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Subject Code:- AMCA0301Z

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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: III - CARRY OVER THEORY EXAMINATION - APRIL 2023

Subject: Software Engineering

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C.** It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION A

20

1. Attempt all parts:-

- 1-a. Types of software product is (CO1) 1
- (a) Custom
 - (b) generic
 - (c) custom and generic
 - (d) None of the above
- 1-b. Attributes of good software is (CO1) 1
- (a) Development
 - (b) Maintainability and functionality
 - (c) Functionality
 - (d) Maintainability
- 1-c. Which the process to gather the software requirements from the client, analyze and document them is known as (CO2) 1
- (a) Software system analyst
 - (b) User interface requirements

- (c) Requirement elicitation process
- (d) Requirement engineering process
- 1-d. Which is true about functional requirements? (CO2) 1
- (a) A functional requirement is also called behavioral requirement
- (b) A functional requirement includes development and operational requirements
- (c) A functional requirement is a statement of how a software product must map program inputs to program outputs
- (d) None of the mentioned
- 1-e. Which of the following is the worst type of module coupling? (CO3) 1
- (a) Control Coupling
- (b) External Coupling
- (c) Stamp Coupling
- (d) Content Coupling
- 1-f. Function-oriented design techniques starts with functional requirements specified in (CO3) 1
- (a) SDD
- (b) SRS
- (c) All of the mentioned
- (d) None of the mentioned
- 1-g. Unit testing is done by (CO4) 1
- (a) Users
- (b) Developers
- (c) Customers
- (d) All of the mentioned
- 1-h. What do you call testing individual components? (CO4) 1
- (a) system testing
- (b) unit testing
- (c) validation testing
- (d) black box testing
- 1-i. Which of the following is not a business goal of re-engineering? (CO5) 1
- (a) Cost reduction
- (b) Time reduction

- (c) Maintainability
- (d) None of the mentioned

- 1-j. In reverse engineering, what refers to the level of detail that is provided at an abstraction level? (CO5) 1
- (a) interactivity
 - (b) completeness
 - (c) abstraction level
 - (d) directionality

2. Attempt all parts:-

- 2.a. Explain the characteristics of the software.(CO1) 2
- 2.b. List out the requirement validation techniques.(CO2) 2
- 2.c. Define data and stamp coupling (CO3) 2
- 2.d. Explain the advantages and disadvantages of big-bang.(CO4) 2
- 2.e. What do you mean by software quality assurance? (CO5) 2

SECTION B

30

3. Answer any five of the following:-

- 3-a. Give the details about types of software. (CO1) 6
- 3-b. Explain the different development models along with their merits and demerits. (CO1) 6
- 3-c. Explain the characteristics of SRS. (CO2) 6
- 3-d. Define Static Code Analysis. (CO2) 6
- 3.e. Explain the concept of bottom-up, top-down and hybrid design.(CO3) 6
- 3.f. Differentiate between functional and structural testing. (CO4) 6
- 3.g. Define Six Sigma and how is it important in project management? (CO5) 6

SECTION C

50

4. Answer any one of the following:-

- 4-a. Explain the various types of agile models of software Engineering. (CO1) 10
- 4-b. Describe the components and quality which is necessary for the documents of software specification. (CO1) 10

5. Answer any one of the following:-

- 5-a. Define software reliability. Differentiate between hardware & software reliability. (CO2) 10
- 5-b. Explain the outcomes of feasibility studies. Does it have either implicit or 10

explicit effects on software requirement collection? (CO2)

6. Answer any one of the following:-

- 6-a. Define the importance of software measurement and metrics. Explain in detail. 10
(CO3)
- 6-b. Explain the various design concepts considered during design phase of 10
software development. (CO3)

7. Answer any one of the following:-

- 7-a. Explain the advantages of using testing tools. Explain in detail different type of 10
testing tools. (CO4)
- 7-b. Explain automated testing tools. Discuss the steps taken for generation of test 10
cases. Discuss when to stop testing. Define performance testing. (CO4)

8. Answer any one of the following:-

- 8-a. Explain why software maintenance is an expensive activity. (CO5) 10
- 8-b. Describe different methods of improving quality of software. Explain CMM 10
Level in details. (CO5)