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| D:\VK\GIET LOGO.jpg | **GIET UNIVERSITY, GUNUPUR – 765022**  BCA(Fourth Semester) :: Question Bank  **Subject Code – SOFTWARE ENGINEERING** |

**UNIT - I**

**PART – A: (Multiple Choice Questions)(1 Mark)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | [CO#] | [PO#] |
| a. | Software is defined as \_\_\_\_\_\_\_\_\_\_\_ | |  |  |
|  | **a) Set of programs, documentation & configuration of data** | b) Set of programs | CO1 | PO1 |
|  | c) Documentation and configuration of data | d) None of the mentioned |  |  |
| b. | Who is the father of Software Engineering? | | CO1 | PO2 |
|  | a) Margaret Hamilton | **b) Watts S. Humphrey** |  |  |
|  | c) Alan Turing | d) Boris Beizer |  |  |
| c. | What are the features of Software Code? | | CO1 | PO1 |
|  | a) Simplicity | b) Accessibility |  |  |
|  | c) **Modularity** | d) All of the above |  |  |
| d. | Attributes of good software is \_\_\_\_\_\_\_\_\_\_\_\_ | | CO1 | PO1 |
|  | a) Development | **b) Maintainability & functionality** |  |  |
|  | c) Functionality | d) Maintainability |  |  |
| e. | What does SDLC stands for? | | CO1 | PO1 |
|  | a) System Design Life Cycle | b) Software Design Life Cycle |  |  |
|  | c) **Software Development Life Cycle** | d) System Development Life cycle |  |  |
| f. | Who proposed the spiral model? | | CO1 | PO2 |
|  | **a) Barry Boehm** | b) Pressman |  |  |
|  | c) Royce | d) IBM |  |  |
| g. | \_\_\_\_\_\_\_\_\_ is not a fundamental activity for software processes in software development. | | CO1 | PO1 |
|  | a) Evolution | b) Design and implementation |  |  |
|  | c) Validation | **d) Verification** |  |  |
| h | \_\_\_\_\_\_\_\_\_ is a software development life cycle model that is chosen if the development team has less experience on similar projects. | | CO1 | PO1 |
|  | a) Iterative Enhancement Model | b) RAD |  |  |
|  | **c) Spiral** | d) Waterfall |  |  |
| i. | What is the first step in the software development lifecycle? | | CO1 | PO2 |
|  | a) System Design | b) Coding |  |  |
|  | c) System Testing | d) **Preliminary Investigation and Analysis** |  |  |
| j. | What is the major drawback of the Spiral Model? | |  |  |
|  | a. Higher amount of risk analysis | **b. Doesn't work well for smaller projects** |  |  |
|  | c. Additional functionalities are added later on | d. Strong approval and documentation control |  |  |

**PART – B: (Short Answer Questions) (2Marks)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | | [CO#] | [PO#] |
| a. | What is Software and Software engineering? | CO1 | PO1 |
| b. | Why you study Software engineering? | CO1 | PO2 |
| c. | Distinguish between program and product. | CO1 | PO2 |
| d. | Mention the Advantages and Disadvantages of waterfall model. | CO1 | PO1 |
| e. | What is SDLC and what are the different phases of SDLC. | CO1 | PO2 |
| f. | List the Application of spiral model. | CO1 | PO1 |
| g. | Define CBIS and what are the different types of CBIS? | CO1 | PO1 |
| h. | What is DFD? What are the different notations used in DFD? | CO1 | PO1 |
| i. | Define requirement analysis and specification? | CO1 | PO1 |
| j. | What are the functional and non-functional requirements of software? | CO1 | PO2 |
| k. | What are the characteristics of good SRS document? | CO1 | PO1 |

**PART – C: (Long Answer Questions) (10Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | Marks | [CO#] | [PO#] |
| 1. a | Explain about iterative waterfall model with neat diagram | 5 | CO1 | PO2 |
| b. | Mention the advantages and disadvantages of waterfall model. | 5 | CO1 | PO1 |
|  |  |  |  |  |
| 2.a | Explain about spiral model with neat diagram | 10 | CO1 | PO2 |
| b. | Discuss the advantages and disadvantages of spiral Model. |  |  |  |
| 3.a. | Explain about prototype model with neat diagram | 6 | CO1 | PO1 |
| b. | What are the advantages and disadvantages of prototype model | 4 | CO1 | PO1 |
|  |  |  |  |  |
| 4. a. | Describe waterfall, incremental, iterative waterfall, spiral model based on SLCS and compare. | 6 | CO1 | PO2 |
| b. | Write a short note about MIS, DSS, KBS, and TPS etc. With advantages and disadvantages? | 4 | CO1 | PO1 |
|  |  |  |  |  |
| 5. a. | Explain about the different notations used in DFD? | 5 | CO1 | PO2 |
| b. | Draw the DFD level-0 and level1 of RRS. | 5 | CO1 | PO1 |
|  |  |  |  |  |
| 6. a. | What are the different notations used in ER diagram. | 5 | CO1 | PO2 |
| b. | Explain about ER diagram with suitable example. | 5 | CO1 | PO2 |
|  |  |  |  |  |
| 7.a | Define SRS and Write the IEEE format of SRS. |  | CO1 | PO2 |
| b. | Explain the different charastertics of SRS? |  | CO1 | PO1 |

