Total No. of Questions : 5]

SEAT No. :

PE-3431

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S.Y. B.Sc. (Computer Science)

CS 221 - VSC-T : Software Engineering

(Rev. 2024) (Semester - III)

Time : 2 Hours] *[Max. Marks : 35*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Draw neat and labelled diagrams wherever necessary.***
3) ***Use of calculators is not allowed.***

Q1) Attempt any Eight of the following (out of Ten) **[8 × 1 = 8]**

a) Define Software.

b) What is meant by Software Process?

c) Define Requirements Engineering.

d) What is the Waterfall Model?

e) What is a Class Diagram in UML?

f) Define Agility.

g) What is a Sprint in Scrum?

h) What is Unit Testing?

i) What is RUP?

j) What is white box testing?

Q2) Attempt any FOUR of the following (out of FIVE) **[4 × 2 = 8]**

a) Explain the nature of Software Engineering.

b) List and explain any two fact-finding techniques.

c) Write a short note on Incremental and Iterative Models.

d) Explain the use of UML in software design.

e) Write any four principles of Agile Development.

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Q3) Attempt any TWO of the following (out of THREE) **[2 × 4 = 8]**

a) Describe any two Prescriptive Process Models (Waterfall and V-Model).

b) Explain the Extreme Programming (XP) process with values and phases.

c) Draw a **Class Diagram** showing classes, attributes, operations and relationship (inheritance, association). For following Case Study

A **Banking System** needs to manage accounts. Each account has an account number, customer name and balance. The bank offers Savings and Current accounts. Customers can deposit and withdraw money.

Q4) Attempt any TWO of the following (out of THREE) **[2 × 4 = 8]**

a) Explain the Structural and Behavioral Models of UML with suitable examples.

b) Explain the Adaptive Software Development (ASD) model with its three phases.

c) Describe RAD Model with its advantages and disadvantages.

Q5) Attempt any one of the following (out of Two) **[1 × 3 = 3]**

a) With help of diagram Explain DSDM in detail.

b) Explain Unified Process in detail.



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