

**2020**

*Time : 3 hours*

*Full Marks : 80*

*Candidates are required to give their answers in their own words as far as practicable.*

*The questions are of equal value.*

*Answer **five** questions, in which*

*Q. No. 1 is compulsory.*

1. Choose the correct alternative of the following :
  - (a) From the following which quality deals with maintaining the quality of the software product ?
    - (i) Quality assurance
    - ☒ (ii) Quality control
    - (iii) Quality efficiency
    - (iv) None of these

( Turn over )

(b) Which of these primary objectives have to be achieved for the requirement model ?

- (i) To describe what the customer requires
- (ii) To establish a basis for the creation of a software design
- (iii) To define a set of requirements that can be validated once the software

☒ (iv) All of these

(c) If requirements are easily understandable and defined then which model is best suited ?

- (i) Spiral model
- ☒ (ii) Waterfall model
- (iii) Prototyping model
- (iv) None of these

(d) CASE Tool stands for :

- (i) Computer Aided Software Engineering
- ☒ (ii) Component Aided Software Engineering

(iii) Constructive Aided Software Engineering

☒ (iv) Computer Analysis Software Engineering

(e) What is described by means of DFDs as studied earlier and represented in algebraic form ?

- ☒ (i) Data flow
- (ii) Data Storage
- (iii) Data Structures
- (iv) Data elements

(f) Project risk factor is considered in which model ?

- ☒ (i) Spiral model
- (ii) Waterfall model
- (iii) Prototyping model
- (iv) None of these

(g) Which tools are helpful in all the stages of SDLC, for requirement gathering to testing and documentation ?

- (i) Upper case tools



- (ii) Lower case tools
  - (iii) Integrated case tools
  - (iv) None of these
- (h) Which phase refers to the support phase of software development ?
- (i) Acceptance Phase
  - (ii) Testing
  - (iii) Maintenance
  - (iv) None of these
2. What is Software Process ? How is it different from a software product ? Discuss any two software process models.
3. Discuss the taxonomy of CASE tools.
4. Differentiate between the following :
- (a) Structured Analysis and Object Oriented Analysis
  - (b) Verification and Validation
  - (c) DFD and ER Diagram
  - (d) Waterfall and Spiral model

5. Explain the application of software engineering principles to compiler construction and software engineering.
6. How is testing integrated with the life cycle of a software product ? Is it sufficient to test a software product only at the end of its life cycle ?
7. List and explain various management risks in the software engineering and the corresponding technique to manage them.
8. How is cost of a software product estimated ? Are these estimates always correct ? If not, why ?
9. Write short notes on any four of the following :
- (a) Modularity
  - (b) SRS
  - (c) Role of metrics and measurements in software development
  - (d) Waterfall model
  - (e) Goal and requirement of verification
  - (f) Project Planning