

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)

**BSc DEGREE EXAMINATION MAY 2026**  
(Second Semester)

Branch – **INFORMATION TECHNOLOGY**

**PROGRAMMING IN C++**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** marks

(10 × 1 = 10)

| Module No. | Question No. | Question                                                                                                                                                                                    | K Level | CO  |
|------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|
| 1          | 1            | Name the process that packs data and functions into a single component<br>(i) Polymorphism (ii) Inheritance<br>(iii) Encapsulation (iv) Abstraction                                         | K1      | CO1 |
|            | 2            | Show which of the following Operator is overloaded in the ostream class?<br>(i) << (ii) >><br>(iii) <= (iv) >=                                                                              | K2      | CO1 |
| 2          | 3            | Which portion of a function, the default value is declared?<br>(i) function body (ii) while calling a function<br>(iii) return statement (iv) function prototype                            | K1      | CO2 |
|            | 4            | Infer, when will be the destructor gets executed?<br>(i) when object is not used<br>(ii) when object contains nothing<br>(iii) when object is defined<br>(iv) when object goes out of scope | K2      | CO2 |
| 3          | 5            | Name the operator that cannot be overloaded with friend function?<br>(i) unary operator (ii) assignment operator<br>(iii) binary operator (iv) arithmetic operator                          | K1      | CO3 |
|            | 6            | Show the name of the inheritance, when a single base class is used for derivation of two or more classes?<br>(i) Single (ii) Multiple<br>(iii) Hierarchical (iv) Hybrid                     | K2      | CO3 |
| 4          | 7            | What is the use of new operator in the concept of memory?<br>(i) Deallocate memory (ii) Allocate memory<br>(iii) Delete object (iv) Destroy object                                          | K1      | CO4 |
|            | 8            | Relate the function that shifts the input pointer to a given location in a file<br>(i) get( ) (ii) put( )<br>(iii) Seekg() (iv) Seekp( )                                                    | K2      | CO4 |
| 5          | 9            | Name the technique that allows using a single function or class to work with different data types.<br>(i) Macros (ii) Template<br>(iii) Abstraction (iv) Binding                            | K1      | CO5 |
|            | 10           | Interpret in which block the exceptions are generated.<br>(i) Try block (ii) Catch block<br>(iii) Throw block (iv) Compile time                                                             | K2      | CO5 |

Cont...



**SECTION - B (35 Marks)**Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

| Module No. | Question No. | Question                                                                                    | K Level | CO  |
|------------|--------------|---------------------------------------------------------------------------------------------|---------|-----|
| 1          | 11.a.        | Outline the Object Oriented technology and advantages of OOP.                               | K1      | CO1 |
|            |              | (OR)                                                                                        |         |     |
|            | 11.b.        | Illustrate the usage of cin and cout statements to get and display different types of data. |         |     |
| 2          | 12.a.        | Examine the Parts of Functions.                                                             | K4      | CO2 |
|            |              | (OR)                                                                                        |         |     |
|            | 12.b.        | List the characteristics of constructor and destructor.                                     |         |     |
| 3          | 13.a.        | Illustrate how to declare a pointer to class with an example program.                       | K2      | CO3 |
|            |              | (OR)                                                                                        |         |     |
|            | 13.b.        | Explain the types of Inheritance.                                                           |         |     |
| 4          | 14.a.        | Develop a program to define the working of virtual functions.                               | K3      | CO4 |
|            |              | (OR)                                                                                        |         |     |
|            | 14.b.        | Examine the types of Binding in C++.                                                        |         |     |
| 5          | 15.a.        | Construct a program to remove specified characters from the string.                         | K3      | CO5 |
|            |              | (OR)                                                                                        |         |     |
|            | 15.b.        | Develop a C++ program to demonstrate how to compare and exchange strings.                   |         |     |

**SECTION -C (30 Marks)**Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

| Module No. | Question No. | Question                                                                                                                          | K Level | CO  |
|------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------|---------|-----|
| 1          | 16           | Explain the Key concepts of Object-Oriented Programming.                                                                          | K1      | CO1 |
| 2          | 17           | Illustrate Friend Function to exchange values between two classes.                                                                | K1      | CO2 |
| 3          | 18           | Construct a program to overload binary operators using member function and friend function.                                       | K3      | CO3 |
| 4          | 19           | Examine the properties of new and delete operators and use it in a program to allocate and deallocate memory to store 3 integers. | K4      | CO4 |
| 5          | 20           | Explain error handling with an example program to throw multiple exceptions and define multiple catch statement.                  | K5      | CO5 |

Z-Z-Z

END