

315323

12526

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Assume suitable data, if necessary.
- (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following :** **10**
- a) Enlist any four attributes of a good software.
- b) Define Software engineering. List any two categories of software.
- c) Explain any two principles of deployment.
- d) Define the terms related to design concepts
- i. Abstraction
- ii. Modularity
- e) Define Risk? List two characteristics of risk
- f) State any two advantages of Work breakdown structure.
- g) List any two objectives of SQA.

P.T.O.

2. Attempt any THREE of the following : 12
- a) Explain Adaptive Software Development with respect to :
 - i) Focus of ASD
 - ii) Steps in ASD
 - b) Explain elements of Analysis Model with neat diagram.
 - c) Enlist the notations used in data flow diagram with its symbols.
 - d) Explain any four principles of project scheduling.
3. Attempt any THREE of the following : 12
- a) Describe any four planning principles.
 - b) Sketch use case diagram for hotel management system with minimum of 4 use cases and two actors.
 - c) Compare white box and black box testing. (Any 4 points)
 - d) A company offers an insurance scheme to its employees based on the following rules:
 - i) If the employee is permanent and above 50 he gets **Full Insurance**.
 - ii) If the employee is permanent and 50 or below he gets **Partial Insurance**.
 - iii) If the employee is not permanent he has **No Insurance**.**Draw a Decision table for the above cases.**
4. Attempt any THREE of the following : 12
- a) Describe phases in spiral model. Draw a neat-labelled diagram showing the following areas:
 - i) Customer communication
 - ii) Planning
 - iii) Risk Analysis
 - iv) Engineering
 - v) Construction and release
 - vi) Customer evaluation

- b) Recognize requirement for the following modules of hospital management software.
- i) Patient Management Module
 - ii) Doctor Management Module
- c) Describe Earned Value Analysis with respect description, formula and Interpretation of the following terms:
- i) Schedule Variance (SV)
 - ii) Cost Variance (CV)
 - iii) Schedule Performance Index (SPI)
 - iv) Cost Performance Index (CPI)
- d) Explain CMMI Levels with respect to the following
- i) Diagram
 - ii) Description of each level
- e) Explain management spectrum

5. Attempt any TWO of the following :

12

- a) Explain RAD Model with respect to the following:
- i) Diagram
 - ii) Phases of RAD Model
 - iii) When to use RAD model.
- b) Draw context level/Level 0 and Level 1 DFD for library management system.
- c) Explain the three time estimates of PERT. Draw Network diagram and find the Critical Path and duration for the following data.

Activity	1-2	1-3	2-4	2-5	3-4	4-5
Duration(Days)	8	2	4	6	5	4

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Marks

6. Attempt any TWO of the following :

12

- a) Describe any six principles of communication practices.
 - b) Suppose that a project was estimated to be **400 KLOC**. Calculate the Effort and Development Time for each of the three modes ie. Organic, Semidetached and Embedded.
 - c) Explain DMAIC and DMADV in six sigma. Apply six sigma in Hotel Management System.
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