| | Mode of Exam  **OFFLINE**  **SET 1** | | --- | |
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**SRM Institute of Science and Technology**

**Faculty of Engineering and Technology**

**School of Computing**

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

**Academic Year:2021-2022 (EVEN)**

**Test: CLAT-3** **Date: 28.06.2022**

**Course Code & Title: 18CSC206J Software Engineering and Project ManagementDuration:** 100 minutes

**Year & Sem:II / IV** **Max. Marks:50**

| **S. No.** | **Course Outcomes** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **P10** | **P11** | **P12** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | **CO1** | **3** | **2** | **1** |  |  |  |  |  | **2** | **2** | **3** | **2** |
| **2** | **CO2** | **3** | **2** | **2** | **2** | **3** |  |  |  | **2** | **1** | **1** | **2** |
| **3** | **CO3** | **3** |  | **3** |  | **3** |  |  |  | **3** | **1** | **1** | **2** |
| **4** | **CO4** |  | **2** |  |  | **2** |  |  | **2** | **3** | **2** | **1** |  |
| **5** | **CO5** |  |  |  |  |  | **2** | **1** | **1** |  | **3** | **2** |  |

| **Part - A**  **( 20 x 1 = 20 Marks)**  **Instructions: Answer all** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Q. No** | **Answer with choice variable** | **Marks** | | | **BL** | | **CO** | **PO** | **PI Code** |
| **1** | Which of the following is not part of the Test document?  a. Test Case  b. Requirements Traceability Matrix [RTM]  c. Test strategy  d. Project Initiation Note [PIN]  **Answer: d** | **1** | | | **1** | | **4** | **1** | **1.3.1** |
| **2** | Which of the following testing is also known as white-box testing?  a. Structural testing  b. Error guessing technique  c. Design based testing  d.Code testing  **Answer: a** | **1** | | | **1** | | **4** | **1** | **1.3.1** |
| **3** | Validation testing is also known as -----  a.Dynamic Testing  b. Verification Testing  c. System Testing  d. Static Testing  **Answer: a** | **1** | | | **1** | | **4** | **1** | **1.4.1** |
| **4** | Exhaustive testing is  a. always possible  b. practically possible  c. impractical but possible  d. impractical and impossible  **Answer: c** | **1** | | | **2** | | **4** | **1** | **1.4.1** |
| **5** | Fixing defects at the stage of testing leads to \_\_\_\_\_  a.high Cost  b.high Maintenance  c.time consuming  d.less efficiency  **Answer: a** | **1** | | | **2** | | **4** | **2** | **2.4.3** |
| **6** | Test strategies should not include things like \_\_\_\_  a.test prioritization,  b.automation strategy,  c.risk analysis  d.Maintenance  **Answer: d** | **1** | | | **2** | | **4** | **2** | **2.4.2** |
| **7** | What type of test must be done for applications that have many versions?  a.Stress testing  b.Recovery testing  c.Regression testing  d.Mutation testing  **Answer: c** | **1** | | | **2** | | **4** | **2** | **2.4.2** |
| **8** | Identify the document that describes in detail how the testing is being planned and how it will be managed across different test levels.  a.Test Management  b.Master Test plan  c.Test Execution  d.Test Reports  **Answer: b** | **1** | | | **2** | | **4** | **11** | **11.2.1** |
| **9** | \_\_\_ method leads to a selection of test cases that exercise boundary values.  a.Boundary Value Analysis  b.Cause-effect graphing  c.Equivalence Partitioning  d.Basis Path Testing  **Answer: a** | **1** | | | **2** | | **4** | **1** | **1.3.1** |
| **10** | \_\_\_\_\_ technique provides a logical representation of various possible operational scenarios of the application being tested.  a.Boundary Value Analysis  b.Cause-effect graphing  c.Equivalence Partitioning  d.Basis Path Testing  **Answer: b** | **1** | | | **2** | | **4** | **1** | **1.3.1** |
| **11** | A version of the product which has passed initial QA but for which no documentation or support is available  a. alpha release  b. beta release  c. internal release1  d. external release  **Answer: a** | **1** | | | **1** | | **5** | **5** | **5.1.2** |
| **12** | A software patch may be needed to be applied during the occurrence of  a. technology obsolescence  b. software defects  c. change in user requirements  d. new user requirement  **Answer: b** | **1** | | | **1** | | **5** | **5** | **5.1.2** |
| **13** | The modification of the software to match changes in the ever-changing environment, falls under which category of software maintenance?  a. Corrective  b. Adaptive  c. Perfective  d. Preventive  **Answer: b** | **1** | | | **2** | | **5** | **3** | **3.4.2** |
| **14** | What type of software testing is generally used in Software Maintenance?  a. Regression Testing  b. System Testing  c. Integration Testing  d. Unit Testing  **Answer: a** | **1** | | | **2** | | **5** | **4** | **4.4.2** |
| **15** | In Software Maintenance which type of testing is being used ?  a.System Testing  b Regression Testing  c. Integration Testing  d.Unit Testing  **Answer: b** | **1** | | | **2** | | **5** | **3** | **3.1.3** |
| **16** | What are the activities of Program modularization and Source code translation \_\_\_\_\_\_\_\_\_\_\_\_\_.  a. Forward engineering  b. Reverse Engineering  c.Reengineering  d.Reverse Engineering and Reengineering  **Answer: c** | **1** | | | **2** | | **5** | **2** | **2.1.2** |
