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Roll No. :

333653(33)

B. E. (Sixth Semester) Examination, Nov.-Dec. 2021

(New Scheme)

(IT Branch)

**SOFTWARE ENGINEERING & PROJECT
MANAGEMENT**

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory and carries 2 marks. Attempt any two parts from (b), (c) & (d) of each question which carries 7 marks each.

Unit-I

1. (a) Define software engineering.

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- (b) Draw and explain the RAD model and justify the kind of software projects best suited in it. Also state its advantages and disadvantages. 7
- (c) State at least 10 quality and productivity factors related to software development in detail. 7
- (d) How the software project can be classified based on their size. 7

Unit-II

- 2. (a) Define requirement elicitation. 2
- (b) Briefly explain the major characteristics of software. Illustrate with a diagram that software does not wear out. 7
- (c) What is SRS? State the characteristics of a good SRS? 7
- (d) Describe context diagram in DFD? Draw a DFD up to 1st level for Restaurant management system. 7

Unit-III

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- 3. (a) Explain the importance of software designing phase. 2
- (b) Describe Modular design in detail. 7
- (c) What is the difference between Milestones, Walkthroughs and Inspections? How do they help in Design process? 7
- (d) Differentiate between Cohesion and Coupling. 7

Unit-IV

- 4. (a) What is Cyclomatic Complexity? 2
- (b) Distinguish between verification and validation. 7
- (c) Write short note on any two of the following : 7
 - (i) Regression testing
 - (ii) Integration testing
 - (iii) Validation testing
- (d) Explain the difference between White-Box and Black-Box testing. 7

Unit-V

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5. (a) What is software project management? 2
- (b) Explain the COCOMO model in details. 7
- (c) A project size of 200 KLOC is to be developed. Software development team has average experience on similar type of projects. The project schedule is not very tight. Calculate the effort, development time, average staff and productivity of the project. ($a = 3.0$, $b = 1.12$, $c = 2.5$, $d = 0.35$) 7
- (d) Write short notes on : 7
- (i) Expert Judgement
 - (ii) Delphi cost estimation