B.Sc./4th Sem (H)/COMS/24(CBCS)

2024

4th Semester Examination

COMPUTER SCIENCE (Honours)

Paper : C 9-T

(Software Engineering)

[CBCS]

Full Marks : 40 Time : Two Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Group - A

Answer any ***five*** questions : 2×5=10

1. Why Software Engineering is called Layered Technology? 2

2. What is Prototyping Process Model? Under what circumstances is it recommended? 1+1

3. "A high-quality SRS (Software Requirement Specification) is a pre-requisite to a high quality software." — Justify the statement. 2

P.T.O.

4. What do you mean by verification and validation in software development? 2

5. What do you mean by "Phase containment of error"? 2

6. What are the various metrics for Software Quality? 2

7. What do you mean by the reactive and the proactive risk strategies? 2

8. Why we study feasibility before software development? 2

Group - B

Answer any ***four*** questions : 5×4=20

9. What does the Capability Maturity Model Integration (CMMI) determine? Explain any three capability levels. 2+3

10. State the significance of a Gantt chart for scheduling and monitoring a software project. 5

11. Create a control flow graph and find the cyclomatic complexity of the following code :

```
int factorial (unsigned int N) {
    int fact = 1, i;
for (i = 1; i <= N; i++) {
    fact *=i;}
return fact;}
```

2+3

12. How does the consequences of a risk in a software project assessed? 5

13. Explain all levels of Coupling in software design. 5

14. Describe the activities of Software Configuration Management. 5

Group - C

Answer any ***one*** question : 10×1=10

15. With the help of a diagram explain how software can be develop using spiral model? Also mention the advantages and disadvantages of this model. 6+4

16. Explain how software cost can be estimated using all types of COCOMO in estimating software cost. 10
