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31N0405 /

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B.TECH. III SEM MAIN/BACK (NEW SCHEME)

ACADEMIC SESSION 2023-24

(Artificial Intelligence And Data Science)

III And Other Branches

3AD4–05 - Software Engineering

Common to CS, IT, AI, DS, MC, CM, CD, CA, AD, AM, CY, IO

Time : 3 Hours] [Max. Marks : 70

[Min. Passing Marks :

Instructions to Candidates :

Part–A : Short Answer Type Questions (up to **25** words) 10 × 2 = 20 marks. All 10 questions are compulsory.

Part–B : Analytical/Problem Solving questions 5 × 4 = 20 marks. Candidates have to answer 5 questions out of 7.

Part–C : Descriptive/Analytical/Problem Solving questions 3 × 10 marks = 30 marks. Candidates have to answer 3 questions out of 5.

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/ calculated must be stated clearly.

Use of the following supporting materials is permitted during examination. (Mentioned in form no. 205).

1__NIL_____ 2__NIL_____

Part–A

10×2=20

Q. 1. What is the use of software development process models ?

Q. 2. What is meant by Software and Software Engineering ?

Q. 3. Enlist the tasks perform in Configuration management.

Q. 4. When to use SDLC Waterfall Model ?

Q. 5. What do mean by Risk Management ?

Q. 6. Mention the significance of cohesion.

Q. 7. What is prerequisite of software project management ?

Q. 8. What are steps to be considered by software project manager to schedule the project plan ?

Q. 9. Why Data Flow Diagrams are essentials in Software Engineering ?

Q. 10. List any *four* problems of Elicitation and Analysis.

Part–B

5×4=20

Q. 1. Write short note on effort estimation techniques.

Q. 2. Briefly explain Software design process.

Q. 3. What is verification and validation? Explain in detail.

Q. 4. Describe any four types of risks that affect a software project

Q. 5. When to use Rapid Application Development (RAD) Model? Describe limitations of RAD Model.

Q. 6. Explain about object oriented analysis and design principle.

Q. 7. Describe key parameters that define the quality of any software products, and also an outcome of the COCOMO model.

Part–C

3×10=30

Q. 1. What are the design principles ? Explain in detail.

Q. 2. Perform prototype analysis on "railway reservation" software.

Q. 3. Explain the importance of data abstraction and encapsulation in object-oriented design.

Q. 4. Describe the stages of SDLC in details.

Q. 5. Describe role of case, state, and activity diagrams in UML for behavioral diagrams.

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