BRAINWARE UNIVERSITY

Term End Examination 2023
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) The _____ of a relationship is 0 if there is no explicit need for the relationship to occur or the relationship is optional. Select the correct option

    a) modality   b) cardinality
    c) entity   d) structured analysis

(ii) Which of the following model is used to show how data flows through a sequence of processing steps ? Identify the correct alternative

    a) Object Models   b) System Model
    c) Semantic Data Models   d) Data Flow Model

(iii) In which model the Project risk factor is considered? Select the correct one

    a) Spiral model.   b) Waterfall model
    c) Prototyping model   d) Incremental model

(iv) The incremental model is the combination of which models? Select the correct alternative

    a) Build & FIX Model & waterfall model   b) Linear model & waterfall model
    c) Linear model & Prototyping model   d) linear model & RAD Model

(v) Which of the following is an important factor that can affect the accuracy and efficacy of estimates? Identify the correct alternative

    a) Project size   b) Planning process
    c) Project complexity   d) Degree of structural uncertainty

(vi) What involves preparing software for external release and keeping track of the system versions that have been released for customer use? Anticipate and infer the correct option

    a) System building   b) Release management
    c) Change management   d) Version management

(vii) A _____ is a directed graph that describes the flow of execution control of the program. Analyse and select the correct option

a) Flowchart
b) Flow graph
c) Complexity curve
d) Algorithm

(viii) A class is divided into which of these compartments? Examine and choose the correct alternative

a) Name Compartment
b) Attribute Compartment
c) Operation Compartment
d) All of the mentioned

(ix) Which diagram indicates the behaviour of the system as a consequence of external events? Predict and choose the correct alternative

a) data flow diagram
b) state transition diagram
c) control specification diagram
d) workflow diagram

(x) Which of the following points related to Object-oriented development (OOD) is true? Examine and choose the correct alternative

a) OOA is concerned with developing an object model of the application domain
b) OOD is concerned with developing an object-oriented system model to implement requirements
c) All of the mentioned
d) None of the mentioned

(xi) Identify and choose the fault-based testing technique

a) Beta Testing
b) Unit Testing
c) Mutation Testing
d) Stress Testing

(xii) Software Configuration Management can be administered in several ways. These include_____ Anticipate and infer the correct option

a) A single software configuration management team for the whole organization
b) A separate configuration management team for each project
c) Software Configuration Management distributed among the project members
d) All of the mentioned

(xiii) Identify and choose the term that is not related to Testing

a) failure
b) error
c) Test case
d) Test bot

(xiv) _____ is a measure of the degree of interdependence between modules. Assess and choose the correct option

a) Cohesion
b) Coupling
c) None of the mentioned
d) All of the mentioned

(xv) What is the Interaction diagram? Examine and choose the correct alternative

a) Interaction diagrams are the UML notations for dynamic modeling of collaborations
b) Interaction diagrams are a central focus of engineering design
c) All of the mentioned
d) None of the mentioned

Group-B
(Short Answer Type Questions) 3 x 5=15

2. Describe the three basic elements of an ER Diagram (3)

OR

State the purpose of a Context Diagram (3)

3. A class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system . Explain the above statement by citing an example. (3)

OR

Construct a Collaboration Diagram and a Sequence Diagram of UML and explain it briefly. (3)

4. Differentiate between Top-down and Bottom-up design in Software Engineering (3)

OR

Construct Implementation Diagram of UML and Explain it (3)

5. Analyze the advantages and the disadvantages of Modular Programming (3)

OR

Explain the concepts of Information Hiding and Reuse by citing suitable examples. (3)

6. Write down briefly what is meant by Software Configuration Management. (3)

OR

Revise Integration Testing and explain it briefly (3)

Group-C
(Long Answer Type Questions)
5 x 6=30

7. Recall Intermediate COCOMO Model and explain the functionality of the fifteen cost drivers (5)

OR

Describe Iterative Waterfall Model and Prototype Model by detailed explanation of each (5) and every phase of their Software Development Life Cycle

8. Explain what is meant by a Data Flow Diagram by citing an example (5)

OR

How do you analyze an ER(Entity relationship) diagram. Do the analysis by citing a (5) suitable example

9. By citing a suitable example relate the importance of Decision Table in Software Engineering (5)

OR

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

10. Make a comparative analysis between Structured Programming and Modular (5) Programming in Software Engineering

OR

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

11. What is meant by Object oriented design in Software Engineering. Explain the different (5) terms associated with Object Oriented Design

OR

Explain information reuse in software engineering (5)

12. Write down and explain the major Software Quality Assurance Activities (5)

OR

Write down and explain the process of Software Configuration Management (5)

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