

AP-477

B.Sc. Part-II (Semester-IV) Examination
4S : 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 :

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(i) The operator used for dereferencing or indirection is _____.

(ii) XML element must have a _____.

(iii) Collection of homogenous data elements is called as _____.

(iv) XML schemas are successor of _____.

(B) Choose the correct alternative : 2

- (i) String * x,y; this statement means :
 - (a) x is a pointer to a string, y is a string
 - (b) y is a pointer to a string, x is a string
 - (c) Both x and y are pointers to string types
 - (d) None of above
- (ii) The syntax for comment in XML is :
 - (a) < ? --- this is comment --- ? >
 - (b) < ? --- this is comment --- >
 - (c) < ! --- this is comment --- >
 - (d) < # ! --- this is comment # >
- (iii) When a derived class inherits from many base classes, this process is known as :
 - (a) Multiple inheritance
 - (b) Multilevel inheritance
 - (c) Multiplex inheritance
 - (d) Default inheritance
- (iv) A document which adheres to XML syntax rule is called :
 - (a) A well formed XML document
 - (b) A well formed DTD document
 - (c) A well formed schema document
 - (d) A namespace

10. (a) Write an XML document with external DTD for message having elements such as To, From, Heading, Body. 6

(b) Explain entities and their types. 6

OR

11. (a) Explain the concept of CDATA with an example. 6

(b) Explain the element content model. 6

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

(b) Explain the terms default and prefix namespaces with an example. 6

OR

13. (a) How to create an XML schema ? Explain with an example. 6

(b) Explain the differences between DTD and Schemas. 6

- (C) Answer in **one** sentence : 4
- (i) What is derived class ?
 - (ii) What are Templates ?
 - (iii) What defines the rules of XML document ?
 - (iv) What are the types of DTD ?
2. (a) What is operator overloading ? State different rules for operator overloading. 6
- (b) What is array of objects ? Explain with suitable example. 6

OR

3. (a) Write a program to illustrate the use of 'this' pointer. 6
- (b) How to declare and initialize two dimensional array using C++ ? Explain in brief with an example. 6
4. (a) Explain the multiple inheritance with an example. 6
- (b) What is meant by Template ? Explain the need of using templates. 6

OR

5. (a) Explain the concept of Hybrid inheritance with suitable example. 6
- (b) Write a program in C++ to illustrate the use of Function Template. 6

6. (a) Describe the concept of pointer to derived class with a suitable example. 6
- (b) What is a pure virtual function ? State and explain the rules for virtual function. 6

OR

7. (a) How to open and close a file using C++ ? Explain with an example. 6
- (b) What is Polymorphism ? Explain in brief the types of polymorphism. 6
8. (a) Explain the rules for writing the XML document. 6
- (b) How to create a XML document ? Explain with an example. 6

OR

9. (a) Explain the term document prolog. 6
- (b) Create a XML document showing the address of two persons using comment having following elements :
- (i) Name
 - (ii) Street
 - (iii) Area
 - (iv) City
 - (v) District
 - (vi) State
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