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SOFTWARE ENGINEERING

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

PART – A

Marks – 25

Choose the correct options from the following
questions : 1×25=25

1. Who writes the Software Requirement Specification
   (SRS) Document ?

   [A]   System Developer

   [B]   System Tester

   [C]   System Analyst

   [D]   None of the above

[Turn over

2. What is the final outcome of the requirements analysis and specifications phase ?

[A] Drawing the data flow diagram

[B] The SRS document

[C] Coding the object

[D] The user manual

3. Which of the following is not included in a SRS document ?

[A] Functional requirements

[B] Non-functional requirements

[C] Goals of implementation

[D] User manual

4. Who among the following expects cost estimation from the SRS document ?

[A] Project manager

[B] User document writer

[C] Software developers

[D] Maintenance engineers

5. The primary tool used in structure design is

   [A] Data-flow

   [B] Module

   [C] Structure Chart

   [D] Program Flowchart

6. During the maintenance phase

   [A] system requirements are established

   [B] system analysis is carried out

   [C] programs are tested

   [D] None of the above

7. The phase of system developers associated with creation of the test data is

   [A] System Analysis

   [B] Physical Design

   [C] System Acceptance

   [D] Logical Design

8. Testing can be applied to :

   [A]   requirements

   [B]   analysis

   [C]   design

   [D]   code

9. Which one of the following testing is performed by user ?

   [A]   Acceptance testing

   [B]   Unit testing

   [C]   Compatibility testing

   [D]   None of the above

10. White box testing can be started

   [A]   after SPS creation

   [B]   after designing

   [C]   after programming

   [D]   after installation

11. The type of software testing in each module is tested in which each module is tested along in an attempt to discover any errors in its code known as

    [A] Integration testing

    [B] Acceptance testing

    [C] Mutation testing

    [D] Unit testing

12. Which technique is applied for usability ?

    [A] White box

    [B] Black box

    [C] Grey box

    [D] Combination of all of the above

13. What is the main purpose of integration testing ?

    [A] Design errors

    [B] Interface errors

    [C] Procedure errors

    [D] None of the above

14. _____ is an indication of the relative interdependence among modules.

[A] Cohesion

[B] Coupling

[C] Modularity

[D] Cohesion and Coupling

15. _____ is a white box testing technique first proposed by Tom McCabe.

[A] Equivalence partitioning

[B] Basis Path Testing

[C] Boundary Value Analysis

[D] None of the above

16. Design phase is followed by _____.

[A] Coding

[B] Testing

[C] Maintenance

[D] None of the above

17. Where is the prototyping model of software development well suited ?

[A] When requirements are well defined

[B] For projects with large development teams

[C] When a customer cannot define requirements clearly

[D] None of the above

18. A COCOMO model is _____.

[A] Common Cost Estimation Model

[B] Constructive Cost Estimation Model

[C] Complete Cost Estimation Model

[D] Comprehension Cost Estimation Model

19. Beta Testing is done at _____.

[A] User's End

[B] Developer's End

[C] User's and developer's End

[D] None of the above

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20. The testing in which code is checked, called

    [A]   Black Box testing

    [B]   White Box testing

    [C]   Red Box testing

    [D]   Green Box testing

21. Prototyping in software process may involve
_____.

    [A]   Throw-away prototyping

    [B]   Evolutionary

    [C]   Both [A] and [B] above

    [D]   None of the above

22. In Boehm's spiral model, each loop in the spiral represents _____ of the software process.

    [A]   Phase

    [B]   Design

    [C]   Documentation

    [D]   None of the above

23. A good specification should be

   [A] Unambiguous

   [B] Distinctly specified

   [C] Functional

   [D] All of the above

24. Design phase is followed by

   [A] Coding

   [B] Testing

   [C] Maintenance

   [D] None of the above

25. The model which estimates the total effort in terms of person, months of technical project staff is _____ .

   [A] Spiral model

   [B] Waterfall model

   [C] Win spiral model

   [D] COCOMO model

PART – B

Marks – 45

Answer any *three* questions.

1. (a) What do you mean by software crisis ? 3

   (b) What is SDLC ? 2

   (c) What are the differences between classic water fall model and iterative waterfall model ? 2

   (d) Explain about Prototype model. 8

Or

Explain about Spiral model.

2. (a) What are the qualities of a Project Manager ? 4

   (b) What are the different activities of Project Planning ? 5

   (c) Explain about Risk Management. 6

3. (a) Explain the different types of cohesiveness ? 8

   (b) What do you mean by white box testing ? 3

   (c) Write about system testing. 4

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4. (a) Explain about COCOMO model. 7

   (b) What is DFD ? What is context diagram ?

   4

   (c) What are the differences between PERT and GANTT chart ? 4

5. Write short notes any *three* : 5×3=15

   (i) Reliability matric

   (ii) Delphi Cost Estimation

   (iii) Unit testing

   (iv) SQA.

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