Printed Page:-   **Subject Code**:- **AIT0401**

Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: IV - 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.   Which is not suitable for accommodating any change? [CO1]   1

              (a) RAD Model

              (b) Waterfall Model

              (c) Build & Fix Model

              (d) Prototyping Model

1-b.   Model-driven engineering is nothing but a theoretical concept. It can never be transmuted into a working/executable code. [CO1]   1

              (a) TRUE

              (b) False

1-c.   Who is the father of Software Engineering? [CO2]   1

              (a) Margaret Hamilton

              (b) Watts S. Humphrey

              (c) Alan Turing

              (d) Boris Beizer

1-d. Attributes of good software is _____ [CO2] 1

 (a) Development

 (b) Maintainability & functionality

 (c) Functionality

 (d) Maintainability

1-e. Which of the following represents The (static) structure and (dynamic) behavior of the pattern? [CO3] 1

 (a) Name

 (b) Application

 (c) Consequences

 (d) Form

1-f. Software Design consists of _____ [CO3] 1

 (a) Software Product Design

 (b) Software Engineering Design

 (c) Software Product & Engineering Design

 (d) None of the mentioned

1-g. Site for Alpha testing is: [CO4] 1

 (a) Software Company

 (b) Installation place

 (c) Anywhere

 (d) None of the above

1-h. Site for Beta testing is: [CO4] 1

 (a) Software Company

 (b) User's place

 (c) Anywhere

 (d) None of the above

1-i. COCOMO cost model [CO5] 1

 (a) It takes project, product hardware and personnel attributes into account when formulating a cost estimate.

 (b) In it server provides set of services and set of clients uses these services.

 (c) Extent to which standards are used to achieve interoperability.

 (d) None of these

1-j. Regression testing is primarily related to: [CO5] 1

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(a) Functional Testing

(b) Data flow testing

(c) Development testing

(d) Maintenance Testing

2. Attempt all parts:-

2.a.	What does SDLC stands for? [CO1]	2
2.b.	What is functional requirement? [CO2]	2
2.c.	Why we need to Design a Driving Activity? [CO3]	2
2.d.	What do you understand by bottom-up testing strategy? [CO4]	2
2.e.	What is critical path ? [CO5]	2

SECTION B   30

3. Answer any <u>five</u> of the following:-

3-a.	Discuss the drawbacks of spiral model with solution? [CO1]	6
3-b.	What are the phases of V process model with example? [CO1]	6
3-c.	List out requirements elicitation techniques. Which one is most popular and why? [CO2]	6
3-d.	Discuss the inportance of Use-case diagram in requirement analysis phase and list out the guideline of Use-case. [CO2]	6
3.e.	Write the short notes on the following : [CO3] (i) Object oriented design, (ii) Design Documentation Standards.	6
3.f.	What is you understand by test case design? Discuss its objective and list out the steps involved in it. [CO4]	6
3.g.	compare reverse engineering and re-engineering. [CO5]	6

SECTION C   50

4. Answer any <u>one</u> of the following:-

4-a.	Explain in detail about Evolutionary process model with a neat diagram. [CO1]	10
4-b.	Discuss the major advantages of the object-oriented design(OOD) methodologies over the data flow-oriented design methodologies. [CO1]	10

5. Answer any <u>one</u> of the following:-

5-a.	Draw proper labeled "LEVEL I, LEVEL2 AND LEVEL3 Data Flow Diagram" (DFD) for student attendance system. [CO2]	10
5-b.	Draw and explain Use-Case diagram for COVID Vaccination system for all	10

possiible use cases. [CO2]

6. Answer any <u>one</u> of the following:-

6-a.   Briefly explain Link, Association, Ordering and Sequences with and example.   10
[CO3]

6-b.   Draw and explain component diagram for E-Library management System.   10
[CO3]

7. Answer any <u>one</u> of the following:-

7-a.   Consider a program for the determination of the nature of roots of a quadratic   10
function. The inputs are from 1-100 and the output will be: Real roots,
Imaginary roots or Equal roots. Design a robust test case for this. [CO4]

7-b.   Consider a program to classify the type of triangle. The inputs for the sides of   10
triangle(x,y,z) ranges from 1-100 and the output will be: Isoceles, Equilateral or
Not a triangle. Design a decision table for this. [CO4]

8. Answer any <u>one</u> of the following:-

8-a.   What do you mean by project size? What are the popular matrices to measure   10
project size ?How can the size of a project be estimated during the project
planning stage ?How can you size of a project be estimated during the project
planning stage? [CO5]

8-b.   Explain why the development time of a software product of given size remains   10
almost the same, regardless of whether it is organic, semidetached, or
embedded type. [CO5]