**UNIT - II**

**PART – A: (Multiple Choice Questions) (1 Mark)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | [CO#] | [PO#] |
| a. | What does the study of an existing system refer to? | | CO2 | PO1 |
|  | 1. Details of DFD | 1. **Feasibility Study** |  |  |
|  | 1. System Analysis | 1. System Planning |  |  |
| b. | Which of the following property does not correspond to a good Software Requirements Specification (SRS)? | | CO2 | PO2 |
|  | a) Verifiable | **b) Ambiguous** |  |  |
|  | c) Complete | d) Traceable |  |  |
| c. | Which of the following property of SRS is depicted by the statement: “Conformity to a standard is maintained”? | | CO2 | PO1 |
|  | 1. Correct | **b) Complete** |  |  |
|  | c) Consistent | d) Modifiable |  |  |
| d. | The SRS is said to be consistent if and only if while retaining the style and structure | | CO2 | PO1 |
|  | a) its structure and style are such that any changes to the requirements can be made easily | b) every requirement stated therein is one that the software shall meet |  |  |
|  | c) every requirement stated therein is verifiable | **d) no subset of individual requirements described in it conflict with each other** |  |  |
| e. | The SRS document is also known as \_\_\_\_\_\_\_\_\_\_\_\_\_ specification. | | CO2 | PO2 |
|  | **a) black-box** | b) white-box |  |  |
|  | c) grey-box | d) none of the mentioned |  |  |
| f. | Which tool is use for structured designing? | | CO2 | PO1 |
|  | a) Program flowchart | **b) Structure chart** |  |  |
|  | c) Data-flow diagram | d) Module |  |  |
| g. | A step by step instruction used to solve a problem is known as | | CO2 | PO1 |
|  | a) Sequential structure | b) A List |  |  |
|  | c) A plan | **d) An Algorithm** |  |  |
| h. | Actual programming of software code is done during the \_\_\_\_\_\_\_\_\_\_\_\_ step in the SDLC. | | CO2 | PO1 |
|  | a) Maintenance and Evaluation | b) Design |  |  |
|  | c) Analysis | **d) Development and Documentation** |  |  |
| i. | \_\_\_\_\_\_\_\_\_\_\_\_ is the process of translating a task into a series of commands that a computer will use to perform that task. | | CO2 | PO2 |
|  | a) Project design | b) Installation |  |  |
|  | c) Systems analysis | **d) Programming** |  |  |
| j. | In Design phase, which is the primary area of concern? | | CO2 | PO1 |
|  | a) Architecture | b) Data |  |  |
|  | c) Interface | **d) All of the mentioned** |  |  |

**PART – B: (Short Answer Questions) (2Marks)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | | [CO#] | [PO#] |
| a. | What is meant by feasibility study? | CO2 | PO2 |
| b. | Define Data dictionary? | CO2 | PO1 |
| c. | Define decision tree? | CO2 | PO1 |
| d. | Define decision table? | CO2 | PO2 |
| e. | Define structure chart? | CO2 | PO1 |
| f. | Difference between CLI and GUI? | CO2 | PO1 |
| g. | Mention the names of the diagrams used in UML. | CO2 | PO1 |
| h. | Mention the different notations used in component, use case, class diagram etc. | CO2 | PO1 |
| i. | What is the use of Sequence diagram? | CO2 | PO1 |
| j. | Write the Use of structure and behaviour diagram. | CO2 | PO2 |

