

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2019
(Fifth Semester)

Branch - MATHEMATICS WITH COMPUTER APPLICATIONS

C++ PROGRAMMING

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks!)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10x2 = 20)

- 1 List the various C++ tokens.
- 2 What is wchar-t type?
- 3 What are the two ways of creating symbolic constants in C++?
- 4 Define a reference variable.
- 5 What is the only difference between a structure and a class in C++?
- 6 Give the general form of a member function definition.
- 7 Define operator overloading.
- 8 List the four operators that cannot be overloaded.
- 9 What is multilevel inheritance?
- 10 What are the various functions that can have access to private and protected members of a class?

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Explain the structure of a C++ program.
OR
b Write a note on the basic data types.
- 12 a Write a C++program to illustrate function overloading.
OR
b Write a note on switch statement.
- 13 a Briefly explain about arrays of objects.
OR
b How will you nest member functions? Explain with an example.
- 14 a Write a C++program to illustrate the use of destructors.
OR
b Write a C++ program to overload the binary + operator.
- 15 a Explain single inheritance with an example.
OR
b Write a C++ program to illustrate the use of multiple inheritance.

SECTION - C (10 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Briefly discuss the basic concepts of object oriented programming.
- 17 An electricity board charges the following rates to domestic users for consumption of energy :
For the first 100 units - 1.50 Rs. Per unit
For next 200 units - 2.00 as per unit
Beyond 300 units - 3.00 Rs. Per unit
All users are charged a minimum of Rs. 30.00. If the total amount is more than Rs. 500 then an additional surcharge of 15% added.

18 Define a class to represent a bank account. Include the following members :

Data members :

- (i) Name of the depositor (ii) Account number (iii) Type of amount
- (iv) Balance amount in the account

Member Functions :

- (i) To assign initial values (ii) To deposit an amount (iii) To withdraw an amount after checking the balance (iv) To display name and balance

Write a C++ program to perform the above operations.

1 > What is a constructor? Explain the different types and ways of using constructors.

20 Write short notes :

(i) Hierarchical Inheritance (5 m)

(ii) Hybrid Inheritance (5 m)

Give suitable examples.

Z-Z-Z

END