

3IT05: MANAGEMENT INFORMATION SYSTEM
CREDITS – 4 (LTP: 3,1,0)

Course Objective:

To understand the usage of Information Systems in management and the different phases of software development life cycle.

Teaching and Assessment Scheme:

Teaching Scheme (Hours per Week)			Credits	Assessment Scheme				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE	CE	ESE	CE	100	
3	1	0	4	60	40	-		-

Course Contents:

Unit No.	Topics	Teaching Hours
1	Introduction of MIS: Introduction, Need for MIS, MIS: A concept, MIS definition, MIS and information technology, Nature and scope of MIS, MIS characteristics, Structure of MIS, Types of MIS, Role of MIS in global business, Challenges of managing information systems.	5
2	Management of IS: IS planning: Requirement, Nolan Stages Model, CRISP. IS choices, IS implementation process, Change management, Evaluation classes and methods: Product-based, Cost/Benefits based, Models used, Process-based. Maintenance of IS.	5
3	Business Application of IS: E- Commerce, E- Business and e- Governance, Enterprise systems, Decision support systems: Simon's model of decision making, Types of decision, Methods for Decision making.	5
4	Introduction to Software Engineering: Software characteristics and Applications, Software Engineering as a Layered technology: Processes, Methods and tools. Study of different Process models: Waterfall model, Incremental model, RAD model, Evolutionary process models: Prototype, Spiral and Concurrent development model. Agile Development: Agility and agile process, Extreme programming, Other agile process models: ASD, Scrum, DSDM, FDD.	7
5	Managing Software Projects: Project Management spectrum, W5HH principle, Software project planning: Software scope, Resources, Software project estimation, Decomposition techniques, Empirical estimation model (COCOMO). Risk analysis and Management, Project scheduling, Reengineering, Reverse engineering, Forward engineering.	7
6	Requirements Engineering Analysis and Software Design: Requirement engineering tasks, Software Requirements Specification (SRS), Design concepts and design principles, Architectural design, Component level design, User interface design.	8

7 Software Coding, Testing and Quality Assurance:	8
Coding standard and coding guidelines, Code review, Testing strategies, Testing conventional applications, Test case design, Quality concepts, Software quality assurance, Formal technical reviews, Software reliability, The quality standards: ISO 9000, CMM, Six sigma for SE. SQA plan.	

Total	45
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List of References:

1. Rogers S. Pressman, *“Software Engineering: A Practitioner’s Approach”*, Seventh Edition, TataMcgraw Hills.
2. Goyal D P, *“Management Information System: Managerial Perspectives”*, Fourth Edition, Vikas Publication.
3. O.Brian, *“Management Information System”*, TataMcgrawHill.
4. Ian Sommerville, *“Software Engineering”*, Eighth Edition, Pearson publication.
5. Rajib Mall, *“Fundamentals of Software Engineering”*, PHI.
6. Pankaj Jalote, *“Software Engineering – A Precise Approach”*, Wiley India.

Course Outcomes (COs):

At the end of this course students will be able to ...

1. Analyze requirements of management information systems.
2. Use the information system in different business applications.
3. Identify the information system’s planning methods, choices, implementation and evaluation methods.
4. Interpret the basic software development models and modern agile development.
5. Design the SRS (Software Requirement Specification) document and understand the concepts of managing a software project and approaches for Software Design.
6. Apply software testing methods and analyze the quality of software product.