

Roll No



**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF ENGINEERING
END TERM EXAMINATION - JUN 2023**

Semester : Semester VI - 2020

Course Code : CSE2014

Course Name : Sem VI - CSE2014 - Software Engineering

Program : CSE

Date : 19-JUN-2023

Time : 9.30AM - 12.30PM

Max Marks : 100

Weightage : 50%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS

(10 X 2 = 20M)

1. Draw a figure depicting the phases of Spiral model. (CO1) [Knowledge]
2. Draw the figure of DSDM life cycle. (CO3) [Knowledge]
3. What are the benefits of using the classical waterfall model? (CO1) [Knowledge]
4. Define cohesion and coupling. (CO2) [Knowledge]
5. Explain in brief the three point estimation technique. (CO3) [Knowledge]
6. Indicate which of the following are functional and non functional requirements.
 - a. Authentication of a user when he/she tries to log into the system.
 - b. System shutdown in the case of a cyber attack
 - c. Each request should be processed within 10 seconds
 - d. Emails should be sent with a latency of no greater than 12 hours. (CO2) [Knowledge]
7. Draw the architecture of DevOps . (CO3) [Knowledge]
8. Define software maintenance. (CO4) [Knowledge]
9. List the phases involved in the process of software maintenance. (CO4) [Knowledge]
10. What are the advantages and disadvantages of White Box Testing? (CO4) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

(5 X 10 = 50M)

11. Define Software Engineering? Explain various categories of softwares. (CO1) [Comprehension]
12. "Any project must be aligned to clearly defined strategic goals and focus upon early delivery of real benefits to the business." Which development model is based on this philosophy. Explain the eight principles that model follows. (CO3) [Comprehension]
13. List the steps involved in basis path testing method. Using three different methods, calculate the cyclomatic complexity of the below given program code.
min=A[0];
l=1;
while (l < N)
{
if (A[l] < min)
min = A[l]
l = l + 1;
}
Print min; (CO4) [Comprehension]
14. Infinant, a large software firm handles complex software projects. To ease their work they use different automated tools. What is such a tool mix called? Explain its architecture with a neat diagram. Write two advantages and two disadvantages of such a tool mix. (CO2) [Comprehension]
15. Differentiate coupling from cohesion. Explain data centered architectural style with a neat diagram. (CO2) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS

(2 X 15 = 30M)

16. The project manager, developers, configuration manager, the product owner and testers are involved in the SCM process. They have to follow multiple processes to complete software configuration management. List the processes involved in SCM.
A program reads three input numbers that represent the lengths of the three sides of a triangle. Based on these three input values, the program determines whether the triangle is scalene (that is, it has three unequal sides), isosceles (two equal sides), or equilateral (three equal sides). The program displays the result on the screen. Apply boundary value analysis to generate test cases assuming each side takes a value between 1 to 200. (CO3,CO4) [Application]
17. A few years ago, Sun Microsystems decided to develop and market StarOffice, a set of desktop tools that would be comparable to Microsoft's Office suite of tools but would be targeted for UNIX rather than Windows. At that time, no other major UNIX vendor had developed or was planning to develop such a product.
What process model would you use? Justify your answer. Explain the suggested model in detail with appropriate diagram. (CO2,CO1) [Application]