AT–361

B.Sc. (Part—II) Semester—IV Examination

COMPUTER SCIENCE/COMPUTER APPLICATIONS/INFORMATION TECHNOLOGY

(Advanced C++ and Web Designing)

Time : Three Hours] [Maximum Marks : 80

Note :— (1) ALL questions are compulsory.

(2) Question No. 1 carries 8 marks and all other questions carry 12 marks each.

(3) Assume suitable data wherever necessary.

1. (A) Fill in the blanks :

(i) The creation of new class from an existing class is called _____ .

(ii) While overloading unary operator using member function then operator op () requires _____ argument.

(iii) PC DATA stands for _____ .

(iv) XSD stands for _____ . 2

(B) Choose correct alternative :

(i) Array with single subscript is known as :

(a) Two dimensional array

(b) Multidimensional array

(c) One dimensional array

(d) None of these

(ii) When we derive one class from a single base class it is called _____ inheritance.

(a) Hybrid

(b) Single

(c) Multiple

(d) Multilevel

(iii) XML tags are _____ .

    (a) Not case sensitive

    (b) Case sensitive

    (c) Both (a) and (b)

    (d) None of the above

(iv) To format XML document _____ is used.

    (a) Cascading style sheet

    (b) Namespace

    (c) Document instance

    (d) None of the above   2

(C) Answer in one sentence each :

    (i) What is derived class ?

    (ii) What is pointer ?

    (iii) What is element ?

    (iv) Write syntax of CSS.   4

2. (a) What is 'this' pointer ? Explain with suitable example.   6

    (b) Write a program in C++ to illustrate the use of binary operator.   6

OR

3. (a) State and explain the rules of operator overloading.   6

    (b) Write a program in C++ for addition of two matrices.   6

4. (a) What is inheritance ? Explain single inheritance with suitable example.   6

    (b) What is function template ? Explain with suitable example.   6

OR

5. (a) What is derived class ? Explain with syntax and example.   6

    (b) What is template ? Explain class template with example.   6

6. (a) Explain pure virtual function with suitable example. 6

   (b) Write a program in C++ to open and close a file. 6

OR

7. (a) What is polymorphism ? Explain with suitable example. 6

   (b) State and explain different file modes in C++. 6

8. (a) Explain the rules for writing XML document with example. 6

   (b) Create an XML document showing the list of two books consisting of book name, author, publication and price. 6

OR

9. (a) Explain the components of XML document. 6

   (b) Explain the terms :

       (i) Document prolog

       (ii) Document instance. 6

10. (a) What is entity ? What are the types of entity ? Explain. 6

    (b) What is element ? How element can be declared ? Explain their types. 6

OR

11. (a) What is DTD ? Explain external DTD with example. 6

    (b) Explain element content model with suitable example. 6

12. (a) Explain how to convert DTD to schema. 6

    (b) Explain declaration of namespace with default and prefix namespace. 6

OR

13. (a) Explain XML schema datatypes with example. 6

    (b) Explain namespace with suitable example. 6