

(PART B : Descriptive)

Time: 2 hrs. 40 min.

Marks: 50

(Answer any five (5) from the following)

1. Write short notes on the followings: (*any five*) (2×5=10)
 - a) Objects
 - b) Data hiding
 - c) This pointer
 - d) Static member functions
 - e) Inline functions
 - f) Scope resolution operator
2. What is Virtual Function? What are the rules that a virtual function satisfies?
Explain the concept with a program. (5+5=10)
3. (i) Explain how polymorphism is achieved at (a) compile time, (b) run time. (4)
(ii) Write a program to explain the concept of Virtual Base Class. (6)
4. What is a Class? Explain its significance in OOP. Differentiate between a structure and a class. List the rules for defining static members in a class. (1+3+3+3=10)
5. What do you mean by Matrix? How it is declared in C++. Write a program to multiply two matrixes. (3+2+5=10)
6. What is a constant? Describe all type constant using in C++. Write a program using constant to find the area of a circle. (2+4+4=10)
7. Describe the Operators in C++ using examples for each type. (10)

**BACHELOR OF COMPUTER APPLICATION
THIRD SEMESTER
OBJECT ORIENTED PROGRAMMING WITH C++
BCA – 305**

(Use separate answer scripts for Objective & Descriptive)

Duration: 3 hrs.

Full Marks: 70

(PART A : Objective)

Time: 20 min.

Marks: 20

Choose the correct answer from the following:

1×20=20

1. Which of the following is the lifetime of a static variable?
 - a. Function
 - b. Class
 - c. Entire program
 - d. All files
 2. In the declaration **class Test { int x; }; x is which type of member?**
- a. Public
 - b. Private
 - c. Protected
 - d. Any of these
3. A constructor is executed when
 - a. An object is created
 - b. An object is used
 - c. A class is declared
 - d. An object goes out of scope
4. Choose the operator which can be overloaded
 - a. ::
 - b. ..
 - c. .*
 - d. None of these
5. With Friend function implementation, binary operators take how many explicit parameters?
 - a. 0
 - b. 1
 - c. 2
 - d. 3
6. A class can have how many numbers of Destructors?
 - a. 1
 - b. 2
 - c. 3
 - d. Any
7. The break statement causes an exit from
 - a. only from the innermost loop
 - b. only from the innermost switch
 - c. from all loops and switches
 - d. only from the innermost loop or switch

8. The && and || operators
a. compares two numeric values b. combines two numeric values
c. compares two Boolean values d. combines two Boolean values

9. The goto statement causes control to go to
a. an operator b. a label c. a variable d. a function

10. An array element is accessed using
a. a list-in-first-out approach b. the dot operator
c. the member name d. an index number

11. Consider the following code and which of the following option is true

```
char c= 'a';  
switch(c)  
{  
  case 'a': cout<<"A";  
  case 'b': cout<<"B"; break;  
  default: cout<<"C";  
}
```

- a. output will be A
b. output will be A followed by B
c. output will be A, followed by B, followed by C
d. Cannot compile

12. void main()

```
{  
  int x,y=10,z=10;  
  x=(y==z);  
  cout<<x;  
}
```

- a. 0 b. 1 c. 10 d. None of these

13. Which is the correct output of the following

```
int a=1;  
do  
{  
  cout<< a<<15%a;  
  a++;  
} while (15/a!=3);
```

- a. 1 0 b. 2 1 c. 3 0 d. All

14. What is the value of x, m, n after execution of the following statement

```
int m=10, n=15, x;  
x=++m+n++;
```

- a. x=25, m=10, n=15 b. x=27, m=11, n=15
c. x=26, m=11, n=16 d. None of these

15. What will be the value of I and K at the end of the program segment

```
{  
  int I, j, K;  
  j=5;      I=2*j/2;      K=2*(j/2)  
}
```

- a. I=5, K=5 b. I=4, K=4
c. I=5, K=4 d. I=4, K=5

16. What will be the output of the following program?

```
void main( )  
{  
  int n=1;      while(n<=3)  
  {cout<<n;      n++;}
```

- a. 0 1 2 b. 1 2 4 c. 1 2 3 d. 2 3 3

17. The maximum permissible characters in a variable name is _____.

- a. 16 b. 32 c. 64 d. none

18. _____ occupies 10 bytes of storage space.

- a. int b. long double c. double d. char

19. Structure is a collection of-

- a. declared data b. undeclared data
c. homogeneous data d. heterogeneous data

20. Which is the correct syntax if we wish, class D to publicly inherit from class B?

- a. class D:public B { }; b. class D:Public B { };
c. class D public B { } d. class B:Public D { }
