**Final Paper-Fall**-2018

**BSCS/BSIT/BSSE/MCS/MIT (Morning/Evening)**

**Object Oriented Programming- CS-423/CS-727**

**Maximum Marks: 30 Total Time: 1.5 Hr**

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**Question #1: 8 Marks**

Complete the following C++ program such that main() executes successfully.

void main()

{ //PERSON P; //Error, PERSON class is not allowed to create object

//PERSON class has only 1 variable pName & only 2 functions getData() & showData()

//BOWLER B; //BOLWER is child of PERSON, having another variable speed & only func getSpeed()

//and this calss is also not allowed to create objects

SPINNER S1, S2; //SPINNER class is a child of BOWLER class

S1.getData(); S2.getData(); //get input from user for variables speed and pName

S1.getSpeed(); //getSpeed() function is not defined in SPINNER and returns value of speed in integer

BOWLER\_COMPARISON bc;//This is a stand alone class, means no inheritance

bool b=bc.checkSpeedEquality(S1,S2); //function will return 0 if speed in S1 and S2 are same

if(b==1) cout<<"\nBoth bowler have different speed";

else cout<<"\nBoth bowlers have same speed"; }

**Question #2: 8 Marks**

Pakistan is facing money-laundering issues now a day. Many Pakistani have their black money in Switzerland accounts. To resolve this issue and to get back their money, Pak govt. signs an agreement with Switzerland Govt. to provide secret information about those Pakistani who have accounts in their bank. Swiss govt. agreed to create classes according to the following diagram to give access of Pakistani account holders only. Being an OOP expert you have to provide consultancy that how this will implement in C++, keeping in mind the following main() function. SwissAccount has variables, ***name, account\_ID*** and ***amount***. PakAccount class has variables ***Passport\_No, CNIC*** and ***Pak\_Address***. Whereas OtherAccount class has ***SSNo*** and ***Address*** variables. Also there is a PakEmbassy class having array of 500 PakAccount and a function diaplayPakAccounts() which will display all the data of Pakistani account holders. In addition to that handle exception as per requirement mentioned in main(), if there is any negative balance in the account.

SwissAccount

PakAccount

OtherAccount

void main()

{ PakEmbassy PE;

try{ PE.diaplayPakAccounts();

}catch (PakEmbassy::Error e)

{ cout<<”Error is due to negative amount:”<<e.value;

} }

**Question #3: 7 Marks**

Complete the C++ program such that main() executes successfully.

void main()

{ Test <int> a; //class Test has 1 template variable **'x'** and one static int variable **'count'** initialized with 0

Test <int> b;

cout<<b.returnCount(); } //The function returnCount() should defined outside class

//and will return value of count. Here the output will be 2

**Question #4: 7 Marks**

Assuming there is no error, Complete the C++ program such that main() executes successfully.

void main()

{ Expression E1; //class Expression has only one variable 'val'

Expression E2(5.5), E3;

E3(2.0);

cout<<E3.showValue(); //showValue will return 'val'. Here output is 2.0

Expression E4;

E4=E3;

E1=E2+--E3\*E4--;

cout<<E1.showValue(); } //will display 6.5 -----Good Luck ☺-----

**Final Paper Practical-Fall**-2018

**BSCS/BSIT/BSSE/MCS/MIT (Morning/Evening)**

**Object Oriented Programming- CS-423/CS-727**

**Maximum Marks: 20 Total Time: 1.0 Hr**

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**Question #1: 14 Marks**

Assuming getData() and showData() functions are already defined in the class Patient:

1. Write a C++ function ***writeRecord()*** which takes input of a patient in the form of class **Patient** object, having ***P\_ID, P\_Name, P\_Age, P\_Gender and P\_Department.*** Then it writes in the file **“PatientRecord.dat”** in append mode. **[3 marks]**
2. Write a C++ function ***readAllRecord()*** which displays all the records available in the file **“PatientRecord.dat”** using showData() function. **[3 marks]**
3. Write a C++ function ***searchRecord()*** having menu (1. Search by Age 2. Search by Name) which takes input from user and displays required records from the file **“PatientRecord.dat”**, along with a message: “ ‘x’ number of records found” **[4 marks]**
4. Write a function ***updateRecord()*** which update a patient record based on ***P\_ID.* [4 marks]**

**Question #2: 06 Marks**

Discuss your semester project in 4-5 lines

-----Good Luck ☺-----