PG/IIS/COS/204/25(CBCS)

M. Sc. 2nd Semester Examination, 2025

COMPUTER SCIENCE

(*Computer Fundamentals & Programming Concept*)

PAPER – COS-204

Full Marks : 50

Time : 2 hours

Answer all questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP – A

Answer any **four** questions : 2×4

1. What does EDVAC and UNIVAC stands for ?

2. Find the value of X where $(56)_{10} = (X)_2$.

3. Write the key difference between hardware and software.

4. What is the relation between an algorithm and a flowchart ?

5. What is an identifier ?

6. Define a function.

GROUP – B

Answer any **four** questions : 4×4

7. What is computer memory ? Differentiate between the two types of primary memory. $1 + 3$

8. Find the decimal equivalent of the following. $2 + 2$

   (*i*) $(A59C)_{16}$ (*ii*) $(33)_8$

9. Discuss sign magnitude representation of integers into binary with the help of example.

10. List different types of operators used in C with examples.

11. Differentiate between a loop and a function with examples.

12. Write a C program to check whether a given number is prime.

GROUP – C

Answer any **two** questions : 8×2

13. With the help of a block diagram explain the different components of a computer system.

14. Write down the answer of the following :

(*i*) $(11111)_2 = (?)_{16}$

(*ii*) $(11111)_{16} = (?)_2$

(*iii*) Find the two's complement of the binary numbers. (111011101110)2

(*iv*) $(BCD)_{16} + (A34)_{16}$

15. Write a C program to calculate the Factorial of a number using recursion.

16. Write a C program to display the Fibonacci series using recursion.

[Internal Assessment — 10 Marks]