Reg. No.

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI - 628 502.

UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.Sc., INFORMATION TECHNOLOGY

SEM	ſ	CATEGORY		COMPONENT	COURSE CODE	COURSE TITLE		
v		PART	۲ - III	CORE	U21IT508	SOFTWARE ENGINEERING		
Date	& Sess	sion: 1	1.11.202	4 / FN	Time : 3 hours	Maximum: 75 Marks		
Course Outcome	Bloom's K-level	Q. No.	<u>SECTION – A (10 X 1 = 10 Marks)</u> Answer <u>ALL Q</u> uestions.					
CO1	K1	1.	Which of the following is a phase in the Software Development Life Cycle (SDLC)?a) Requirement Analysisb) Software Deploymentc) Designd) All of the above					
CO1	K2	2.	Which model is used to represent the process of software development as a series of phases in a sequential manner? a) Agile Model b) Spiral Model c) Waterfall Model d) V-Model					
CO2	K1	3.	 What is the primary goal of Software Quality Assurance (SQA)? a) To develop software faster b) To ensure that software meets quality standards and requirements c) To increase the cost of software development d)To create software documentation 					
CO2	K2	4.	Which of the following is a common technique used in SQA to identify defects?a) Code Reviewb) Requirement Gatheringc) Software Designd) Project Management					
CO3	K1	5.	 What is the primary purpose of system design in software engineering? a) To define the software requirements b) To design the user interface c) To create a blueprint for building the software system d) To test the software for defects 					
CO3	K2	6.	Which of the following is a key component of system design?a) User Storiesb) Use Case Diagramsc) Software Requirements Specification (SRS)d) Test Cases					
CO4	K1	7.	What does the acronym 'UML' stand for in the context of software engineering?a) Unified Modeling Languageb) Unified Management Layerc) User Model Languaged) Universal Modeling Language					
CO4	K2	8.	Which of the following UML diagrams is used to represent the static structure of a system? a) Sequence Diagram b)Use Case Diagram c) Class Diagram d) Activity Diagram					
CO5	K1	9.	 What is the primary goal of Software Project Management? a) To design software systems b) To ensure that software projects are completed on time, within budget, and to the required quality standards c) To write code for the software d) To test software for defects 					
CO5	K2	10.	Which document outlines the scope, objectives, and deliverables of a software project? a) Project Charter b) Project Plan c) Risk Management Plan d) Test Plan					
Course Outcome	Bloom's K-level	Q. No.	$\frac{\text{SECTION} - B (5 \text{ X } 5 = 25 \text{ Marks})}{\text{Answer } \underline{\text{ALL}} \text{ Questions choosing either (a) or (b)}}$					
CO1	КЗ	11a.	Explain the difference between functional and non-functional requirements. Provide examples of each and discuss why it's important to distinguish between them in a software project?					

CO1	K3	11b.	(OR)
			Discuss the purpose and benefits of using a version control system in software
			development. How does it facilitate collaboration among developers? Provide an
			example of a common version control system.
CO2	K3	12a.	Describe the role of a 'Test Plan' in the software quality assurance process. (OR)
CO2	КЗ	12b.	Explain the concept of 'Regression Testing.' Why is it important, and how should it be integrated into the software development lifecycle? Provide an example scenario where regression testing is critical.
CO3	K4	13a.	Analyze the trade-offs between a monolithic architecture and a micro-services architecture. (OR)
CO3	K4	13b.	Discuss the importance of designing for scalability in system architecture.
CO4	K4	14a.	Discuss the impact of inheritance on software design. Explain how inheritance can be used to promote code reuse and establish relationships between classes?
CO4	K4	14b.	Analyze the role of use case diagrams in the requirements gathering phase of software development. How do use case diagrams help in identifying system requirements and stakeholders?
CO5	K5	15a.	Evaluate the effectiveness of Agile project management methodologies compared to traditional Waterfall methodologies.
CO5	K5	15b.	Discuss the importance of stakeholder management in software project management. Evaluate how engaging stakeholders effectively can impact project outcomes.

Course Outcome	Bloom's K-level	Q. No.	<u>SECTION – C (</u> 5 X 8 = 40 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	КЗ	16a.	Analyze the role and impact of the following stages in the System Life Cycle Model: Requirements Analysis, Design, Implementation, Testing, and Maintenance. (OR)
CO1	K3	16b.	Analyze the application and impact of different software cost estimation techniques, including Expert Judgement, Analogous Estimating, Parametric Estimating, and Bottom-Up Estimating.
CO2	K4	17a.	Evaluate the impact of different types of software engineering tools on the software development lifecycle.
CO2	K4	17b.	(OR) Evaluate the role and impact of a Work Breakdown Structure (WBS) in software project management. Discuss how creating a WBS contributes to effective project planning, execution, and control.
CO3	K4	18a.	Evaluate the role and impact of different architectural patterns in system design within software engineering.
CO3	K4	18b.	Elucidate the role and impact of different system design principles and patterns on the overall architecture and quality of a software system.
CO4	К5	19a.	Analyze the role and impact of UML (Unified Modeling Language) in the software development lifecycle.
CO4	K5	19b.	Discuss how different UML diagrams such as Component Diagrams, Deployment Diagrams, and Collaboration Diagrams can be used to address integration challenges?
CO5	K5	20a.	Discuss how methodologies such as Total Quality Management (TQM), Six Sigma, and Capability Maturity Model Integration (CMMI) contribute to improving software quality?
CO5	K5	20b.	(OR) Evaluate function testing and system testing. Explain how it will check the software working process?