**Code No: 5405AC**

Time: 3hrs                                                                    Max.Marks:75

**Note:** This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

## PART - A

**5 × 5 Marks = 25**

1.a) What is process pattern ? Write the structure of process pattern template.      [5]
  b) Differentiate between functional and non-functional requirements with examples. [5]
  c) List and explain the principles of a software design.                           [5]
  d) What are the reasons behind to perform white box testing?                       [5]
  e) What is software measurement and metrics? Explain the metrics used for software process and product.                                                            [5]

## PART - B

**5 × 10 Marks = 50**

2. With neat sketches, explain iterative waterfall and spiral model for software life cycle and various activities in each phase.                                           [10]

OR

3. List the process maturity levels in SEIs CMM and explain the functions of each level. What are the key process areas of each maturity level? Discuss.                     [10]

4.a) Write the structure of SRS document and explain the purpose each section and its sub-sections.
  b) Differentiate between the activities of requirements elicitation and analysis.  [5+5]

**OR**

5.a) Explain with example diagram about behavioural modelling. How do we model the software's reaction to some external event? Explain.
  b) What is Data Flow Diagram? What are the different types of DFD? Explain.        [5+5]

6.a) What is Coupling? Explain different types of coupling with examples.
  b) Explain call-return architecture and Object oriented architectures in brief.    [5+5]

**OR**

7.a) Explain the conceptual model of Unified Modeling Language.
  b) What is the purpose of usecase diagram? Explain about usecase template.         [5+5]

8.a) What are the testing principles the software engineer must apply while performing the software testing?

b) List and explain the metrics used for software maintenance. [5+5]

**OR**

9.a) What are the various testing activities? Discuss.

b) What are the metrics used for source code? Explain. [5+5]

10. What are the activities of risk management? Explain in detail about risk identification and risk projection. [10]

**OR**

11.a) What is the intent of formal technical reviews? Discuss.

b) What is software reliability? Explain different software reliability models. [5+5]

**---ooOoo---**