**PART – C: (Long Answer Questions) (10 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | Marks | [CO#] | [PO#] |
| 1. a. | Explain Decision table with suitable example? | 5 | CO2 | PO2 |
| b. | Explain Feasibility study and write the different types of it. | 5 | CO2 | PO1 |
|  |  |  |  |  |
| 2.a | Mention the different notations used in Activity diagram? | 5 | CO2 | PO1 |
| b. | Draw the Activity diagram for Issue of a book from library? | 5 | CO2 | PO2 |
|  |  |  |  |  |
| 3. a. | Draw the sequence diagram for LMS | 5 | CO2 | PO2 |
| b. | Write the advantages and disadvantages of sequence diagram. | 5 | CO2 | PO1 |
|  |  |  |  |  |
| 4. a. | Draw the Activity diagram to getting the Scholarship for a student | 5 | CO2 | PO2 |
| b. | Draw the use case diagram for LMS | 5 | CO2 | PO2 |
|  |  |  |  |  |
| 5. a. | Draw the component diagram for LMS | 5 | CO2 | PO2 |
| b. | Draw a decision tree for Library Management System. | 5 | CO2 | PO2 |
|  |  |  |  |  |
| 6. a. | Explain the Data Dictionary with a relevant example. | 5 | CO2 | PO2 |
| b. | Draw a Class diagram for Railway Reservation System. | 5 | CO2 | PO2 |
|  |  |  |  |  |
| 7. a. | Explain the different notations used in Sequence diagram | 4 | CO2 | PO2 |
| b. | Explain the different notations used in Collaboration diagram | 6 | CO2 | PO2 |

**UNIT - III**

**PART – A: (Multiple Choice Questions) ( 1 Mark)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | [CO#] | [PO#] |
| a. | White Box techniques are also classified as | | CO3 | PO1 |
|  | Design based testing | **Structural testing** |  |  |
|  | Error guessing technique | None of the mentioned |  |  |
| b. | Which of the following is/are White box technique? | | CO3 | PO1 |
|  | Statement Testing | Decision Testing |  |  |
|  | Condition Coverage | **All of the mentioned** | CO3 | PO1 |
| c. | What are the various Testing Levels? | |  |  |
|  | Unit Testing | System Testing |  |  |
|  | Integration Testing | **All of the above** |  |  |
| d. | Boundary value analysis belongs to? | | CO3 | PO2 |
|  | White Box Testing | **Black Box Testing** |  |  |
|  | Both white box and black box | Integration |  |  |
| e. | Alpha testing is done at | | CO3 | PO1 |
|  | User’s end | **Developer’s end** |  |  |
|  | User’s and developer’s end | Tester’s end |  |  |
| f. | The testing in which code is checked | | CO3 | PO1 |
|  | **White Box Testing** | Black Box Testing |  |  |
|  | Grey box | None of these |  |  |
| g. | Acceptance testing is also known as | | CO3 | PO1 |
|  | Grey box testing | White box testing |  |  |
|  | Alpha testing | **Beta testing** |  |  |
| h. | Beta testing is done at | | CO3 | PO1 |
|  | **User’s end** | Developer’s end |  |  |
|  | User’s and developer’s end | Tester’s end |  |  |
| i. | When can white-box testing be started? | | CO3 | PO1 |
|  | a) after SRS creation | b) After Installation |  |  |
|  | **c) After programming** | d)After designing |  |  |
| j. | Behavioral testing is | | CO3 | PO1 |
|  | White box | **Black box** |  |  |
|  | Grey box | None of the above. |  |  |

**PART – B: (Short Answer Questions) (2Marks)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | | [CO#] | [PO#] |
| a. | Explain the importance of testing during software development. | CO3 | PO1 |
| b. | Define the terms: Failure, Test case and Test Suite. | CO3 | PO1 |
| c. | What is the difference between Verification and Validation? | CO3 | PO2 |
| d. | What is unit testing? | CO3 | PO1 |
| e. | What is integration testing? | CO3 | PO1 |
| f. | Define system testing? | CO3 | PO1 |
| g. | Define White Box testing. | CO3 | PO1 |
| h. | Define acceptance testing | CO3 | PO1 |
| i. | Define Black-box testing. | CO3 | PO1 |
| j. | Draw the structural diagram of types of software testing. | CO3 | PO2 |

**PART – C: (Long Answer Questions) (10 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | Marks | [CO#] | [PO#] |
| 1. a. | Explain the use of Unit testing with a neat diagram. | 5 | CO3 | PO1 |
| b. | Discuss about system testing with relevant examples. | 5 | CO3 | PO1 |
|  |  |  |  |  |
| 2. a | Define the use of black Box Testing and write the different techniques used it. | 5 | CO3 | PO2 |
| b. | Explain the different techniques used in white box testing with diagram. | 5 | CO3 | PO2 |
| 3. a. | Explain the types of Integration testing with examples. | 5 | CO3 | PO1 |
| b. | Write the advantages and Disadvantages of white box testing | 5 | CO3 | PO1 |
|  |  |  |  |  |
| 4. a. | Discuss in detail about big-bang approach. | 10 | CO3 | PO2 |
|  |  |  |  |  |
| 5. a. | What are the techniques used in Black Box testing? | 5 | CO3 | PO2 |
| b. | Explain the bottom-up approach with an example. | 5 | CO3 | PO2 |
|  |  |  |  |  |
| 6. a. | Write the difference between whit box and black box testing | 5 | CO3 | PO1 |
| b. | Write the advantages and Disadvantages of black box testing | 5 | CO3 | PO1 |
|  |  |  |  |  |
| 7. a. | Define Acceptance testing and explain the different types of it | 5 | CO3 | PO1 |
| b. | Explain the top-down approach with an example. | 5 | CO3 | PO1 |
|  |  |  |  |  |

