ROLL NO. _____

Code: AC105/AT105 **Subject: OBJECT ORIENTED PROGRAMMING WITH C++**

AMIETE – CS/IT *{NEW SCHEME}*

Time: 3 Hours **DECEMBER 2014** **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 Choose the correct or the best alternative in the following: **(2×10)**

a. Which of the following operator cannot be overloaded?

(A) scope resolution operator **(B)** Arrow operator
(C) Equality operator **(D)** Assignment operator

b. How many types of polymorphisms are supported by C++?

(A) 1 **(B)** 2
(C) 3 **(D)** 4

c. Which of the following is not a feature of C++?

(A) Operator overloading **(B)** Namespace
(C) Inheritance **(D)** None of these

d. Identify the correct option.

(A) Enumerators are constants **(B)** Enumerators are user defined types
(C) Enumerators are unchangeable **(D)** Character

e. Which of these is also called as abstract class ?

(A) Virtual function **(B)** Pure virtual function
(C) Derived class **(D)** None of these

f. Constructors are used to

(A) Initialize the objects **(B)** Construct the data member
(C) Both (A) & (B) **(D)** None of these

g. How many specifiers are present in access specifiers in a class?
(A) 1 **(B)** 2
(C) 3 **(D)** 4

h. What does a class can hold?

(A) Data **(B)** Function
(C) Both (A) & (B) **(D)** None of these

i. What is meant by of stream in C++?

(A) Writes to a file **(B)** Reads from a file
(C) Both (A) & (B) **(D)** None of these

j. Which keyword is used to check exception in the block of code?

(A) Catch **(B)** Throw
(C) Try **(D)** None of these

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. With an example explain how I/O is achieved in C++. **(8)**

b. Explain the following: **(8)**
(i) Class and Object
(ii) Abstraction and Encapsulation

Q.3 a. With an example explain how local transfer of control is achieved in C++. **(8)**

b. Briefly explain the following: **(8)**
(i) Void Pointer
(ii) Address-of Operator
(iii) Indirection Operator
(iv) Invalidate a Pointer

Q.4 a. With an example explain inline function in C++. **(6)**

b. Explain function overloading. Write a C++ program to demonstrate function overloading. **(5)**

c. What is the difference between Return-by-value and Return-by-reference? **(5)**

Q.5 a. What is a class in C++? Explain with an example. **(8)**

b. Differentiate between constructor and destructor. **(8)**

Q.6 a. Describe overloading of unary and binary operators. **(12)**

b. With the help of an example explain the use of cast operator in C++. **(4)**

Q.7 a. Explain (i) Inheritance (ii) Multiple inheritance **(10)**

b. Explain friend function, with example. **(6)**

Q.8 a. Differentiate between a template and a marco. Explain class template and function template. **(8)**

b. Illustrate the usage of nested try block. Is it necessary that number of catch blocks should be equal to the number of try blocks? Justify. **(8)**

Q.9 a. What is STL? Why should they be used? Explain the different components of STL. **(8)**

b. What are the different forms of get () function of istream class? Illustrate the uses by citing proper examples. **(8)**