



**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

SUMMER TERM / MAKE UP END TERM EXAMINATION

Semester: Summer Term 2019

Date: 22 July 2019

Course Code: CSE 216

Time: 2 Hours

Course Name: Software Engineering

Max Marks: 80

Program & Sem: B.Tech & VI & V (2015 & 2016 Batch)

Weightage: 40%

Instructions:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

Part A

Answer **ALL** the Questions. **Each** question carries **five** marks

(5Qx6M=30)

1. Discuss the 4Ps of Software Project Management.
2. Explain any two testing strategies briefly.
3. A software system has 560 modules. The latest release required that 30 of these modules to be changed. In addition, 15 new modules were added and 10 were removed. Compute the Software Maturity Index [SMI] for the system. [Hint use maintenance metrics]
4. A software team delivers a software increment to end users. The software team found 196 errors during FTR and other testing tasks. . The end users uncovered 18 defects during first month of use. Calculate the Defect Removal Efficiency.
5. The software project team has to develop 25 new components and assume the average LoC /component is 120. Compute the Risk Exposure when the cost/LoC is Rs. 16 and the risk probability is 70%.

Part B

Answer **any two** the Questions. **Each** question carries **ten** marks.

(2Qx10M=20)

6. What is Software Configuration Management? Explain the process of Change Management. Assume that you are doing your University Project-I, How many versions of your project is required, before the final submission. Justify your answer.

7. **Lupus** is a chronic autoimmune disease that can damage any part of the body (skin, joints, and/or organs). Nearly 0.32% of Indian population suffers from this disease.

Imagine you are the Project Manager for developing a healthcare application that collects, analyzes and classifies blood samples into Lupus and Non-Lupus categories. Identify the risk factors for this application

8. Next Date is a function with three variables: month, day, year. It returns the date of the day after the input date. Limitation: years 1812-2012

Treatment Summary: if it is not the last day of the month, the next date function will simply increment the day value. At the end of a month, the next day is 1 and the month is incremented. At the end of the year, both the day and the month are reset to 1, and the year incremented.

Develop a set of test cases that you feel will adequately test the program [Use Black box testing techniques]

Part C

Answer **all** the Questions. Each question carries **fifteen** marks. (2Qx15M=30)

9. Draw the Precedent network diagram for the given table and calculate the estimated duration, Float and Activity span using Critical Path Method. Find the Critical Path also.

Activity	Duration (Weeks)	Predecessor(s)
A	6	-
B	5	A
C	8	A
D	4	B
E	6	C,D
F	4	C,D
G	5	E
H	6	F,G

10. Derive a Control Flow Graph [CFG] for the given function and apply Basis Path Testing to identify independent paths & develop test cases which will guarantee that all statements and branches are covered.

Function min(A)

```
{  
  min = A[0];  
  I = 1;  
  while (I < N) {  
    if (A[I] < min)  
      min = A[I];  
    I = I + 1;  
  }  
  print min
```