**UNIT - IV**

**PART – A: (Multiple Choice Questions) (1 Mark)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | [CO#] | [PO#] |
| a. | Maintenance is classified into how many categories ? | | CO4 | PO1 |
|  | a) Two | **b)** Three |  |  |
|  | c) **Four.** | d) Five |  |  |
| b. | The modification of the software to match changes in the ever changing environment, falls under which category of software maintenance? | | CO4 | PO1 |
|  | **a)** Corrective. | b) **Adaptive** |  |  |
|  | c)Perfective | d) Preventive |  |  |
| c. | ERP Stands for | | CO4 | PO1 |
|  | a)**Enterprise resource planning** | b) Enterprise remain planning |  |  |
|  | c) Enterprise resource plan | **d)** Enter resource plan |  |  |
| d. | \_\_\_\_\_\_\_\_\_ Standard of ISO applied only in production but not in design parts. | | CO4 | PO2 |
|  | **a)ISO 9002** | b) ISO 9001 |  |  |
|  | c) ISO 9003 | d) ISO 9000 |  |  |
| e. | \_\_\_\_\_\_\_\_\_ Standard of ISO applied only in installation and testing of products.. | | CO4 | PO1 |
|  | 1. ISO 9002 | 1. **ISO 9003** |  |  |
|  | 1. ISO 9000 | 1. ISO 9001 |  |  |
| f. | What type of software testing is generally used in Software Maintenance? | | CO4 | PO1 |
|  | 1. **Regression Testing** | 1. System testing |  |  |
|  | 1. Unit Testing | 1. Integration testing |  |  |
| g. | Which of the following is a software process certification? | | CO4 | PO2 |
|  | **a) ISO 9000** | b) Java Certified. |  |  |
|  | c) IBM Certified | d) None of these |  |  |
| h. | CMM stands for | | CO4 | PO1 |
|  | **a. Capability maturity model** | b)Capability maturity module |  |  |
|  | c)Capability maturity mode | d) None of these |  |  |
| i. | ISO 9001 is not concerned with \_\_\_\_\_\_\_\_\_\_\_\_ of quality records. | | CO4 | PO1 |
|  | 1. Collection | 1. Maintenance |  |  |
|  | 1. **Verification** | 1. Dis-positioning |  |  |
| j. | Which of the following is not a maturity level in CMM? | | CO4 | PO2 |
|  | a)**Design** | **b)**Repeatable |  |  |
|  | c)Managed | d)Optimising |  |  |

**PART – B: (Short Answer Questions) (2Marks)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | | [CO#] | [PO#] |
| a. | What is meant by ERP? | CO4 | PO1 |
| b. | Define MRP. | CO4 | PO1 |
| c. | What are the advantages of ERP? | CO4 | PO2 |
| d. | What are the disadvantages of MRP? | CO4 | PO1 |
| e. | What are the different software maintance activities? | CO4 | PO2 |
| f. | What are the Features of MRP? | CO4 | PO1 |
| g. | Write a short note on Software Maintenance. | CO4 | PO1 |
| h. | What is CRM? | CO4 | PO2 |
| i. | Expand the terms CMM and ISO. | CO4 | PO1 |
| j. | Name the different types of maintenance activities. | CO4 | PO1 |

**PART – C: (Long Answer Questions) (10 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | Marks | [CO#] | [PO#] |
| 1. a. | Discuss the benefits of ERP. | 5 | CO4 | PO1 |
| b. | What are the advantages and disadvantages of MRP? | 5 | CO4 | PO1 |
|  |  |  |  |  |
| 2. a. | Discuss in detail about CRM. | 5 | CO4 | PO1 |
| b. | Write the difference between ERP and MRP | 5 | CO4 | PO1 |
|  |  |  |  |  |
| 3. a. | Discuss in detail about Customer profile in CRM. | 5 | CO4 | PO1 |
| b. | Define ISO and explain the different standards of ISO? | 5 | CO4 | PO1 |
|  |  |  |  |  |
| 4. a. | What are the different categories in Software Maintenance? Discuss. | 10 | CO4 | PO1 |
| b. | What are the different levels in CMM? Explain. |  |  |  |
| 5.a | Define software maintenance and explain the different types of it. | 10 | CO4 | PO1 |
| b. | Give the difference between CMM and CRM |  |  |  |
| 6. a. | What are the advantages and disadvantages of ERP? | 5 | CO4 | PO1 |
| b. | Define CMM and explain the different levels of it. | 5 | CO4 | PO1 |

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