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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)

OR

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[P.T.O.]
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.
(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. (1x12=12)