



BRAINWARE UNIVERSITY

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

LIBRARY
Brainware University
Barasat, Kolkata - 700125

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) Name a software development model that divides the project into smaller, manageable parts called increments.
- a) Spiral Model
b) Incremental Model
c) Agile Model
d) RAD Model
- (ii) Choose a benefit of implementing a user-centric approach in software design.
- a) Improved usability
b) Decreased user engagement
c) Increased complexity
d) Reduced development time
- (iii) Predict the result of inconsistent navigation in a mobile app's user interface.
- a) Confusion
b) Clarity
c) Speed
d) Satisfaction
- (iv) Choose a design principle that enhances user trust in software.
- a) Security
b) Insecurity
c) Complexity
d) Randomness
- (v) Trace a primary goal of continuous integration (CI) in software development.
- a) Reducing the need for automated testing
b) Frequent manual code reviews
c) Ensuring code is never changed
d) Integrating code changes frequently
- (vi) Trace an advantage of using dependency injection in software development.
- a) Increases code flexibility and testability
b) Encourages tight coupling between components
c) Simplifies complex logic
d) Eliminates the need for interfaces
- (vii) Select a method for visualizing software requirements.
- a) Flowcharts
b) Baking
c) Fishing
d) Painting
- (viii) Trace a primary advantage of using design patterns in software development.
- a) Increasing code maintainability and reusability
b) Complicating the code structure

- c) Reducing the need for documentation d) Discouraging code organization
- (ix) Select a graphical representation often used to visualize software requirements.
- a) Entity-Relationship diagrams b) Cooking recipes
c) Gardening tools d) Musical notations
- (x) Select a principle of software quality assurance.
- a) Minimal customer involvement b) Preventing all defects
c) Continuous improvement d) Rejecting any changes
- (xi) Identify a primary advantage of the Waterfall Model.
- a) Quick adaptability b) Early prototype
c) Well-defined phases d) Low initial cost
- (xii) Cite a technique used for capturing software requirements from emails and documents.
- a) Natural language processing b) Mountain biking
c) Cooking d) Dancing
- (xiii) Identify a principle of the ISO 9000 family of quality management standards.
- a) Customer focus b) Avoiding documentation
c) Rejecting process improvement d) Ignoring product quality
- (xiv) Select a software development model that involves risk assessment and management at every phase.
- a) Agile Model b) Spiral Model
c) Waterfall Model d) Prototype Model
- (xv) Choose a common purpose of smoke testing.
- a) Identifying critical defects b) Achieving 100% test coverage
c) Testing user interface elements d) Running tests on every code change

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Describe the RAD (Rapid Application Development) Model. (3)
3. Illustrate the use of prototypes in requirement elicitation. (3)
4. Establish the importance of accessibility considerations in user interface design. (3)
5. Express the benefits of code review processes in software development. (3)
6. Distinguish between system testing and acceptance testing in software quality assurance and explain their purposes. (3)

OR

Justify the need for a clear software quality assurance plan in the software development process. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Choose an appropriate code refactoring technique and explain when it should be applied to improve code quality and maintainability. (5)
8. Define software development and explain its significance in the modern world. (5)
9. Explain the importance of stakeholder identification in the requirement gathering process. (5)
10. Apply the concept of interaction design in user interface development and discuss the role of interaction designers. (5)
11. Explain the concept of unit testing in software development and its role in code quality. (5)
12. Decide whether to use open-source or commercial testing tools for a software project and justify your decision. (5)

OR

Evaluate the concept of risk-based testing in software quality assurance and describe the key steps in implementing a risk-based testing approach. (5)