BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Tech.(CSE)-DS-2021
Course Name – Software Engineering
Course Code - PCC-CSD701
(Semester VII)

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 in a class diagram what does a solid line with a hollow diamond at one end represent.
a) Generalization b) Aggregation
c) Composition d) Association

(ii) Select the term that best describes the evolving role of software in modern technology
a) Static b) Passive
c) Dynamic d) Fixed

(iii) Select the framework that provides a structured approach to assessing process maturity
a) Agile Manifesto b) Capability Maturity Model Integration (CMMI)
c) Scrum Framework d) DevOps

(iv) Choose the correct definition of software reviews.
a) A comprehensive analysis of software by stakeholders after deployment. b) An assessment of software at various stages of development to ensure quality.
c) The final evaluation of software before it is released to customers. d) A method to design software architectures.

(v) Define software quality assurance
a) The process of managing the quality of software during its development. b) The process of testing software for defects after development.
c) The documentation of software development procedures. d) The creation of software designs and architectures.

(vi) Select the standard that provides guidelines for quality management systems.

a) ISO 14000 b) ISO 9000
c) IEEE 829 d) CMMI

(vii) Select the first phase of the Waterfall model.
a) Design b) Implementation
c) Testing d) Requirement Analysis

(viii) Identify the key disadvantage of the Waterfall model.
a) Difficult to go back to previous phases b) Suitable for all projects
c) Easy to manage d) Supports iteration

(ix) Choose the correct model suitable for risk analysis.
a) Waterfall Model b) Incremental Model
c) Spiral Model d) Unified Process

(x) Select the ISO 9000 element that focuses on continuous process improvement.
a) Quality Assurance b) Quality Control
c) Customer Focus d) Process Approach

(xi) Identify the key output of a formal technical review.
a) Test cases b) Review report
c) Risk assessment d) Error log

(xii) Identify the key purpose of a formal technical review.
a) To identify defects in software products. b) To improve system performance.
c) To enhance customer feedback. d) To reduce system downtime.

(xiii) Define ISO 9000 quality standards in the context of software development.
a) Standards for project management. b) A set of international standards for quality management and assurance.
c) A guideline for enhancing customer satisfaction. d) Software testing procedures.

(xiv) Choose the type of software quality assurance technique that focuses on preventing defects.
a) Testing. b) Statistical process control.
c) Formal technical review (FTR). d) Debugging.

(xv) Select the correct statement about a class diagram.
a) It represents the dynamic behavior of a system. b) It models the static structure of a system, showing classes and their relationships.
c) It shows the interactions between objects over time. d) It is used to model the workflow of a system.

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

2. Explain the key differences between a class diagram and an implementation diagram. (3)
3. Explain the concept of software engineering as a layered technology. (3)
4. Explain the unified process in software engineering. (3)
5. Describe the role of an interaction diagram and its types. (3)
6. Explain the role of software quality assurance in a software project. (3)

OR

Classify the different types of software quality reviews. (3)

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

7. Explain the key aspects of software risks and their impact on project success. (5)
8. Explain the importance of Risk Mitigation, Monitoring, and Management (RMMM) plan. (5)
9. Explain the process of risk refinement in the context of software risk management. (5)
10. Explain the ISO 9000 standards and their relevance to software quality management. (5)
11. Describe an Use Case Diagram and its importance in system modeling. (5)
12. Write about the concept of Top-Down design in software engineering and its benefits. (5)

OR

Write about the Bottom-Up design approach in software engineering and its significance. (5)

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