Roll No.

Paper Code: MCA-512

MCA
FIFTH SEMESTER EXAMINATION, 2016-17
SOFTWARE ENGINEERING

[Time: 3 hrs.]   [Max. Marks: 100]

Note- Attempt All questions. All questions carry equal marks:-

1. Attempt any **TWO** part of the following**: -**   **(10x2=20)**

   (a) What is software engineering describe the characteristics of software with suitable examples.
   (b) Discuss prototype model. Also write the advantages of developing the prototype of a system.
   (c) Explain the spiral model of software development.

2. Attempt any **TWO** part of the following**: -**   **(10x2=20)**
   (a) What is software requirement specification (SRS)? Why is SRS known as the black box specification of a system? Discuss.
   (b) What do you understand by requirements elicitation? Discuss various requirements elicitation techniques in brief.
   (c) Discuss the following:-
          (i). Entity Relationship Diagrams with example.
          (ii). Software quality attributes

3. Attempt any **TWO** part of the following**: -**   **(10x2=20)**
   (a) What is software design? Discuss the following in the context of software design-
          (i)   Coupling   (ii). Cohesion
   (b) Explain the following project size estimation metrics-
          (i). Lines of Code (LOC)   (ii). Function Point

   (c) Discuss the differences between object oriented and function oriented design.

4. Attempt any **TWO** part of the following**: -**   **(10x2=20)**

   (a) Define software testing. Discuss the white box testing with suitable example.
   (b) Briefly discuss the following:-
          (i). Alpha, Beta and Acceptance testing
          (ii). Software Verification and Software Validation
   (c) Why are different levels of testing – unit testing, integration testing and system testing necessary usually in large software product? Explain the purpose of each levels of testing.

5. Attempt any **TWO** part of the following**: -**   **(10x2=20)**

   (a) What is software maintenance? Describe various types of maintenance that a software product might need.
   (b) Discuss software reverse engineering and software re-engineering in brief.
   (c) Write a brief note on Constructive Cost Models (COCOMO).