Unified Modeling Language
3. Users Guide”, 2nd Edition, Addison- Wesley
4. Jim Arlow, Ila Neustadt, “UML 2 and Unified Process: Practical Object Oriented
5. Analysis and Design. ”, 2nd Edition, Addison- Wesley
6. Tom Pender, “UML Bible”, John Wiley & sons
7. Desikan, Ramesh, ,, Software Testing: principles and Practices”, Pearson
8. Burnstein, “Practical Software Testing”, Springer International Edition
9. William E. Perry, “ Effective Methods for Software Testing”, Wiley

Course Outcome:

After learning the course the students should be able to:

1. Understanding of the Software methodologies…
2. The knowledge and application skills to design and implement in Project Management
3. This subject is designed to help developers understand and Software Enginering Methods
4. Design and implement of the UML.

List of Experiments: (with Open Ended Problems)

1. Write down Requirements specification for Library. Draw use case diagram and also draw activity diagrams.

   LAB - Draw these diagrams using STARUML tool

2. Write black box-System test cases for all the scenario of Library system. Do cover all types of Test case identification techniques like,
   a. Equivalence partitioning,
   b. Boundary value analysis,
   c. Error guessing.

   1. **Write at least 30 test cases.**

List of Open Source Software/learning website:

STARUML

Review Presentation (RP): The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester. The same list will be uploaded on GTU website during the first two weeks of the start of the semester. Every student or a group of students shall critically study 2 papers, integrate the details and make presentation in the last two weeks of the semester. The GTU marks entry portal will allow entry of marks only after uploading of the best 3 presentations. A unique id number will be generated only after uploading the presentations. Thereafter the entry of marks will be allowed. The best 3 presentations of each college will be uploaded on GTU website