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Question Paper Code : 85020

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2025.

First Semester

Computer Science and Engineering

CS25C03 – ESSENTIALS OF COMPUTING

(Common to: Computer Science and Engineering (Artificial Intelligence and Machine Learning)/ Computer Science and Engineering (Cyber Security)/ Computer Science and Engineering (Data Science)/Computer Science and Engineering (IoT)/Computer and Communication Engineering/Artificial Intelligence and Data Science/Computer Science and Business Systems/Computer Science and Design/Information Technology)

(Regulations 2025)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the characteristics of Computers.
2. Draw the block diagram of computer.
3. What is the use of BCD Number system?
4. Define Boolean Logic System.
5. Write an algorithm for exchanging two variables.
6. What do you mean by declarative programming?
7. Define Flow Chart.
8. List various programming paradigm concepts.
9. What are called Arithmetic Operators?
10. Define List in programming language.

PART B — (5 × 13 = 65 marks)

11. (a) Describe the concept behind computational thinking with a simple example.

Or

- (b) Describe Boolean logic and how it is used in programming languages to make quick decision.

12. (a) Illustrate algorithm design techniques and its four ways of classifications to solve the problems.

Or

- (b) Demonstrate a complex algorithm to solve any real-world problem facing by a programmer using Iterative structures or Recursive structures.

13. (a) Illustrate the seven phases of Program Development Life Cycle with a simple example.

Or

- (b) Design a flow chart for the university examination result processing system, considering all possible conditions involved in the result processing system.

14. (a) Describe Scratch Programming, elements of scratch and its advantages and disadvantages.

Or

- (b) Describe the functions and use of Arithmetic Operators in scratch programming?

15. (a) Illustrate the App Development techniques and steps involved to develop the app based on the Users Feedback and using problem solving methods.

Or

- (b) Illustrate the Incremental and Iterative modeling with the four major aspect based proper comparative table.

PART C — (1 × 15 = 15 marks)

16. (a) Illustrate the Top-Down Approach and Bottom-Up Approach of designing Algorithms with its pseudocode.

Or

- (b) Illustrate with a suitable example to build an App considering all the SIX basic key steps of Mobile App Development for any Day-to-Day problems faced by a common person in a society.
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