


Name:			
Enrolment No:			
UPES End Semester Examination, May 2024			
Program Name:	B.Tech (CSE- All Spz.)	Semester : VIII	
Course Name:	Software Quality Assurance	Time : 03 hrs.	
Course Code:	CSEG 4015P	Max. Marks: 100	
Instructions: All questions are compulsory. Be specific to proper explanation only.			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	Define syntax error in the context of software development. Explain its significance in programming and provide a brief example illustrating how a syntax error can occur in code.	4	CO1
Q 2	Define usability in the context of software development. Discuss its importance in enhancing user experience and adoption of software products.	4	CO1
Q 3	Define software quality and explain its importance in the context of software development.	4	CO4
Q 4	Explain classic software development methodologies and modern ones. Highlight five key differences in their principles, practices, and methodologies,	4	CO3
Q 5	What are the emerging trends shaping the future of Software Quality Assurance (SQA)? Discuss five key developments or advancements expected to influence the trajectory of SQA practices in the coming years	4	CO4
SECTION B (4Qx10M= 40 Marks)			
Q 6	Explain the objectives of Software Quality Assurance (SQA) in the context of software development. How does SQA contribute to enhancing the overall software quality?	10	CO1
Q 7	Explain the significance of SQA standards in ensuring software quality. Discuss the role of international standards bodies such as ISO in establishing SQA standards. How do SQA standards contribute to the credibility and reliability of software products?	10	CO3
Q 8	Define the objectives of software review processes. Discuss how reviews contribute to enhancing software quality, improving productivity, and mitigating risks in the software development lifecycle.	10	CO4
Q 9	Explain the importance of SQA project process standards in software development. Discuss how SQA project process standards help in ensuring consistency, repeatability, and quality across software	10	CO2

	<p>projects. Provide examples of commonly used SQA project process standards.</p> <p style="text-align: center;">OR</p> <p>Discuss the concepts of software errors, faults, and failures. Then, provide a detailed classification of the causes of software errors.</p>		
<p>SECTION-C (2Qx20M=40 Marks)</p>			
Q 10	<p>ABC Software Solutions is a mid-sized software development company specializing in the development of enterprise-level applications. Over the years, the company has established itself as a reliable provider of software solutions, but it has encountered challenges related to maintaining consistent quality across its projects. In light of increasing competition and evolving customer demands, ABC Software Solutions is considering investing in Software Quality Assurance (SQA) certification to improve its quality assurance practices.</p> <p>a. Evaluate different SQA certification programs available in the market, considering factors such as industry recognition, relevance to the company's domain, and alignment with international standards.</p> <p>b. Recommend a specific certification program(s) that would best suit the needs and objectives of ABC Software Solutions.</p>	20	CO2
Q 11	<p>Discuss the importance of Verification, Validation, and Qualification in ensuring software quality. How do these processes contribute to the overall reliability and usability of software products? Provide examples to illustrate each concept and explain how they complement each other in the software development lifecycle.</p> <p style="text-align: center;">OR</p> <p>Describe the quality assurance activities typically undertaken by top management in an organization. Outline five key responsibilities or initiatives that top management commonly engages in to ensure the effectiveness of quality assurance practices throughout the organization, emphasizing their role in driving a culture of quality and continuous improvement.</p>	20	CO3