



 BCA 210 BCA MAKEUP SOLUTION. Roll No																			
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**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF INFORMATION SCIENCE**

**MAKE-UP EXAMINATION- JAN 2023**

**Course Code:** BCA 210  
**Course Name:** Software Engineering  
**Program** : BCA

**Date:** 24-JAN-2023  
**Time:** 09:30 AM – 12:30 PM  
**Max Marks:** 100  
**Weightage:** 50%

**Instructions:**

- (i) Read the all questions carefully and answer accordingly.
- (ii) Draw neat labeled diagrams where necessary

**Part A [Memory Recall Questions]**

**Answer all the Questions. Each question carries TWO marks. (10Qx 2M= 20M)**

1. What are the advantages and disadvantages of Waterfall model? (C.O.1) [Knowledge Level]
2. What are spike solution in Extreme programming? (C.O.1) [Knowledge Level]
3. What do you mean by the non-functional requirements? (C.O.2) [Knowledge Level]
4. What are boundary classes? (C.O.2) [Knowledge Level]
5. Explain about acceptance testing. (C.O.3) [Knowledge Level]
6. Why do we need software configuration management? (C.O.3) [Comprehension Level]
7. What are 4Ps of Software project management? (C.O.3) [Knowledge Level]
8. What are the types of risk? (C.O.4) [Knowledge Level]
9. List any two limitations of Capability Maturity Model. (C.O.3) [Comprehension Level]
10. Why do we need function point measurement? (C.O.4) [Comprehension Level]

**Part B [Thought Provoking Questions]**

**Answer all the Questions. Each question carries EIGHT marks. (4Qx8M=32M)**

11. Assume that you are a software developer for TCS and TCS has won a contract to build a banking software for handling activities like customer onboarding, taking deposits for SWISS bank branches. You are asked to design use case diagram for the software. Also design the class diagram based on the usecase diagrams. (C.O.No. 2) [Comprehension Level]

12. A bank gives interest for the balance in accounts according to the following:

- For the first \$3000, the interest rate is 0%
- For balance between \$3001 to \$10000, the interest rate is 2%
- For balance above \$10000, the interest rate is 4%

Using the boundary value analysis Technique, find the partitions and boundary test cases.

(C.O.No. 3) [Comprehension Level]

13. Your company is designing a compiler for a new programming language and you are asked to perform the architectural design. The compiler software needs to transform the code written in high level language into machine code in stages with stage producing an intermediate output. Discuss the various architectural styles available and which architectural style will be suitable? ?

(C.O.No. 2) [Comprehension Level]

14. John wants to design and develop a software for his startup for hospital patient management. The hospital has insisted that the user interface should be modern and employees should be able to perform their tasks quickly. What are the rules and design process regarding user interface he needs to follow to achieve this ?

(C.O.No. 2) [Comprehension Level]

### Part C [Problem Solving Questions]

**Answer the Question. It carries SIXTEEN marks.**

**(3Qx16M=48M)**

15. Consider yourself to be in a team for Software Process Improvement for the ERP in Presidency University. It has been found that software process used currently is not effective and has a high chance of project failures. Discuss how the software process can be improved by CMM?

(C.O.No. 4) [Application level]

16. Amazon wants to release a VR application for customers to experience the products before buying. The company has not developed projects in this domain and wants to choose a suitable process model that will have a high chance of success. Compare evolutionary model and agile model and justify which model will be the most suitable.

(C.O.No. 1) [Application level]

17. The Karnataka government is planning to launch a website to collect the grievances of its citizens. The project was given to your company and your team has prepared an estimate of time required as given below. Develop a network model for the same and calculate the time required, span and float.

(C.O.No. 4) [Application level]

Activity	Duration(days)	Predecessor
Establish project	4	
Customer requirements	6	
Software specification	4	B
Write code and test plans	12	A
Testing	7	A
System testing	9	B
deployment	5	E,F

