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 a software characteristic.   (CO1)   1

    (a)   Software does not wear out

    (b)   Software is flexible

    (c)   Software is not manufactured

    (d)   none of the above

1-b.   CASE Tool is _____.   (CO1)   1

    (a)   Computer Aided Software Engineering

    (b)   Component Aided Software Engineering

    (c)   Constructive Aided Software Engineering

    (d)   Computer Analysis Software Engineering

1-c.   Who controls the FAST (Facilitated Application Specification Techniques)   1
    meeting.   (CO2)

    (a)   System Analyst

    (b)   practitioner

    (c)   Facilitator

    (d)   Manager

1-d.   Which of these are non-technical requirements.   (CO2)   1

    (a)   Functional Requirements

    (b)   Non-Functional Requirements

(c) Developer's Requirements

(d) Data Requirements

1-e. Who designs and implement database structures. (CO3)   1

(a) Programmers

(b) Project managers

(c) Technical writers

(d) Database administrators

1-f. Which of the following is the best type of module coupling?(CO3)   1

(a) Control Coupling

(b) Stamp Coupling

(c) Data Coupling

(d) Content Coupling

1-g. Locating or identifying the bugs is known as _____ (CO4)   1

(a) Design

(b) Testing

(c) Debugging

(d) Coding

1-h. A set of activities that ensure that software correctly implements a specific function. (CO4)   1

(a) verification

(b) testing

(c) implementation

(d) validation

1-i. Source code translation is a part of which re-engineering technique. (CO5)   1

(a) Data re-engineering

(b) Refactoring

(c) Restructuring

(d) None of the mentioned

1-j. Reverse engineering is the process of deriving the system design and specification from its?(CO5)   1

(a) GUI

(b) Database

(c) Source code

(d) All of the mentioned

2. Attempt all parts:-

2.a. Explain the various categories of software. (CO1)   2

2.b. Define requirement verification and validation. (CO2)   2

2.c. Define system design. (CO3)   2

| 2.d. | Explain software testing objective.   (CO4) | 2 |
| 2.e. | Define the term maintenance.   (CO5) | 2 |

SECTION-B   30

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

3-a.	Explain Agile Methodology in detail. (CO1)	6
3-b.	Discuss Spiral model with advantages and disadvantages. (CO1)	6
3-c.	Describe the minimum features that are required to be present in a good SRS. (CO2)	6
3-d.	Describe how software requirements are documented? State the importance of documentation. (CO2)	6
3.e.	Differentiate between object oriented and function oriented design. (CO3)	6
3.f.	Differentiate between functional testing and non functional testing. (CO4)	6
3.g.	Explain the different types of Maintenance. (CO5)	6

SECTION-C   50

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

| 4-a. | Explain the meaning of software danger and its importance in concerned of software engineering. (CO1) | 10 |
| 4-b. | Explain the term software crisis.   (CO1) | 10 |

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

| 5-a. | Describe the characteristics of a good SRS document. (CO2) | 10 |
| 5-b. | Describe CMM level in detail.   (CO2) | 10 |

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

| 6-a. | Explain the following with the help of an example:(i) Object Oriented Design (ii) UML Diagram (iii) Modularity (CO3) | 10 |
| 6-b. | Explain the following :(i) UML Diagram (ii) Use Case Diagram(iii) E-R Diagram (CO3) | 10 |

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

| 7-a. | Explain the objective and principles of testing. Explain why testing is considered to be important part in software development.   (CO4) | 10 |
| 7-b. | Explain the following: (i) Equivalence Partitioning (ii) Boundary value analysis (iii) Decision Table Testing   (CO4) | 10 |

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

| 8-a. | Explain why software maintenance is an expensive activity. (CO5) | 10 |
| 8-b. | Write short notes on :(i) Project Management (ii) CMM Level (iii) Reverse Engineering (CO5) | 10 |