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| **GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY**  (**AN AUTONOMOUS INSTITUTION**)  **(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)**  **LOGO.jpg(Accredited by NAAC with “A” Grade, NBA (EEE,ECE &ME) & ISO9001:2008 Certified Institution)** |
| **QUESTIONBANK(DESCRIPTIVE)**  **Subject Name with Code: SOFTWARE ENGINEERING (23A0513T)**  **Course & Branch: B. Tech & CSE (CS)**  **Year& Semester: III-I** **Regulation: RG23** |

**UNIT - I**

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| |  |  |  |  | | --- | --- | --- | --- | | **UNIT-1. Introduction to Software Engineering** | | | | | **S. No.** | | **Question** | **[BT Level] [CO][ Marks]** | | **2 Marks Questions (Short)** | | | | | **1.** | Define software and specify various characteristics of software. | | **L1, CO1, 2M** | | **2.** | Define Software Engineering? What are its applications? | | **L1, CO1, 2M** | | **3.** | List out notable changes in software development? | | **L1, CO1, 2M** | | **4.** | Show software and hardware failure rate curves as a function of time? | | **L3, CO1, 2M** | | **5.** | List out the types of software? | | **L1, CO1, 2M** | | **6.** | What are the layers of software engineering? | | **L1, CO1, 2M** | | **7.** | What are the basic concepts in software life cycle model? | | **L1, CO1, 2M** | | **8.** | What is software process? Give its importance. | | **L1, CO1, 2M** | | **9.** | List various process models. | | **L1, CO1, 2M** | | **10.** | List various software development life cycle phases. | | **L1, CO1, 2M** | | **Descriptive Questions (Long)** | | | | | **11.** | Describe at least one scenario where ‘RAD model would be applicable than waterfall model’. | | **L2, CO1, 12M** | | **12.** | Describe in detail Agile development model. | | **L2, CO1, 12M** | | **13.** | Compare the Waterfall and Spiral model. List the features of each model, advantages and disadvantages | | **L2, CO1, 12M** | | **14.** | Illustrate the following models in detail: (i) Iterative water fall model. (ii)  Agile model. | | **L2, CO1, 6M L2, CO1, 6M** | | **15.** | Explain emergence of software engineering. | | **L3, CO1, 12M** | | **16.** | Explain in detail about software development life cycle model. | | **L1, CO1, 12M** | | **17.** | Explain about Agile model and spiral model. | | **L3, CO1, 12M** | | **18.** | Illustrate Computer System Engineering. | | **L2, CO1, 12M** | | **19.** | Explain about Exploratory style of Software Development. | | **L3, CO1, 12M** | | **20.** | Explain about Notable changes in software development. | | **L2, CO1, 12M** | |
| **UNIT - II**   |  |  |  |  | | --- | --- | --- | --- | | **UNIT-2. Software Project Management** | | | | | **S. No.** | | **Question** | **[BT Level] [CO]**  **[ Marks]** | | **2 Marks Questions (Short)** | | | | | **1.** | Define Software Project Management. | | **L1, CO2, 2M** | | **2.** | What are the Software Project Management complexities? | | **L2, CO2, 2M** | | **3.** | What is SRS? | | **L1, CO2, 2M** | | **4.** | List various Responsibilities of Software Project Manager. | | **L1, CO2, 2M** | | **5.** | Write the Notable changes in software Development. | | **L1, CO2, 2M** | | **6.** | What is meant by SPM (Software Project Management)? | | **L1, CO2, 2M** | | **7.** | Write the Metrics for Project size Estimation. | | **L1, CO2, 2M** | | **8.** | Define COCOMO. | | **L1, CO2, 2M** | | **9.** | What is Algebraic Specification? | | **L1, CO2, 2M** | | **10.** | Write any four Metrics for Project size estimation. | | **L2, CO2, 2M** | | **Descriptive Questions (Long)** | | | | | **11.** | Discuss the Project Estimation Techniques. | | **L2, CO2, 12M** | | **12.** | Explain about the Empirical Estimation techniques. | | **L2, CO2, 12M** | | **13.** | What is SRS? Explain in detail the various components of an SRS. | | **L2, CO2, 12M** | | **14.** | Explain about COCOMO Model. | | **L2, CO2, 12M** | | **15.** | Explain about Halstead's Software Science. | | **L2, CO2, 12M** | | **16.** | Write about requirements gathering and analysis. | | **L2, CO2, 12M** | | **17.** | Explain about Axiomatic Specification and Executable Specification | | **L2, CO2, 12M** | |
