

(FOR THE CANDIDATES ADMITTED

SUBJECT CODE

24 PPS 4E7

DURING THE ACADEMIC YEAR 2024-25 ONLY)

REG.NO.:

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY– 2026

M.Sc. – PHYSICS

MAXIMUM MARKS: 75

SEMESTER: IV

TIME : 3 HOURS

MICROPROCESSOR & OBJECT-ORIENTED PROGRAMMING WITH C++

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

1. Which instruction is used for unconditional branching?
A) JZ B) JC C) JMP D) CZ
2. Select the program type used to repeat a set of instructions.
A) Straight line B) Looping program C) I/O program D) Control program
3. Name the process of creating an instance of a class.
A) Compilation B) Declaration C) Object creation D) Execution
4. Which function is used to destroy an object?
A) Constructor B) Main C) Destructor D) Friend function
5. Recall the inheritance that combines more than one type of inheritance.
A) Single B) Hybrid C) Hierarchical D) Private

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

6. Interpret the role of the accumulator in 8085.
7. Differentiate between straight line programs and looping programs.
8. Illustrate the basic concepts of OOP.
9. Relate operator overloading to polymorphism
10. Indicate the purpose of virtual base classes.

(CONTD 2)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Compare the different addressing modes of 8085 with examples.

(OR)

- b) Apply arithmetic instructions to solve addition of two 8-bit numbers stored in memory

12. a) Compare straight line programs and looping programs with suitable examples.

(OR)

- b) Assess the advantages of microcontrollers over microprocessors.

13. a) Describe how a class is specified and explain memory allocation for objects.

(OR)

- b) Examine static data members and static member functions in a class.

14. a) Describe constructors and explain its types with examples.

(OR)

- b) Explain the rules for operator overloading.

15. a) Explain pointers to derived classes and examine virtual functions with example.

(OR)

- b) Assess the importance of inheritance and virtual functions in OOP.

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Describe the architecture of 8085 microprocessor and justify its functional organization

(OR)

- b) Explain the role of stack, subroutine, conditional call, and return instructions in 8085.

17. a) Outline and discuss the steps involved in microprocessor programming and defend structured programming practice.

(OR)

- b) Examine and categorize the instruction set of 8085 and evaluate their significance.

18. a) Debate and justify whether OOP is superior to procedural programming.

(OR)

- b) Classify and evaluate different features of classes such as static members, friend functions, and arrays of objects.

19. a) Compare, interpret, and judge different types of constructors in C++.

(OR)

- b) Examine and criticize operator overloading and justify its practical significance.

20. a) Analyze and classify types of inheritance and justify the need for virtual base classes.

(OR)

- b) Investigate and evaluate virtual functions and runtime polymorphism.