| **17** | Software maintenance can be categorized into  a. two  b. three  c. four  d. five  **Answer: c** | **1** | | | **1** | | **5** | **11** | **11.1.1** |
| **18** | The type of testing generally used in software maintenance  a. unit  b. integration  c. system  d. regression  **Answer: d** | **1** | | | **1** | | **5** | **5** | **5.1.2** |
| **19** | In which model there is no planning involved in the whole process and is mostly an ad hoc Approach?  a.Quick Fix Model  b.Boehm’s Model  c.Osborne’s Model  d.Iterative Enhancement Model  **Answer: a** | **1** | | | **1** | | **5** | **11** | **11.1.1** |
| **20** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is also known as reuseengineering.  a.Reverse Engineering  b.Reengineering  c.Forward Engineering  d.Surface Engineering  **Answer: b** | **1** | | | **1** | | **5** | **1** | **1.1.2** |
| **Part – B**  **( 2 x 15 = 30 Marks)** | | | | | | | | | |
| **21** | Discuss Black Box Testing in detail.  Ans:   * *Black-box testing*, also called *behavioural testing,* focuses on the functional requirements of the software. That is, black-box testing techniques enable you to derive sets of input conditions that will fully exercise all functional requirements for a program. * Black-box testing is not an alternative to white-box techniques. Rather, it is a complementary approach that is likely to uncover a different class of errors than whitebox methods. * Black-box testing attempts to find errors in the following categories: * (1) incorrect or missing functions, * (2) interface errors, * (3) errors in data structures or external database access, * (4) behaviour or performance errors, and * (5) initialization and termination errors. | | **15** | | **1** | | 4 | **5** | **5.1.2** |
| **(OR)** | | | | | | | | | |
| **22** | Illustrate Test Case Report Format and Explain with an Example.  Answer:  (i)Test Case ID  (ii)Test Description  (iii)Assumptions and Pre-Conditions  (iv)Test Data  (v)Steps to be Executed  (vi)Expected Result  (vii)Actual Result and Post-Conditions  (viii)Pass/Fail  **Any Example.** | | **15** | | **1** | | **4** | **5** | **5.1.2** |
| **23** | Discuss maintenance cost. Explain the financial reasons for which maintenance may be needed.  Answer:   * A software product is generally very valuable to an organization if it is used for doing a large portion of their daily business. * If for some reason the software product has become unusable, then the organization in fact will be making losses on their revenue. * Moreover, large enterprise software products are that much crucial! * When the organization faces such a case, it is left with no alternative but to either get an entirely different software product that will replace the existing one or do maintenance of an existing product to make it usable. * Following are some financial reasons for which a maintenance may be needed:   1. *Loss in business revenue*: It may happen that business transactions are faulty and thus thebusiness may lose revenue.  2. *Opportunity loss*: Sometimes there could be some business opportunity in the marketplace,but due to some software problems it could not be availed.  3. *Productivity loss*: If the software product becomes difficult to operate due to many walk aroundsor lengthy processing then productivity will become lower for business personnel (Figure below – Financial reasons for software maintenance).     * Maintenance of an existing software product has its own share of problems. * The maintenance will incur costs. * A profit/loss analysis can be done, to see if it is more profitable to conduct a maintenance program on the software or keep using it as it is. * The losses due to problems with the software can be compared to probable cost of maintenance and an ROI (return on investment) can be done. * If we get a desirable ROI then it is better to go for maintenance. | | **15** | | **2** | | 5 | **11** | **11.1.1** |
| **(OR)** | | | | | | | | | |
| **24** | Explain the software Maintenance lifecycle with a diagram and a suitable illustration.  Answer:     * Like the software development, software maintenance also has a life cycle. * Requirements for software maintenance come from the list of defects that have been logged. * Either the list of defects can be taken as a whole or a subset of defects from this list can be taken for a fixing plan. * It makes a lot of sense to go for an iterative approach. * This approach is similar to the concept of iterative software development.   This way it can be ensured that highly visible, important, and priority defects are fixed first and other defects which do not make much impact on operations of the product are tackled later (Figure below - Maintenance life cycle). | | | **15** | | **2** | 5 | **11** | **11.1.2** |

**Question Paper Setter Approved by Audit Professor/**

**Course Coordinator**

**\* Performance Indicators are available separately for Computer Science and Engineering in AICTE examination reforms policy.**