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| **UNIT - III**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **UNIT-3. Software Design, Ability and User interface Design** | | | | | | **S. No.** | | | **Question** | **[BT Level] [CO][ Marks]** | | **2 Marks Questions (Short)** | | | | | | **1.** | Define interface design. | | | **L1, CO3, 2M** | | **2.** | Define component level design. | | | **L1, CO3, 2M** | | **3.** | Name the Layered arrangement of Modules | | | **L1, CO3, 2M** | | **4.** | Name the software design concepts. | | | **L1, CO3, 2M** | | **5.** | In the design model, what is process dimension? | | | **L1, CO3, 2M** | | **6.** | In the design model, what is Abstraction dimension? | | | **L1, CO3, 2M** | | **7.** | What are Deployment level design elements? | | | **L1, CO3, 2M** | | **8.** | Define cohesion and coupling. | | | **L1, CO3, 2M** | | **9.** | Define Agile Process. | | | **L1, CO3, 2M** | | **10.** | Explain about the Characteristics of a good user interface. | | | **L1, CO3, 2M** | | **Descriptive Questions (Long)** | | | | | | **11.** | | Discuss about user interface design of software with an example and neat sketch. | | **L2, CO3, 12M** | | **12.** | | What is structured design? Illustrate the structured design process from DFD to structured chart with a case study. | | **L2, CO3, 12M** | | **13.** | | Clearly explain the concepts and types of coupling and cohesion with  examples of each. | | **L2, CO3, 12M** | | **14.** | | Explain the steps involved in conducting component level design when it is  applied for object oriented system. | | **L2, CO3, 12M** | | **15.** | | Write notes in detail developing a Data flow diagram model of a system. | | **L2, CO3, 12M** | | **16.** | | Illustrate neatly about user – interface design methodology. | | **L3, CO3, 12M** | | **17.** | | Explain about Fundamentals of Component-based GUI development. | | **L2, CO3, 12M** |   **UNIT - IV**   |  |  |  |  | | --- | --- | --- | --- | | **UNIT-4. Coding and Testing** | | | | | **S. No.** | | **Question** | **[BT Level] [CO][ Marks]** | | **2 Marks Questions (Short)** | | | | | **1.** | What is Coding and Testing? | | **L1, CO4, 2M** | | **2.** | What are the different levels of testing? | | **L1, CO4, 2M** | | **3.** | What are the coding Standards? | | **L1, CO4, 2M** | | **4.** | What is Testing and types? | | **L1, CO4, 2M** | | **5.** | What is Software Documentation? | | **L1, CO4, 2M** | | **6.** | What is Integration Testing? | | **L1, CO4, 2M** | | **7.** | What is black box testing? | | **L1, CO4, 2M** | | **8.** | What are various types of white box testing methods? | | **L1, CO4, 2M** | | **9.** | What is black box and white box testing? | | **L1, CO4, 2M** | | **10.** | Define various types of testing? | | **L1, CO4, 2M** | | **Descriptive Questions (Long)** | | | | | **11.** | Explain about various types of testing? | | **L3, CO4, 12M** | | **12.** | Demonstrate the difference between black-box and white-box testing and  suggest how they can be used in the defect testing process. | | **L3, CO4, 12M** | | **13.** | Elaborate Smoke testing and regression testing with an example. | | **L2, CO4, 12M** | | **14.** | What is black box testing? Explain the different types of black box testing strategies. Explain by considering suitable examples. | | **L2, CO4, 12M** | | **15.** | Describe the following: (i) The process of debugging. (ii) The program analysis tools. | | **L2, CO5, 6M L2, CO5, 6M** | | **16.** | Explain in detail about: (i) The test strategies for connection software. (ii) The  software testing. | | **L2, CO5, 12M** | | **17.** | Discuss in detail about Software Quality Management System and ISO 9000. | | **L2, CO5, 12M** | | **18.** | Illustrate few other important quality standards and Six Sigma. | | **L2, CO5, 12M** |   **UNIT - V**   |  |  |  |  | | --- | --- | --- | --- | | **UNIT-5.Computer-Aided Software Engineering(Case)** | | | | | **S. No.** | | **Questions** | **[BT Level] [CO][ Marks]** | | **2 Marks Questions (Short)** | | | | | **1.** | What is Computer-aided Software Engineering? | | **L1, CO6, 2M** | | **2.** | What is CASE environment? | | **L1, CO6, 2M** | | **3.** | What is Characteristics of CASE tools? | | **L1, CO6, 2M** | | **4.** | Which is second generation tool? | | **L1, CO6, 2M** | | **5.** | What are the characteristics of software maintenance? | | **L1, CO6, 2M** | | **6.** | What is software maintenance Process models? | | **L1, CO6, 2M** | | **7.** | What is estimation of maintenance cost? | | **L1, CO6, 2M** | | **8.** | What is the basic issues of reuse? | | **L1, CO6, 2M** | | **9.** | Define software reuse. | | **L1, CO6, 2M** | | **10.** | Which is an example of an reuse at organization level? | | **L1, CO6, 2M** | | **Descriptive Questions (Long)** | | | | | **11.** | Discuss in detail about Architecture of a CASE environment. | | **L2, CO6, 12M** | | **12.** | Explain about CASE support in software life cycle. | | **L2, CO6, 12M** | | **13.** | What is Characteristics of Software maintenance? Explain about Software maintenance. | | **L2, CO6, 12M** | | **14.** | Illustrate about the following.  a)Reverse engineering b) Software maintenance process models c) Software Reuse | | **L3, CO6, 4M L3, CO6, 4M L3, CO6, 4M** | | **15.** | Explain about basic issues in any reuse program. | | **L2, CO6, 12M** | | **16.** | Describe a reuse approach and reuse organization level. | | **L2, CO6, 12M** | | **17.** | Illustrate the towards second generation CASE tool. | | **L3, CO6, 12M** |   **Signature of the Staff: Mr. V. Chaithanya**  **Signature of Department Academic Committee Member 1:**  **Signature of Department Academic Committee Member 2:** | |  |  |