School of Computing Science and Engineering
B.Tech CSE
ETE - Jun 2023

Time : 3 Hours   Marks : 100

Sem IV - E1UA401T - Software Engineering and Testing
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

1.	What difficulties would a software development company face, if it tries to use the exploratory (build and fix) program development style in its development projects?	K1 CO1 (5)
2.	Give the hierarchical format of a structure chart. Also, give the basic building blocks of a structure chart.	K3 CO3 (5)
3.	By using suitable examples explain the following terms associated with an abstract data type (ADT)—data abstraction, data structure, data type.	K2 CO2 (5)
4)	Compare the relative advantages of using the iterative waterfall model and the spiral model of software development for developing an MIS application. Explain with the help of one suitable example each, the type of project for which you would use the waterfall model of software development, and the type of project for which you would use the spiral model.	K5 CO4 (10)

OR

	What do you understand by the term integration testing? Which types of defects are uncovered during integration testing? What are the different types of integration testing methods that can be used to carry out integration testing of a large software product? Compare the merits and demerits of these different integration testing strategies.	K5 CO4 (10)
5.	What is the difference between black-box testing and white-box testing? Give an example of a bug that is detected by the black-box test suite, but is not detected by the white-box test suite, and vice versa.	K1 CO1 (10)
6.	Define the following: (i) Modularization (ii) Structure charts (iii) Pseudo-code (iv) Flowcharts	K3 CO3 (10)
7.	What do you mean by the term software re-engineering? Why is it required? Explain the different activities undertaken during reverse engineering.	K2 CO2 (10)
8.	Discuss the limitation of testing. Why do we say that complete testing is impossible?	K3 CO3 (15)
9)	Consider the program for the determination of next date in a calendar. Its input is a triple of day, month and year with the following range $1 \leq$ month ≤ 12 $1 \leq$ day ≤ 31 1900 $1 \leq$ year ≤ 2025 The possible outputs would be Next date or invalid date. Design boundary value, robust and worst test cases for this programs.	K4 CO4 (15)

OR

	Explain the boundary value analysis testing techniques with the help of an example.	K4 CO4 (15)
10.	What are the various categories of software metrics? Discuss with the help of suitable example	K4 CO3 (15)