

# 22413

**23124**

**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) 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) Define software. Draw the failure curve for software.
  - b) State two characteristics of software.
  - c) State need of Software Requirement Specification (SRS).
  - d) Define risk and list any two type of risk.
  - e) Name two cost estimation approaches.
  - f) Define software quality control and quality assurance.
  - g) List the phases of software quality assurance.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain software engineering as layered technology approach.
  - b) Explain the notations used for preparing a data flow diagram.
  - c) Explain following elements of management spectrum :
    - i) People
    - ii) Process
    - iii) Product
    - iv) Project
  - d) Explain four basic principles of software project scheduling.
- 3. Attempt any THREE of the following:** **12**
- a) Distinguish between perspective process model and agile process model.
  - b) Describe any four principles of communication for software engineering.
  - c) Draw DFD0 and DFD1 diagram for library management system.
  - d) Explain line of code metrics for size estimation.
- 4. Attempt any THREE of the following:** **12**
- a) Describe extreme programming with proper diagram.
  - b) Enlist core principles of software engineering practice.
  - c) Describe RMMM strategy with example.
  - d) Describe following project cost estimation approaches
    - i) Heuristic
    - ii) Empirical
  - e) Explain GANTT chart and it's application for project tracking with an example.

**5. Attempt any TWO of the following:****12**

- a) Sketch use-case diagram for library management with minimum four use-cases and two actors.
- b) Differentiate between white box and black box testing. (Any six point)
- c) Describe a cocomo and cocomo-II models

**6. Attempt any TWO of the following:****12**

- a) Draw neat labelled diagram of translation of requirement model into design model and explain it with details.
- b) Describe CMMI. Give significance of each level.
- c) Identify and enlist requirement for given modules of employee management software :
  - i) Employee detail
  - ii) Employee salary
  - iii) Employee performance.

---