22413

23242

3 Hours / 70 Marks Seat No.

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) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) 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 and explain any two characteristics of software.

b) List any four types of software.

c) State the need of software requirement specification.

d) Define reactive risk strategies.

e) Specify following cost directives of COCOMO:

   i) Product Attributes

   ii) Hardware Attributes

f) Differentiate between software quality management and software quality assurance (any two points)

g) Define DevOps.

Marks

2.   **Attempt any <u>THREE</u> of the following:**   **12**

a) Explain waterfall model with neat diagram.

b) Explain decision table with example.

c) Explain management spectrum - 4 p's.

d) Explain CMMI with neat diagram.

3.   **Attempt any <u>THREE</u> of the following:**   **12**

a) Explain process framework with suitable diagram.

b) Describe four principles of good planning.

c) Draw and explain level - 1 DFD for railway reservation system.

d) With an example, explain line of code (LOC) based estimation.

4.   **Attempt any <u>THREE</u> of the following:**   **12**

a) Explain Dynamic Systems Development Method. (DSDM)

b) State software Engineering practices and its importance.

c) Explain the components of risk management.

d) Describe following project cost estimation approaches:

    i)   Heuristic

    ii)   Empirical

e) Prepare macro time line chart for 15 days of college management system (5 days a week)

Marks

5. **Attempt any <u>TWO</u> of the following:** **12**

   a) Enlist requirement gathering and analysis for web based project for registering candidates for contest. (any six points).

   b) Differentiate between white box and black box testing.

   c) Use COCOMO model to calculate

      i) Effort

      ii) Development time

      iii) Average staff size

      iv) Productivity

      if estimated size of project is 800 KLOC using embedded mode.

6. **Attempt any <u>TWO</u> of the following:** **12**

   a) Recognize requirement for following modules of hospital management software:

      i) Customer module

      ii) Administrator module

      iii) Account module

   b) Draw neat labelled diagram of translation of requirement model in to design model and explain it with details.

   c) Describe six sigma strategy in detail.

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