

E-786**M. Sc. (Third Semester)
EXAMINATION, Dec.-Jan.: 2020-21****COMPUTER SCIENCE**

Paper Second

(Software Engineering)*Time : Three Hours]**[Maximum Marks : 100**[Minimum Pass Marks : 40***Note :** Attempt all Sections as directed.**Section—A**

1 each

(Objective/Multiple Choice Questions)**Note :** Attempt all questions.

Choose the correct answer :

1. In which model the project risk factor is considered ?
(a) Spiral model (b) Waterfall model
(c) Prototyping model (d) Incremental model
2. RAD Software process model stands for what ?
(a) Rapid Application Development (b) Relative Application Development
(c) Recent Application Development (d) Rapid Application Design
3. Which of these options is correct for the prototyping model of software development ?
(a) Suitable for projects with large development teams.
(b) Suitable when requirements are well defined.
(c) Suitable when a customer cannot define requirements clearly.
(d) Both (a) and (b)
4. In a DFD external entities are represented by a :
(a) Rectangle (b) Ellipse (c) Diamond shaped box (d) Circle
5. Which of the following is not included in SRS ?
(a) Performance (b) Functionality (c) Design Solutions (d) External Interfaces
6. When multiple modules share common data structure and work on different parts of it, it is called as :
(a) Common coupling (b) Share coupling (c) Data coupling (d) Stamp coupling
7. Function point computation is given by the formula :
(a) $FP = [\text{count total} \times 0.65] + 0.01 \times \text{sum}(Fi)$ (b) $FP = \text{count total} \times [0.65 + 0.01 \times \text{sum}(Fi)]$
(c) $FP = \text{count total} \times [0.65 + 0.01] \times \text{sum}(Fi)$ (d) $FP = [\text{count total} \times 0.65 + 0.01] \times \text{sum}(Fi)$
8. According to ISO 9001, inspection and testing comes under which management responsibility ?
(a) Document control (b) Process control
(c) Control of non-conforming products (d) Servicing
9. Process model is represented by :
(a) SEI (b) CMI (c) CMMI (d) SE
10. How many product quality factors are proposed in McCall quality model ?
(a) 2 (b) 3 (c) 11 (d) 8
11. is an “umbrella” activity that is applied throughout the software engineering process.
(a) Debugging (b) Testing (c) Designing (d) Software quality assurance

12. The importance of software design can be summarized in a single word :
(a) accuracy (b) complexity (c) quality (d) efficiency
13. Boundary value analysis belongs to :
(a) White Box Testing (b) Black Box Testing
(c) White Box and Black Box Testing (d) None of the above
14. Alpha testing is done at :
(a) Developer's end (b) User's end
(c) Developer's and user's end (d) None of the above
15. What is testing process first goal ?
(a) Testing (b) Bug prevention (c) Execution (d) Analysis
16. refers to the set of tasks that ensures the software correctly implements a specific function.
(a) Validation (b) Verification (c) Modularity (d) None of the above
17. Software risk always involves two characteristics :
(a) Fire fighting and crisis management (b) Known and unknown risks
(c) Uncertainty and loss (d) Staffing and budget
18. In the ever-changing environment modifying the software to match changes is called
(a) Corrective maintenance (b) Adaptive maintenance
(c) Perfective maintenance (d) Preventive maintenance
19. In the project planning, which of the following is considered as the most basic parameter based on which all other estimates are made ?
(a) Project effort (b) Project size (c) Project duration (d) Project schedule
20. A COCOMO model is
(a) Common Cost Estimation Model (b) Constructive Cost Estimation Model
(c) Complete Cost Estimation Model (d) Comprehensive Cost Estimation Model

Section—B

2 each

(Very Short Answer Type Questions)

Note : Answer all questions in 2-3 lines only.

1. What do you mean by software process framework ?
2. What are the various „umbrella“ activities ?
3. What is data dictionary ?
4. Define the terms „abstraction“ and „modularity“ of software design concepts.
5. What is CMMI ?
6. What is software reliability ?
7. What is verification in software testing ?
8. What is debugging ?
9. What do you mean by software risk ?
10. Define the term Software Reengineering.

Section—C

3 each

(Short Answer Type Questions)

Note : Answer all questions within 75 words.

1. Describe prototype model.
2. What is Agile process ?
3. Explain E-R diagram with example.
4. What is coupling ?
5. Describe function point metric.
6. Explain architecture of case tools.
7. What is Unit and Integration testing ?
8. What is white box testing ?
9. Explain Boehm model of software maintenance.
10. Describe software project management.

Section—D

6 each

(Long Answer Type Questions)

Note : Answer any *five* questions in 150 words.

1. What is Incremental model ? Explain with diagram.
2. What is object oriented design ?
3. Explain various factors of McCall's quality model.
4. What is cyclomatic complexity ?
5. Explain COCOMO II cost estimation model.
6. What is the structure of SRS ?
