



C. U. Shah University, Wadhwan City

Faculty of Computer Science

Name of Program : Bachelor of Science (Information Technology)

B.Sc. IT Semester : IV

w.e.f. June-2017

Teaching & Evaluation Scheme

Sr. No	Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester							
			Th	Tu	Pr	Total		Theory				Practical			Total Marks
								Sessional Exam		University Exam		Internal		Uni.	
								Marks	Hrs	Marks	Hrs	Pr	TW	Pr	
4	4CS04ISE1	Software Engineering	4	-	-	4	4	30	1.5	70	3	-	-	-	100

Course Outline:

Ch. No	Course Contents	No. of Lect.
1	Introduction to Software Engineering Introduction of Software, The changing nature of software, Program Vs. Software Products.	8
2	A Generic view of Process & its model. Software engineering – a layered technology, The waterfall model, RAD Model, Prototyping Model, Spiral Model	7
3	Building the analysis model Elements of analysis model, Requirement analysis, Data modeling concept, Object oriented analysis, What is component?, Cohesion and Coupling	5
4	Testing Tactics Software testing fundamentals, Verification and Validation, Unit testing, System testing, Black box testing, White box testing, Control structure testing	7
5	Software Project Management a) Project Planning b) Metrics for Project size estimation: LOC, FP c) COCOMO Model d) Scheduling. • Work break down structure. • Activity network & critical path method. • Gantt Chart e) Risk Management: • Risk identification • Risk assessment	7

	<ul style="list-style-type: none"> • Risk containment 	
6	Software Quality Management a) The Management Spectrum Brief introduction of The People, The Product, The Process, The Project. b) Quality concepts c) Software quality assurance d) Software reliability e) The ISO 900 Quality standard	8
7	Object Modeling using UML a) Overview of Object Oriented Concept <ul style="list-style-type: none"> • Key concept • Advantages of OOD b) Unified Modeling Language (UML) c) UML diagrams d) Use case model e) Class diagram f) Activity diagram	8
8	Software re-engineering a) Introduction of Software re-engineering b) Introduction of Reverse engineering c) Introduction of Restructuring d) Software reuse	5
	TOTAL	55

Text Book

- **Software Engineering – A Practitioner’s Approach, by Roger S. Pressman McGrawHill Publication**
- **Fundamentals of Software Engineering, by Rajib Mall, PHI Publication**

Reference books

- **Software Engineering by Jibitesh Mishra and Ashok Mohanty, Pearson Publication.**
- **Software Engineering by Bharat Bhushan Agarwal and Sumit prakash tayal, Firewal Media publication.**
- **UML – A Beginner’s Guide by Jasson Roff, TMH Publication.**