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21-5-2024 (E)

SOMAIYA

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| Semester: January 2024 –April 2024<br>Maximum Marks: 100 Examination: ESE Examination | | Duration:3 Hrs. |
| Programme code: 01<br>Programme: BTech Computer Engieering | Class: TY | Semester: V (SVU 2020) |
| Name of the Constituent College:<br>K. J. Somaiya College of Engineering | Name of the department: Computer | |
| Course Code: 116U01C501 | Name of the Course: Software Engineering | |
| Instructions: 1)Draw neat diagrams 2) All questions are compulsory<br>3) Assume suitable data wherever necessary | | |

| | Section A | |
|---|---|---|
| Que. No. | Question | Max. Marks |
| Q1 | Solve any **Four** | **20** |
| i) | Explain the steps involved in Software Development process | 5 |
| ii) | Explain why Spiral Model is called Meta Model? | 5 |
| iii) | Define process and project metrics? Explain 3 P's of software Engineering | 5 |
| iv) | Explain in detail why Rapid Application Development (RAD) is referred to as a "rapid prototyping" model in software development | 5 |
| v) | Describe in brief the following Design Concepts:<br>i) Refinement<br>ii) Modularity | 5 |
| vi) | List and explain the CMM levels | 5 |

| Que. No. | Question | Max. Marks |
|---|---|---|
| Q2 A | Solve the following | **10** |
| i) | Illustrate the use of Option fragments and Alternative fragments with respect to Sequence Diagram with proper example | 5 |
| ii) | List down the activities carried out in Requirement Elicitation | 5 |
| | OR | |
| Q2 A | Explain the following with the help of proper diagram:<br>1. Generalization of an actor (2M)<br>2. Extend between two use cases (2M)<br>3. Include between two use cases (2M) | 6 |
| | Define the following:<br>1. Coupling (2M)<br>2. Cohension (2M) | 4 |
| Q 2 B | Solve any **One** | **10** |
| i) | Consider the process of ordering a pizza over the phone. Draw the Activity diagram using 3 swimlanes representing each step of the process, from the moment you pick up the phone to the point where you start eating the pizza. (7M)<br>Add at least two exceptions to the activity diagram (e.g. delivery person wrote down wrong address, deliver person brings wrong pizza). (3M) | 10 |
| ii) | For Online Train Reservation System:<br>1. Identify the stake holders (3M)<br>2. Types of Functional requirement (4M)<br>3. Types of Non-functional requirement (3M) | 10 |

| Que. No. | Question | Max. Marks |
|---|---|---|
| Q6 | | 10 |
| i) | What is the purpose of regression testing?<br>a) To test a new feature or enhancement<br>b) To ensure that changes have not adversely affected existing functionality<br>c) To test the overall functionality of the software<br>d) To validate the software against user requirements | 1 |
| ii) | Which level of testing involves testing individual components or modules in isolation?<br>a) Unit testing<br>b) Integration testing<br>c) Regression testing<br>d) Acceptance testing | 1 |
| iii) | Which of the following is golden rule for interface design?<br>a) Place the user in control<br>b) Reduce the user's memory load<br>c) Make the interface consistent<br>d) All of the mentioned | 1 |
| iv) | Which type of maintenance involves improving software performance or adapting it to new environments?<br>a) Corrective maintenance<br>b) Adaptive maintenance<br>c) Perfective maintenance<br>d) Preventive maintenance | 1 |
| v) | Which of the following is/are commonly used architectural pattern(s)?<br>a) Model-View-Controller<br>b) Layered Architecture<br>c) Client-server<br>d) All of the mentioned | 1 |
| vi) | Coding is not design, Design is not coding<br>a) true<br>b) false | 1 |
| vii) | What do you understand by V&V in software testing?<br>a) Verified Version<br>b) Version Validation<br>c) Verification and Validation<br>d) Version Verification | 1 |
| viii) | Which of the following is NOT typically represented in a deployment diagram?<br>a) Nodes<br>b) Components<br>c) Connectors<br>d) Classes | 1 |
| ix) | Which of the following relationships is typically represented in a component diagram?<br>a) Inheritance<br>b) Association<br>c) Dependency<br>d) Aggregation | 1 |
| x) | Boundary Value Analysis is a technique used in:<br>a) Black-box testing<br>b) White-box testing<br>c) Grey-box testing<br>d) Alpha testing | 1 |