

US05CBCA03 || SOFTWARE ENGINEERING

Question Bank || UNIT – 1

Q. 1 Multiple choice Questions (1 mark each)

- 1 _____ is the collection of computer programs, procedures and data.
A) Hardware B) Software
C) Network D) Engineering
- 2 Which phase is required to understand the problem?
A) System Design B) Coding
C) Requirement Analysis D) Testing
- 3 _____ is the second step of design phase.
A) Design Analysis B) System Design
C) Black box D) Detailed Design
- 4 The coding should follow rules of _____.
A) Structured Programming B) UML
C) Integrated Programming D) OOP
- 5 _____ is the simplest and most widely used software development model.
A) Spiral B) Prototype
C) Iterative enhancement D) Waterfall
- 6 _____ model overcomes first two limitations of Waterfall model
A) Spiral B) Prototype
C) Iterative enhancement D) Waterfall
- 7 _____ model provides better risk management and cost of each phase.
A) Spiral B) Prototype
C) Iterative enhancement D) Waterfall
- 8 Efficiency and Reliability are measured on which dimension of Quality control.
A) Product Transition B) Product Usability
C) Product Operation D) Product Revision
- 9 _____ requires major efforts.
A) Testing B) Maintenance
C) Coding D) Design

(Ans:- 1-B; 2-C; 3-D; 4-A; 5-D; 6-B; 7-A; 8-C; 9-A)

Q. 2 Short Questions (2 marks each)

- 1 Define: Software, Software Engineering, Software Process and Software Project.
- 2 List down characteristics of software process.
- 3 Write a short note on requirement analysis phase.
- 4 Write a short note on maintenance phase.

- Performance requirement
C) Effective, Complete D) SCM, SQAP
- 7 Partitioning, abstraction and projection are used for _____.
A) Data Analysis B) Structuring Information
C) SDLC D) DFD
- 8 _____ is the formal language used to specify the requirements.
A) English B) UDF
C) Structured English D) Expressions
- 9 Bang metric is used to quantify the _____ of the project
A) Size B) Time
C) Functions D) Needs
- 10 The effort can be calculate using _____ formula in single variable model.
A) $\text{Effort} = a * \text{size}^b$ B) $\text{Effort} = a + \text{size}^b$
C) $\text{Effort} = a * \text{size} / b$ D) $\text{Effort} = a / \text{size}^b$
- 11 COCOMO stands for:
A) Construction Cost Model B) Constructive Cost Model
C) Constructive Code Model D) Calculated Cost Model
- 12 The medium size projects are also known as _____ projects
A) Organic B) Embedded
C) Semidetached D) Run away
- 13 The form which can be filled up daily or weekly to maintain monitoring and plan activity are known as _____.
A) UDF B) Time sheets
C) Cost Schedule Milestone graph D) Reviews
- 14 The Gantt chart is used for _____ method to display activities.
A) Earn value method B) Review
C) UDF D) SRS
- 15 KDLOC means _____
A) Kilogram Developed Line of Code B) Kilogram Delivered Local Code
C) Thousands Delivered Local Code D) Thousands Delivered Line of Code
- 16 (SQAP) means _____
A) Software Quality Assurance Plan B) System Quality Appearance Plans
C) Software Quick Activity Plans D) System Quantity Assurance Process Plans
- 17 _____ is the method to identify the Risk
A) Risk Identification B) Risk Analysis
C) Risk Assessment D) Risk Control

(Ans: 1-B; 2-A; 3-C; 4-D; 5-C; 6-A; 7-B; 8-C; 9-A; 10-A; 11-B; 12-C; 13-B ; 14-A ; 15-D; 16-A; 17-C)

Q. 2 Short Questions (2 marks each)

- 1 Justify the following.
“The objective of SRS is to specify what is needed from the system, not how the system will provide it.”
- 2 Justify the following.
“Now a day a more importance is given to SRS instead of design and coding.”
- 3 Justify the following..
“A high quality SRS is prerequisite to high quality software”
- 4 Justify the following.
“A high quality SRS reduces development cost”
- 5 Explain Partitioning.
- 6 Explain Projections.
- 7 Explain Design constraints as a component of SRS.
- 8 What is Structured English?
- 9 What do you mean by “Automated Cross Referencing”.
- 10 List down the activities performed during project planning.
- 11 Explain software size estimation methods in short.
- 12 List down at least 8 variables of COCOMO model.
- 13 Write a short note on Time sheets.
- 14 Write a short note on Cost schedule - Milestone Graph.
- 15 Write a short note on Earned Value method.
- 16 Explain V & V technique for SQAP.
- 17 Explain Risk management.

