21/1   Roll No. …………………..

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 validiation.
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

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