BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – Dip.CSE-2022/Dip.CSE-2023
Course Name – Software Engineering
Course Code - DCSE-PC304
(Semester III)

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) Identify a characteristic of Rapid Application Development (RAD).

a) High initial cost
b) Extensive documentation
c) Long development cycles
d) Prototyping and iterations

(ii) Name a type of feasibility analysis that assesses the economic viability of a software project.

a) Technical Feasibility
b) Operational Feasibility
c) Economic Feasibility
d) Legal Feasibility

(iii) Select a software development model that is known for its strict and linear progression of phases.

a) Agile Model
b) Spiral Model
c) Incremental Model
d) Waterfall Model

(iv) Identify the primary disadvantage of the Waterfall Model.

a) Lack of documentation
b) Difficulty in managing changes
c) High upfront cost
d) Quick adaptability

(v) Identify a challenge in specifying performance requirements.

a) Measuring standards
b) Color preferences
c) Cooking techniques
d) Traveling destinations

(vi) Trace the impact of effective requirements analysis on project timelines.

a) Shortening them
b) Extending them
c) Keeping them unchanged
d) Ignoring them

(vii) Identify a common issue when specifying security requirements.

a) Art
b) Creativity
c) Sports
d) Ambiguity

(viii) Select a tool often used to visualize the flow of software requirements and actions.

a) Flowcharts
b) Hiking
c) Cooking
d) Gardening

(ix) Predict the impact of inconsistent user interface elements on user experience.

a) Speed
b) Clarity
c) Confusion
d) Satisfaction

(x) Predict the impact of ignoring user personas in software design.

a) Misaligned features
b) Improved usability
c) Decreased satisfaction
d) Increased engagement

(xi) Predict the impact of a slow-loading user interface on user satisfaction.

a) Speed
b) Satisfaction
c) Efficiency
d) Frustration

(xii) Predict the outcome of overlooking software performance optimization in design.

a) Performance issues
b) Improved usability
c) Decreased satisfaction
d) Enhanced engagement

(xiii) Trace a benefit of using code reviews in the software development process.

a) Slowing down the development process
b) Identifying defects and improving code quality
c) Reducing collaboration among team members
d) Eliminating the need for testing

(xiv) Trace a benefit of using virtualization in software development.

a) Reduced hardware costs and resource usage
b) Slower provisioning of virtual machines
c) Limited isolation between virtual machines
d) Incompatibility with cloud services

(xv) Choose a primary objective of software testing.

a) Reducing development costs
b) Ensuring software is 100% defect-free
c) Improving software quality
d) Maximizing project delays

Group-B
(Short Answer Type Questions)

3 x 5=15

2. Describe the Incremental Model in software development and state a key characteristic of it. (3)
3. Describe the Spiral Model in software development. (3)
4. Judge the significance of user feedback in iterative design. (3)
5. Illustrate the concept of a version control system (VCS) and its role in configuration management. (3)
6. Compare logical DFD with Physical DFD. (3)

OR

Differentiate between functional and non-functional requirements. (3)

Group-C
(Long Answer Type Questions)

5 x 6=30

7. Describe the concept of a use case in requirement analysis and provide an example. (5)
8. Distinguish between user requirements and system requirements and discuss their interrelationship. (5)
9. Explain why the spiral model is referred to as the meta model. (5)
10. Express the concept of usability testing and its role in improving user interfaces. (5)
11. Explain the advantages of software development life cycle models over exploratory style of software development. (5)
12. Compare manual testing and automated testing in terms of their advantages and limitations, and explain when to use each approach. (5)

OR

Distinguish between functional testing and non-functional testing in software quality assurance, and provide examples of each. (5)