Exam. Code : 206703

Subject Code : 4690

M.Sc. Computer Science 3rd Semester

ADVANCED SOFTWARE ENGINEERING

Paper : MCS-301

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt **five** questions, selecting at least **one** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

SECTION—A

1. (a) Explain the significance of effort estimation and quality plan during planning a software project.

    (b) List the reasons which become the basis for software failure and suggest the ways to overcome these failures.

2. (a) Discuss the Top 10 software metrics defined by Bohem and suggest how these can be incorporated in Modern Software Development scenario.

    (b) Discuss how Size and Process are helpful in improving software economics.

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SECTION—B

3. How Forward Engineering and Reverse Engineering are related with Software Re-engineering ? Discuss Horseshoe model for Software Re-engineering.

4. Describe various class-based as well as method-based OO metrics used to measure the design of an object-oriented system.

SECTION—C

5. What do you mean by Object-Oriented Design ? What are its different characteristics ? Explain with the help of suitable example.

6. What do you mean by Object-Oriented methodologies ? Discuss Unified method of Object-Oriented Analysis and Design along with its various features.

SECTION—D

7. What is a Software Agent ? How does it differ from a program ? Discuss the various classes of Software Agent.

8. What are Multi-Agent systems ? Describe the properties of Multi-Agent systems. Name few application areas where Multi-Agent systems can be applied.