

# MCA-17

## Software Engineering

Master of Computer Application

Fifth Semester, Examination, 2017

**Time : 3 Hours**

**Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Attempt the questions contained in these Sections according to the detailed instructions given therein.

### Section-A

#### (Long Answer Type Questions)

**Note :** Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. (a) What do you mean by project management ? Describe in detail.  
(b) What are the different types of Software ?
2. (a) Explain COCOMO model.  
(b) What is a prototype ? Briefly discuss the prototyping model with suitable diagram. What are the major advantages of constructing a working prototype before developing the actual model ?

3. (a) List and explain different types of testing done during the testing phase.  
(b) How are the Software testing results related to the reliability of a Software ?
4. Write short notes on any *two* of the following :
  - (a) Data Flow Diagram
  - (b) Risk Driven Approaches
  - (c) Static and Dynamic specification
  - (d) Fault Tolerance

### Section-B

#### (Short Answer Type Questions)

**Note :** Section 'B' contains eight (08) short answer type questions of eight (8) marks each. Learners are required to answer *four* (04) questions only.

1. What is Software Engineering ?
2. What does Verification represent ? Differentiate between Software verification and Software validation.
3. (a) What is System Engineering ?  
(b) What is Software Maintenance Cost ?
4. What is the cardinality in data modeling ? What does modality in data modeling indicate ?
5. (a) What is an effector's process ?  
(b) What is Reverse Engineering ?
6. (a) What do you mean by Software Crisis ?  
(b) What do you mean by evolutionary approach ? Explain with example.
7. What is a boundary value analysis ?
8. (a) What is Cyclomatic complexity ? Explain.  
(b) What is the Prime objective of Spiral model ?

**Section-C****(Objective Type Questions)**

**Note :** Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this section are compulsory.

Find the most appropriate option in the following :

1. Following software process model can be represented schematically as a series of mmajor technical activities and there associated state :
  - (a) Incremental Model
  - (b) Component Assembly Model
  - (c) Concurrent Development Model
  - (d) All of the above
2. What is the modality of relationship, if there is no explicit need for relationship to occur ?
  - (a) One
  - (b) Two
  - (c) Three
  - (d) Four
3. A good requirement specification should be :
  - (a) Unambiguous
  - (b) Distinctly specific
  - (c) Functional
  - (d) None of the above
4. The primary aim of Software Engg. is to provide :
  - (a) Reliable Software

- (b) According to requirement a complete software
  - (c) Cost-effective software
  - (d) All of the above
5. Which of the following is not a major design consideration of the system :
- (a) Response time required
  - (b) Frequency of record updates
  - (c) Availability of technically qualified personnel to carry out design and development
  - (d) Data integrity constraint
6. Software testing techniques are most effective if applied immediately after :
- (a) Requirement specification
  - (b) Design
  - (c) Coding
  - (d) Integration
7. If limited user participation is available, which model is to be selected ?
- (a) Waterfall Model
  - (b) Spiral Model
  - (c) Iterative Model
  - (d) Any of the above
8. Which of the following is the phase of SDLC in which the identified requirements are incorporated into the new system's design ?
- (a) Maintenance

- (b) Physical layout
  - (c) Requirement design
  - (d) System design
9. Milestones are used to :
- (a) know the cost of the project
  - (b) know the status of the project
  - (c) know the user expectations
  - (d) All of the above
10. Software Quality is :
- (a) Conformance to requirements
  - (b) Fitness for the purpose
  - (c) Level of Satisfaction
  - (d) All of the above