Q. 3 Descriptive Questions

- 1 What is SRS? Explain needs of SRS. 4
- 2 What you mean by SRS? Explain Components of SRS. 6
- 3 Explain general characteristics of SRS. 4
- 4 Explain Requirement specification in SRS. (or Structure of SRS). 7
- 5 What is specification language? 4
- 6 Explain validation process of SRS. 6
- 7 What is the importance of project monitoring plans? List the various methods for monitoring a project. Write in brief about any one of them. 6
- 8 Explain Single variable model for cost estimation. 6
- 9 Explain SQAP. 5

Q. 4 Long Question (10 marks each)

- 1 What is SRS? Explain characteristics, needs and Components of SRS.
- 2 Explain COCOMO Model.

Question Bank || UNIT – 3

Q. 1 Multiple choice Questions (1 mark each)

- 1 PDL stands for
 - A) Process Define Language
 - B) Prefer Define Language
 - C) Procedure Design Language
 - D) Process Design Language
- 2 In system design, we do following:
 - A) Hardware design after software design
 - B) Software design after hardware design
 - C) Parallel, Hardware and Software design
 - D) No hardware design needed.
- 3 Design phase includes ...
 - A) Data, architectural and procedural design only
 - B) Architectural, procedural and interface design only
 - C) Data, architectural and interface design only
 - D) Data, architectural, interface, procedural design
- 4 Which of the following is a tool in design phase?
 - A) Abstraction
 - B) Refinement
 - C) Information Hiding
 - D) All of them
- 5 Which one is the key term used in design of a system?
 - A) Module
 - B) Data
 - C) Process
 - D) None
- 6 Which of the following is NOT a component of Object oriented software engineering?
 - A) Process
 - B) Method
 - C) Architecture
 - D) None
- 7 Which is not the level of Cohesion?
 - A) Logical
 - B) Physical
 - C) Sequential
 - D) Coincidental
- 8 Structured design methodology tries to reduce _____
 - A) Cost
 - B) Time
 - C) Cohesion
 - D) Coupling
- 9 Number of subordinates associated with given module is known as _____
 - A) Fan-out
 - B) Fan-in
 - C) Dependency
 - D) Module

- 10 Which is not factor for design specification?
 A) Problem Specification B) Design Decision
 C) Abstraction D) Module Specification
- 11 _____ technique is used to verification of system design.
 A) Interview B) Coupling
 C) Functional Requirement D) Automated Cross checking
- 12 In functional abstraction the module considered as _____ for detail design.
 A) White box B) Black box
 C) Compiled box D) None
- 13 Most common method for designing algorithm is _____
 A) Object refinement B) Procedural refinement
 C) Step wise refinement D) All of them
- 14 _____ is verification technique for detail design.
 A) Design walkthrough B) Critical design
 C) Consistency checkers D) All of them

(Ans: 1-D; 2-C; 3-D; 4-D; 5-A; 6-C; 7-B; 8-D; 9-A; 10-C; 11-D; 12-B; 13-C; 14-D)

Q. 2 Short Questions (2 marks each)

- 1 Define: Coupling and Cohesion.
- 2 Define: Module and Modular System.
- 3 Differentiate between System design and Detailed design
- 4 Differentiate between Coupling and Cohesion
- 5 Differentiate between Top-down and Bottom-up approaches
- 6 Differentiate between Functional and Object-oriented approaches
- 7 Explain in brief Design walkthrough.
- 8 List the levels of Cohesion.
- 9 List the names of verification techniques for System and Detailed design.

Q. 3 Descriptive Questions

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| 1 | Discuss the design objectives in detail with proper illustrations. | 6 |
| 2 | Discuss the basic principles of design in detail. | 8 |
| 3 | Write a short note on Coupling. | 4 |
| 4 | Write a short note on Cohesion. | 8 |
| 5 | Write a brief note on Structured design. | 7 |
| 6 | What is design specification? Explain factors of it. | 5 |
| 7 | Explain verification techniques for system design. | 4 |

- 9 Write at least 2 differences between functional and structural testing.
- 10 Draw the diagram of levels of testing.

Q. 3 Descriptive Questions

- 1 Explain the Top-Down and Bottom-Up approach in coding. 5
- 2 Explain the structured programming used in coding. 5
- 3 Explain the concept of information hiding in structured programming. 4
- 4 List all the rules to write the code in coding phase and explain any three of them (Programming Style). 7
- 5 What do you mean by the internal coding in documentation? Explain it (internal documentation). 4
- 6 What is verification process in coding phase and explain Code reading method. 4
- 7 Define the following terms: Error, Fault and Failure. 3
- 8 List out the testing fundamentals, and explain any one (or all) of them.
- 9 Explain the Top-Down and Bottom-Up approach in testing phase. 4
- 10 Differentiate between Functional testing and Structural testing. 4
- 11 Explain the levels of testing. 5

Q. 4 Long Question (10 marks each)

- 1 Explain coding approach and programming style.
- 2 What is testing? Explain levels of testing using diagram.