AU–116

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

COMPUTER SCIENCE/COMPUTER APPLICATION/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) _____ provides the concept of reusability.

(ii) _____ arguments are required in the definition of an overloaded unary operator.

(iii) XSD stands for _____.

(iv) DTD stands for _____. 2

(b) Choose correct alternative :

(i) A pointer is a variable that holds _____ of another variable.

(a) Value

(b) Data type

(c) Memory address

(d) None of these

(ii) A class which is derived from another derived class is _____ inheritance.

(a) Single

(b) Multiple

(c) Multilevel

(d) Hierarchical

(iii) _____ is used to check validity of XML document.

(a) XML declaration

(b) DTO

(c) Elements

(d) Entities

(iv) _____ defines a class of XML documents.

(a) XML Schema

(b) Namespace

(c) DTD

(d) CSS 2

(c) Answer in **one** sentence each :

(i) What is class template ?

(ii) What is file ?

(iii) What is empty element ?

(iv) What is XML schema ? 4

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

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

OR

3. (a) Explain the concept of pointer to object with suitable example. 6

(b) Write a program in C++ to perform overloading of assignment operator. 6

4. (a) Describe the concept of hierarchical and hybrid inheritance. 6

(b) Explain overloading of function template and give appropriate example. 6

OR

5. (a) What is derived class ? Describe syntax of derived class with suitable example. 6

(b) Explain the following with example :

(i) Class template

(ii) Single inheritance. 6

6. (a) Explain the concept of dynamic binding with example. 6

(b) Write a program segment how data is read from and write to the file. 6

OR

7. (a) What is virtual function ? What are the rules for virtual function ? 6

(b) State and explain different file modes with example. 6

8. (a) What is XML element ? Explain with example. Also state the naming rules. 6

(b) Explain the logical structure of XML elements with rules and example. 6

OR

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

(b) How the CSS can link with XML document ? Explain with example. 6

10. (a) What is DTD ? Explain internal and external DTD. 6

(b) Explain entities and their types. 6

OR

11. (a) Explain various element content models used in DTD with appropriate example. 6

(b) What is attribute ? Explain attribute types with example. 6

12. (a) Explain the features of XML schema. 6

(b) Explain the XML schema data types with example. 6

OR

13. (a) Compare XML schema with DTD. 6

(b) Explain the following with example :

(i) Namespace collision

(ii) Prefix namespace

(iii) Default namespace. 6

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