

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086**  
**(For Candidates admitted during the academic year 2023-2024 and thereafter)**

**B.C.A. DEGREE EXAMINATION – NOVEMBER 2024**  
**THIRD SEMESTER**

**COURSE : MAJOR CORE**

**PAPER : SOFTWARE ENGINEERING AND TESTING**

**SUBJECT CODE: 23CS/MC/TE34**

**TIME : 3 HOURS**

**MAX. MARKS: 100**

Q. No.	SECTION A (20 x 1 = 20) Choose the correct answer	CO	KL
1.	_____ characteristic describes the Waterfall model is better. a. It is a non-linear process b. It allows for iteration between phases c. It is a sequential approach with distinct phases d. It is highly adaptable to changes during development	CO1	K1
2.	Agility in software development focuses on_____ a. Responding to changes over following a fixed plan b. Completing projects without customer feedback c. Documenting all aspects of the project thoroughly d. Testing only after development is complete	CO1	K1
3.	The process of gathering requirements from stakeholders is called_____ a. validating requirements b. eliciting requirements c. designing requirements d. testing requirements	CO1	K1
4.	In class-based modelling, a class represents_____ a. an interface to the database b. a blueprint that defines attributes and operations for an object c. a specific instance of a software module d. a single data element	CO1	K1
5.	Alpha testing is typically performed by_____ a. end-users at their workplaces b. the developers in a controlled environment c. external clients only d. testers after software deployment	CO1	K1
6.	Control structure testing is concerned with_____ a. validating the hardware-software interface b. testing loops and conditions within the code c. designing user-friendly interfaces d. testing for high system performance	CO1	K1
7.	Quality assurance in software development ensures that the_____ a. software is developed quickly b. software meets predefined quality c. software is defect-free d. software can run on multiple operating systems	CO1	K1

8.	Function point metrics are used to_____. a. measure hardware capacity b. estimate the functionality provided by the software c. test user interaction with the system d. count the number of classes in the code	CO1	K1
9.	The purpose of a Risk Mitigation, Monitoring, and Management (RMMM) plan is to_____ a. manage and mitigate project risks b. increase the speed of coding c. eliminate all bugs in the software d. improve hardware configuration	CO1	K1
10.	The COCOMO model is used for_____ a. predicting software quality b. estimating the cost and effort for software development c. performing system testing d. managing user requirements	CO1	K1
	<b>Fill in the blanks</b>		
11.	The _____ phase of project management assesses the feasibility of the software project in terms of technical, operational, and financial aspects	CO2	K2
12.	The _____ helps predict the cost and effort needed for software development	CO2	K2
13.	_____ metric can be used effectively as a means for measuring the functionality delivered by a system.	CO2	K2
14.	_____ is considered an informal review technique.	CO2	K2
15.	White-box testing is a technique used to test_____	CO2	K2
16.	_____ testing executes a system in a manner that demands resources in abnormal quantity, frequency or volume.	CO2	K2
17.	_____ represents the roles that people play as system operates in a use case.	CO2	K2
18.	_____ depicts the information domain for the problem in requirement analysis.	CO2	K2
19.	The Scrum framework divides work into short, time-limited iterations known as _____	CO2	K2
20.	The main advantage of the _____ model is that it allows for user feedback at various stages of development.	CO2	K2
<b>Q. No.</b>	<b>SECTION B (4 x 5 = 20)</b>	<b>CO</b>	<b>KL</b>
21.	In a Rapid Application Development (RAD) model, identify the key activities involved in the iterative development process.  <b>(OR)</b> Identify and explain the main differences between the Waterfall model and the Incremental model in terms of handling changes in requirements.	CO3	K3
		CO3	K3

22.	Organize and discuss the various agility principles according to Agile Alliance <b>(OR)</b> Make use of Data modelling concept and interpret about the Data object and relationships	CO3 CO3	K3 K3
23.	Analyse the differences between white-box testing and black-box testing. In what scenarios would you recommend using each of these testing? <b>(OR)</b> Analyse unit testing with an example.	CO4 CO4	K4 K4
24.	Inspect any two types of formal technical reviews and explain. <b>(OR)</b> Examine about risk management strategy using RMMM plan	CO4 CO4	K4 K4
<b>Q. No.</b>	<b>SECTION C</b>	<b>(6X10=60)</b>	<b>CO KL</b>
25.	What is Software process? Relate your answer with generic process frame work and umbrella activities and explain. <b>(OR)</b> What is the purpose of Evolutionary Process Models and relate your answer with any two types of model from it.	CO1 CO1	K1 K1
26.	Explain the concept of requirements engineering in detail. <b>(OR)</b> Demonstrate the idea behind building a requirement model and explain about the various elements.	CO2 CO2	K2 K2
27.	Identify to which testing domain Basis path testing belongs and explain the role of Flow Graph Notation in basis path testing. <b>(OR)</b> With the help of black box testing explain Equivalence Partitioning and Boundary Value Analysis	CO3 CO3	K3 K3
28.	Analyse project planning process using COCOMO Model <b>(OR)</b> Examine about Class-Responsibility-Collaborator (CRC) Modeling	CO5 CO5	K4 K4
29.	Explain the importance of SCM Process and interpret about the different layers of SCM process <b>(OR)</b> Evaluate on different ways in which quality can be viewed using McCall's Quality Factors and Informal reviews	CO5 CO5	K5 K5
30.	Explain Function-Based Metrics with suitable computations and examples <b>(OR)</b> Elaborate about project management concepts using Process and product	CO5 CO5	K6 K6