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**Roll No. \_\_\_\_\_\_\_\_\_\_\_\_**

**BCA-3213**

**BCA (III Semester) Examination, Dec. 2018**

**COMPUTER SCIENCE**

**OBJECT ORIENTED PROGRAMMING USING C++**

*Time Allowed: Three Hours] [Maximum Marks: 70*

**Note:** Answer **all** questions.

**Q. 1.** Attempt any **six** of the following. **5\*6=30**

1. Discuss all types of Constants with examples.
2. Define all types of Assignment Operators with examples.
3. Define switch-case statement with suitable example.
4. Write a program to find the biggest and smallest element in one-dimensional array of 10 elements.
5. Determine the output of the following program:

 void main()

{ int a=15;

int b=25;

int f1,f2;

 f1=exp(a,b);

 f2=exp(f1+a,f1\*2);

cout<<f1<<f2; }

 intexp(x1, x2)

{

return(x1+x2);}

f) Write an object oriented program in C++ to calculate the Sum of the following series:

 S=X+2\*X2+3\*X3+4\*X4

g) How to Access a Member of Class? Define with suitable example.

h)What is **Data Encapsulation**? Briefly explain with example.

**Q.2.**What are the types of **functions**? Discuss all with appropriate examples. **10**

**OR**

What do you understand by**structure** and **class**. Explain in detail with suitable examples.

**Q.3. a)** Write a program in C++ to calculate m=n!/(n!\*r!)Using function.

**b)**Write an object oriented program in C++ to illustrate the use of simple arithmetic such as addition, subtraction &multiplication by using member function of a class outside its scope. **10**

**OR**

 Write an object orientedprogram in C++ to find sum of the following series:

a) S1= 1! + 3! + 5! b) S$2 =x+\frac{x^{2}}{2! }+\frac{x^{3}}{3!}$

**Q 4.**a) Write all steps and give the value of **‘K’** after executing the following: **10**

 class samp {

private:

int n=0, k;

 public:

 void output(){

 cout<<”K=”<<func(); }

 intfunc(){

for(k=2; k<=7; k=k+2)

 {n=n+pow(k,2); }

 return(n);

 };

 void main(){

sampobj;

obj.output();}

1. Write an object oriented program in C++ to find **nCr**.

**Q 5.** Define array of class objects? Write an appropriateobject oriented program for the same.**10**

**OR**

What do you mean by Inheritance? Differentiate between Base Class and Derived Class

with suitable examples.