#### B. TECH. (SEM VI) THEORY EXAMINATION 2022-23 SOFTWARE ENGINEERING

Time: 3 Hours

Note: Attempt all Sections. If require any missing data; then choose suitably.

#### SECTION A

#### 1. Attempt *all* questions in brief.

- (a) What is the prime objective of software engineering?
- (b) What do you mean by spiral model?
- (c) What are the non-functional requirements of software?
- (d) What is data dictionary? How is it used in software engineering?
- (e) Why software architecture is important in a software process?
- (f) How do you evaluate user interface?
- (g) What is stress testing?
- (h) What are the roles of testing tools?
- (i) List out the importance of cost estimation in software development.
- (j) How do you estimate time required for a software development project?

# SECTION B

### 2. Attempt any *three* of the following:

- (a) List several software process paradigms. Explain how both water fall model and prototyping model can be accommodated in the spiral process model.
- (b) Explain the ways and means for collecting the software requirements and how are they organized and represented?
- (c) Explain data architectural and procedural design for a software.
- (d) What do you mean by integration testing? Explain their outcomes.
- (e) Discuss briefly on software maintenance activities and how do you estimate the cost involved?

# SECTION C

### 3. Attempt any *one* part of the following:

- (a) Explain the bath tub curve of hardware reliability.
- (b) What is RAD model? Explain it with its advantages and disadvantages in brief.

#### 4. Attempt any *one* part of the following:

- (a) Discuss the various Mc Call's quality factors with quality triangle.
- (b) Discuss the Data dictionary and decision table with appropriate notations. What is the significance of them in software requirement process?

10x1 = 10

# 10x3=30

# $2 \ge 10 = 20$

Total Marks: 100

10x1 = 10

# 5. Attempt any *one* part of the following:

- (a) Draw the software design framework and discuss the elements of design model.
- (b) Define coupling and cohesion with their types.

#### 6. Attempt any *one* part of the following:

- (a) Discuss equivalence classes testing method with an example.
- (b) Given code:

INPUT A & B

C = A + B

IF C>100

PRINT "ITS DONE"

END IF

IF A>50

PRINT "ITS PENDING"

END IF.

How many test cases would be required for maximum coverage? State the procedure.

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### 7. Attempt any *one* part of the following:

- (a) Discuss the various types of software re-engineering approaches.
- (b) What are the different types of risks? Discuss the version control.

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10x1=10

10x1=10

13.226

# 10x1=10