

# Maulana Azad National Urdu University

## Master of Computer Application

### II Semester Examination May - 2015

#### CS122 : Object Oriented Programming Using C++

Total Marks : 70

Time : 3 hours

14X5=70

نوٹ : حسب ذیل سوالات میں سے کوئی پانچ (5) کے جوابات مطلوب ہیں:

- (6 Marks) Procedure Oriented اور OOP کے مختلف Paradigms کیا ہے۔ (a) - 1  
Programming میں موجود فرق کو بتاؤ۔
- (4 Marks) Scope Resolution Operator کیا ہے۔ مثال کے ذریعہ سمجھاؤ۔ (b)  
(4 Marks) Scope اور Life type variable سے کیا مراد ہے۔ (c)
- (10 Marks) Bank Account کو ظاہر کرنے کے لیے ایک Class کو بیان کرو۔ اس کے لیے ذیل کو شامل کرو۔ (a) - 2
- | <u>Data Members</u>           | <u>Member Functions</u>                                |
|-------------------------------|--|
| i) Name of Depositor          | i) To Assign initial values                            |
| ii) Account Number            | ii) To Deposit an Amount                               |
| iii) Type of Account          | iii) To withdraw an Amount after checking the balance. |
| iv) Balance Amount in Account | iv) To Display namd and balance                        |
- (4Marks) Default Argument میں موجود فرق کو بیان کرو۔ (b)
- Constructors کیا ہے۔ تفصیل سے بیان کرو۔ Default Argument اور Parameterized Constructor (a) - 3  
(7 Marks) Constructor میں موجود فرق کو بیان کرو۔
- (7 Marks) Static Class Member اور Static Objects میں کیا فرق ہے۔ (b)
- (7 Marks) Multiple اور Multi level inheritance میں کیا فرق ہے۔ مثال کے ذریعہ واضح کرو۔ (a) - 4  
(7 Marks) Virtual Base Class کیا ہے۔ یہ کب بتایا جاتا ہے۔ مثال کے ذریعہ بیان کرو۔ (b)
- (9 Marks) ذیل کو تفصیل سے بیان کرو (a) - 5
- |                                     |       |
|-------------------------------------|-------|
| Re-throwing an Exception            | (i)   |
| Nested Try                          | (ii)  |
| Design issues in Exception handling | (iii) |
- (5 Marks) Stream Class Hierarchy اور (C++) File Streams کو تفصیل سے بیان کرو۔ (b)
- (9 Marks) C++ میں استعمال ہونے والے operators اور Control Structures کو تفصیل سے بیان کرو۔ (a) - 6  
(5 Marks) Call By Reference اور Inline Function کو تفصیل سے بیان کرو۔ (b)
- Operator Overloading کیا ہے۔ Overloading unary operator کو بتاتے ہوئے ایک (a) - 7  
(8 Marks) C++ کا program بناؤ۔
- (6 Marks) Templates کیا ہے۔ Template Functions کو تفصیل سے بیان کرو۔ (b)

Course- MCA

Semester - II

Subject: Object Oriented Programming Using C++

Code: CS122

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Attempt any five questions. Each question carries equal marks.

14\*5 = 70

1. (a) What are the different paradigms for problem solving? Discuss the differences between OOP and procedure oriented programming? (6M)
- (b) What is Scope resolution operator? Explain it with example? (4 M)
- (c) What is meant by scope and life type of a variable? (4 M)
2. (a) Define a class to represent a bank account. Include the following members:  
**Data members**
  1. Name of the depositor
  2. Account number
  3. Type of account
  4. Balance amount in the account**Member functions**
  1. To assign initial values
  2. To deposit an amount
  3. To withdraw an amount after checking the balance
  4. To display name and balanceWrite a main program to test the program. (10 M)
- b) What is a Default Argument? Explain with example? (4 M)
- 3 (a) Explain Constructors? What is a difference between parameterized constructors and Constructors with default arguments? (7 M)
- (b) What is the difference between Static Class members and static objects? (7 Marks)
4. (a) What is difference between multiple and multi-level inheritance? Explain it with an example? (7 M)
- (b) What is Virtual base class? When do we make a class virtual? Demonstrate it with an example? (7m)
5. (a) Discuss the following:
  - 1) Re-throwing an exception
  - 2) Nested try
  - 3) Design issues in exception handling. (9m)
- (b) Discuss the stream class hierarchy, and file streams in C++ (5m)
- 6) a) Explain operators and control structures used in C++? (5m)
- b) Discuss the following:
  - i) Call by reference
  - ii) Inline functions (6m)
- 7) a) What is operator overloading? Write a program in C++ showing overloading unary operator? (8m)
- b) What are Templates? Explain Template functions? (6m)