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**015608**

May 2024

**B.Tech. (ENC/CSE(AIML)) (Sixth Semester)**

**Software Engineering (PEC-CS-S-601)**

*Time : 3 Hours]*

*[Maximum Marks : 75*

**Note :** It is compulsory to answer all the questions (1.5 marks each) of Part A in short. Answer any *four* questions from Part B in detail. Different sub-parts of a question are to be attempted adjacent to each other.

**Part A**

1. (a) What was the significance of software crisis ? 1.5
- (b) What is a prototype model ? 1.5
- (c) What is a function point ? 1.5
- (d) Differentiate between coupling and cohesion. 1.5
- (e) What is a data dictionary ? 1.5
- (f) What is the difference between static and dynamic testing ? 1.5

- (g) What is CMM ? 1.5
- (h) What is COCOMO ? 1.5
- (i) What is abstraction in software design ? 1.5
- (i) What is the difference between error, bug and failure ? 1.5

**Part B**

- 2. (a) Explain the Spiral process model in detail. 10
- (b) What is the difference between process, project and product ? 5
- 3. (a) What is use case based estimation ? 5
- (b) Compute the function point value for a project with the following information domain characteristics :
  - No. of User inputs = 30
  - No. of User outputs = 42
  - No. of User enquiries = 08
  - No. of User files = 07
  - No. of external interfaces = 06
 Assume all adjustment values are moderate. 10

- 4. Explain all types of coupling and cohesion with example of each. 15
- 5. (a) Explain any *three* software design principles. 5
- (b) Draw the DFD for Result preparation automation system for University. Clearly describe the working of the system. Also mention all assumptions made by you. 10
- 6. (a) A program has been designed to determine the greatest number. It takes three input values from the range [1,100]. Design all test cases for this program using BVC, Robust testing and worst-case testing methods. 10
- (b) What is the difference between integration and system testing ? 5
- 7. (a) Explain various SQA activities. 5
- (b) Explain all the CMM levels. Also discuss about ISO 9126. 10