School of Computing Science and Engineering

Bachelor of Science in Computer Science
Semester End Examination - Jul 2024

Duration : 180 Minutes
Max Marks : 100

Sem VI - E1UP602B - Software Quality Management

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1)	List the key components of a quality management plan.	K1(2)
2)	Describe the difference between LOC Metrics and Function Point metrics in software development.	K2(4)
3)	Discuss how structural testing techniques such as code coverage help in assessing the thoroughness of testing.	K2(6)
4)	A software project is consistently experiencing delays, how would you use quality metrics to identify potential causes and propose solutions.	K3(9)
5)	Apply a set of test cases to verify the login functionality of a web application.	K3(9)
6)	Given the following values for a software project , Evaluate Unadjusted function point and function point when all complexity adjustment factor (CAF) and weighting factors are average.	K5(10)

1.User Input = 50
2.User Output = 40
3.User Inquiries = 35
4.User Files = 6
5.External Interface = 4

Weight factor for 1 is 4, 2 is 5 , 3 is 4 , 4 is 10 , and 5 is 7

7)	a) Analyse the impact of non-compliance with coding standards on software quality. b) What are its impact on software maintainability.	K4(12)
8)	a) Evaluate the ethical implications of using software size metrics for performance evaluation of developers or project teams. b) What measures can be taken to ensure fairness and transparency?	K5(15)
9)	a) Critically evaluate the impact of technological advancements on the evolution of software quality practices and standards in general. b) Also discuss the same considering examples e.g., artificial intelligence and cloud computing	K5(15)
10)	A programmer has written a program which accepts inputs as length of three sides of the triangle and determines which type of triangle	K6(18)

will be formed.
Length of the three sides varies as follow:
Length of Side a varies from   2 to 100
Length of Side b varies from   10 to   70
Length of Side c   varies from   5 to   65
a) Using boundary value analysis method writes
at least 10 test cases to check the output of the program.
b) Using worst case analysis method writes
at least 18 test cases to check the output of the program.