

[Total No. of Questions - 9] [Total No. of Printed Pages - 3]
(2064)

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MCA 3rd Semester Examination

Software Engineering (N.S.)

MCA-305

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : There are five sections named A, B, C, D & E. Section E is compulsory. Rest, attempt one question each from Sections A, B, C & D.

SECTION - A

1. Define the term Software Engineering. What are software myths and software crisis? How is software crisis tackled? Explain the desired characteristics of software development process. (12)

OR

2. Define software life cycle and its model. How is a process model selected? Discuss in detail the salient features, advantages and disadvantages of all the important software life cycle models you know. (12)

SECTION - B

3. What is software architecture? How is it different from software design? Why is it required? Discuss component and connector view with the help of suitable illustrated diagrams. (12)

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4. Discuss various techniques of size estimation used in software project planning. (12)

SECTION - C

5. What are module coupling and cohesion? Differentiate between the two. Discuss various types of coupling and cohesions giving suitable examples. (12)

OR

6. Differentiate between structured and object oriented design methodologies. Draw the class diagram and sequence diagram for the Issue and Return Management System at the counter of a typical library. (12)

SECTION - D

7. What is a software metric? Discuss various types of data structure and information flow metrics. (12)

OR

8. How is software maintenance different from hardware maintenance? Discuss various types of software maintenance. Also describe various maintenance models you know. (12)

SECTION - E

9. Answer the following:
- (a) Why do we say that the software has a changing nature?
 - (b) What is a software requirement?
 - (c) Define validation.
 - (d) What is project planning?
 - (e) Define risk.

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- (f) Why is UML called so?
- (g) How do you define the state of an object?
- (h) Explain the term walk through.
- (i) What is a module?
- (j) Define cyclomatic complexity.
- (k) What is data hiding?
- (l) Explain the concept of inheritance. (1×12=12)