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Barasat, Kolkata -700135

Term End Examination 2022
Programme – B.Tech.(CSE)-2019/B.Tech.(CSE)-2020
Course Name – Software Engineering
Course Code - PEC-501B
(Semester V)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Decision trees uses_____ Examine and choose the correct alternative
- a) pictorial depiction of alternate conditions b) nodes and branches
c) consequences of various depicted d) all of these
alternates
- (ii) Which of the following is the best type of module coupling? Choose the correct option
- a) Control Coupling b) Stamp Coupling
c) Data Coupling d) Content Coupling
- (iii) In a Data Flow Diagram which among the following process is at the most detailed level ? Infer and choose the correct alternative
- a) Data Flows b) Interface
c) Functional Primitive d) Transform Description
- (iv) Define which one is the disadvantage of the Spiral Model
- a) Doesn't work well for smaller projects b) The high amount of risk analysis
c) Additional Functionality can be added later d) Strong approval and documentation control
- (v) Which of the following gives a logical structure of the database graphically? Identify the correct alternative
- a) Entity-relationship diagram b) Entity diagram
c) Database diagram d) Architectural representation
- (vi) Which of the following is not a Software Configuration Management Activity? Anticipate and infer the correct option
- a) Configuration item identification b) Risk management
c) Release management d) Branch management
- (vii) An entity set that does not have sufficient attributes to form a primary key is termed a _____ Infer and select the correct alternative
- a) Strong entity set b) Variant set
c) Weak entity set d) Variable set
- (viii) In a software project,COCOMO is used to estimate. Select the correct alternative
- a) Effort and duration on the size of the b) Size and duration based on the effort of the

- software
- c) Effort and cost based on the duration of the software
- (ix) A description of each function presented in the DFD is contained in a _____ Identify the correct alternative
- a) data flow
 b) process specification
 c) control specification
 d) data store
- (x) Which of the following factors are influenced on the architect? Anticipate and infer the correct option
- a) Background and experience of the architects
 b) Developing an organization
 c) Customers and end users
 d) All of the above
- (xi) What is a sequence diagram? Examine and choose the correct alternative
- a) A diagram that shows interacting individuals along the top of the diagram and messages passed among them arranged in temporal order down the page
 b)) A diagram that shows messages superimposed on a diagram depicting collaborating individuals and the links among them
 c) A diagram that shows the change of an individual's state over time
 d) All of the mentioned
- (xii) A Structured program should be _____ Assess and choose the correct option
- a) Secure
 b) Sequential
 c) Ordered
 d) Simple
- (xiii) Which of the following is not a SQA plan for a project? Choose the correct option
- a) evaluations to be performed
 b) amount of technical work
 c) audits and reviews to be performed
 d) documents to be produced by the SQA group
- (xiv) Objects are executed _____ Examine and choose the correct alternative
- a) sequentially
 b) in Parallel
 c) sequentially & Parallel
 d) none of the mentioned
- (xv) Which of the following are types of code review ? Choose the correct option
- a) Code Walkthrough
 b) Code inspection
 c) Both A and B
 d) None

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Describe the three basic elements of an ER Diagram (3)
- OR**
- Differentiate between Physical DFD and Logical DFD with an example (3)
3. Differentiate between Top-down and Bottom-up design in Software Engineering (3)
- OR**
- Differentiate briefly a Decision tree and a decision table (3)
4. Construct a Class Diagram and an Interaction Diagram of UML and explain it briefly (3)
- OR**
- Construct State Chart Diagram and Activity Diagram of UML and explain it. (3)
5. Explain the five rules in Structured Programming (3)
- OR**
- What are the types of Coupling and Cohesion. Categorize them by citing suitable examples. (3)
6. Write down the differences between Integration Testing and System Testing (3)
- OR**
- Write down what is meant by Quality Assurance and Software Maintenance (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe Incremental Model and Spiral Model by detailed explanation of each and every phase of their Software Development Life Cycle (5)

OR

A project size of 200 KLOC is to be developed. Software development team has average experience on similar type of projects. The project schedule is not very tight. Examine and Calculate the Effort, development time, average staff size, and productivity of the project. (5)

8. Describe the different types and levels of Data Flow Diagram (5)

OR

Demonstrate an ER Diagram of a project which performs online railway reservation (5)

9. Examine and explain what is Top_down and Bottom_up approach in Software Engineering (5)

OR

Write down the types of Structured Chart and describe them (5)

10. Analyse Modular Programming in Software Engineering by citing a suitable example (5)

OR

What is meant by Cohesion in Software Engineering. Explain by a suitable example (5)

11. Explain information hiding in software engineering (5)

OR

Explain what is meant by System Documentation in Software Engineering (5)

12. Write down the work-flow of Unit Testing in software engineering and describe the various Unit Testing techniques (5)

OR

What is Integration Testing ? Write down the various approaches of Integration Testing and explain each and every one of them (5)

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