

(Please write your Exam Roll No.)

Exam Roll No. 00435304918

END TERM EXAMINATION

SECOND SEMESTER [MCA] MAY - JUNE 2019

Paper Code: MCA-110

Subject: Software Engineering

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q no.1 which is compulsory.
Select one question from each unit.

- Q1 Attempt (any five) of the following: (5x5=25)
- ✓(a) What is Reverse Engineering? State its relevance. How it is different from Re-engineering? (6.5)
 - ✓(b) What is Function Counts? How are these helpful? (6)
 - ✓(c) What is DFD? Discuss its relevance. Create a DFD level 0 diagram for Library management system. (6)
 - (d) What are Halstead's Software Science measures? What are Information Flow Metrics? Outline their relevance. (6)
 - ✓(e) Draw a neat ER diagram for hospital management system. Make assumptions as required. (6)
 - ✓(f) Draw a use-case diagram for student result management system. Make assumptions as required. (6)
 - (g) What is regression testing? Outline its significance. (6)
 - (h) What are formal technical reviews? Outline their relevance. (6)

UNIT-I

- ✓Q2 (a) What is Spiral Lifecycle model? How is it significant in the software industry? Illustrate. (6.5)
- (b) What is RS document? How does requirement engineering help in populating SRS document? Illustrate. (6)
- Q3 Explain the following:- (6.5)
- (a) Requirement Engineering and its activities. (6.5)
 - (b) Software Process and Characteristics of well-engineered software product. (6)

UNIT-II

- ✓Q4 (a) What is software risk management? Discuss the activities involved in this process. (6.5)
- (b) What are COCOMO models? Justify their relevance in software development. (6)
- Q5 (a) What do you mean by module Coupling and Cohesion? What is their relevance in software design? Illustrate. (6.5)
- (b) What is Putnam's resource allocation model? Illustrate its significance. (6)

UNIT-III

- ✓Q6 (a) What do you mean by software reliability? What characteristics of software make software reliability different from hardware reliability? Discuss. (6.5)
- (b) What are software metrics? Why are these needed? Provide their classification and outline their relevance. (6)
- Q7 (a) How are software faults and failures inter-related? What are different types of software failure? Also outline the characteristics of fault-free software. (6.5)
- (b) What is CMM? How is it different from ISO 9001? Justify your answer. (6)

UNIT-IV

- Q8 (a) What is Software Configuration Management? How is it significant? Illustrate. (6.5)
- (b) Differentiate between the following: (6)
- (i) Black-box and White-box testing
 - (ii) Unit testing and Integration Testing
- ✓Q9 Explain the following:- (6)
- (a) Software Documentation (6)
 - (b) Software Maintenance and its types (6.5)
