EVENING

09 JUL 2022

Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09] [Total No. of Pages: 2]

Uni. Roll No. .....

Program: B.Tech. (Batch 2018 onward)
Semester: 4/ (2018)
Name of Subject: Object Oriented Programming using C++ and Data Structures
Subject Code: PCEC-107
Paper ID: 16223
Scientific calculator is Not Allowed

Time Allowed: 03 Hours **Max. Marks: 60**

NOTE:

1) Parts A and B are compulsory
2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
3) Any missing data may be assumed appropriately

Part – A [Marks: 02 each]

Q1.

a) List the features of Object oriented Programming.

b) Discuss the concept of pointer with example.

c) Create a logic to use new and delete operator.

d) What is if else-if ladder?

e) Write the result of the following code with its reason.

```
#include<iostream.h>
int main( )
{
int x = 5, y = 10, z = 100;
x = y = = z;
cout<<x;
}
```

f) What will be the output of the following code? Explain your answer.

P.T.O.

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```
#include<iostream.h>
int main( )
{
int x = 10;
 if ( x = 20 )
 cout<<"True";
 else
cout<<" False" ;
}
```

Part -- B **[Marks: 04 each]**

Q2. a) Write the equivalent infix expression for 10,3,*,7,1,-,*,23

b) Translate the infix expression into its equivalent postfix expression:

((A-B)*(D/E)) / (F*G*H)

Q3. Discuss a) Arrays with example. b) Stacks and queue with example.

Q4. Write an algorithm to find the roots of quadratic equation.

Q5. Discuss the exception Handling with example.

Q6. Create a program to demonstrate the working of classes and objects.

Q7. Create a program to print the number is prime or not.

Part – C **[Marks: 12 each]**

Q8. a) Discuss the types of Inheritance with example. Discuss public, private and protected inheritance.

b) Compare overloading and overriding with example

OR

Discuss the Need of constructors and destructors, copy constructor. Discuss the constructors and destructors in derived classes and constructors and destructors with static members,

Q9. Discuss Transverse, insert, delete, sorting of data in the data structures.

OR

Define the following with example a) pure virtual functions b) abstract base classes c) dynamic binding d) type conversion

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