

Total number of printed pages-5

52 (2) ITB-HG-2026

2024

PROGRAMMING IN C++

Paper : ITB-HG-2026

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following questions : 1×5=5

(a) Which of the following is a correct identifier in C++ ?

(i) VAR_12

(ii) \$ var_name

(iii) 7 varname

(iv) 6 var_name

Contd.

(b) Identify the incorrect constructor type :

- (i) Friend constructor
- (ii) Default constructor
- (iii) Parameterized constructor
- (iv) Copy constructor

(c) Identify the correct syntax for declaring arrays in C++

- (i) array arr [10]
- (ii) array {10}
- (iii) int arr [10]
- (iv) int arr

(d) Which of the following is the correct syntax to print the message in C++ language ?

- (i) Cout <<"Hello World";
- (ii) Cout <<Hello world!
- (iii) Out<<"Hello World!"
- (iv) None of the above

- (e) C++ is a ___ type of language.
- (i) High level language
 - (ii) Low-level language
 - (iii) Middle-level language
 - (iv) None of the above

2. Answer **any five** from the following :

2×5=10

- (a) What do you mean by formatted and console I/O ?
- (b) What is the importance of header file ? Give an example of the header file.
- (c) What is the main difference between break and continue statement ?
- (d) What is structure ? Give syntax of structure.
- (e) Define new operators.
- (f) What is the function of copy constructor ?

3. Answer **any five** questions from the following :

3×5=15

- (a) What is constructor ? Name it's types.

- (b) What is variable? How it can be initialized and defined?
- (c) What is the advantage of inline function? Give an example.
- (d) What are the main differences of between static and dynamic memory allocation?
- (e) Write a program in C++ to find the greatest of three numbers.
- (f) Write a C++ program to read a text from a given file.
- (g) What do you mean by virtual function? Give syntax.

4. Answer the following questions :

(any four)

5×4=20

- (a) What are the main principles of object-oriented programming?
- (b) Write a program to read student roll-no, name and course name and to display this information using structure.
- (c) Differentiate call by value and call by reference with example.

- (d) What do you mean by class? What are its three access specifier?
- (e) What is inheritance? Explain the different types of inheritance.
- (f) What is the importance of virtual function? Explain with an example.

5. Answer **any one** question from the following :

- (a) What is exception handling? Explain it with an suitable program. $2+8=10$
- (b) What is operator overloading? Write a program to overload unary operator. $2+8=10$
- (c) Define the following terms —
Polymorphism, put(), get (), pointer, object of class. $2 \times 5 = 10$
