

**MAHARASHTRA STATE BOARD SECONDARY AND HIGHER
SECONDARY EDUCATION, PUNE-411 005**

Subject : Computer Science (D9)

Question Paper : March - 2016

Paper - I

Time : 3 Hours

Max. Marks : 50

- Note :** (1) All questions are compulsory.
 (2) Draw the neat diagram wherever necessary.
 (3) Calculators are not allowed.
 (4) Programs with appropriate remarks and comments will be given due credit.
 (5) Figures to right indicate full marks.

Q. 1. (A) Select correct alternative :

- (a) BORDER is attribute used in _____ tag of HTML. 1
 (i) <PRE> (ii) <ADDRESS> (iii) <TABLE> (iv) <CAPTION>
- (b) In C++; double type data consumes _____ bytes in memory. 1
 (i) 2 (ii) 4 (iii) 6 (iv) 8
- (c) _____ is an Operating System. 1
 (i) VBSCRIPT (ii) UNIX (iii) C (iv) BASIC
- (d) Context Switching is a term related to _____ Management. 1
 (i) Process (ii) Memory (iii) Information (iv) Device

(B) Solve any two :

- (a) Explain why user is not allowed to directly interact with the Hard Disc. 3
 (b) State any 6 characteristics of Constructor. 3
 (c) Define: (i) File (ii) Record (iii) Key-field 3

Q. 2. (A) Solve any two :

- (a) Explain Virus Detection, Removal and Prevention. 3
 (b) What is Polymorphism? Explain Compile Time and Run Time Polymorphism. 3
 (c) State algorithm for inserting an element in an Array. 3

(B) Solve any one :

- (a) What is Operator Function? Explain difference between Operator Function as Member Function and as a Friend Function. 4
 (b) Explain Local Data and Global Data or variable in C++ using examples. 4

Q. 3. (A) Solve any two :

- (a) State characteristics of Friend Function. 3
 (b) Explain any three tags of HTML which do not have ending tags. 3
 (c) State features of WINDOWS - NT 3

(B) Solve any one :

- (a) Using examples explain how files are opened and closed in C++. State any four file modes. 4
 (b) Explain the process of Multiprogramming in Process Management with help of an example. 4

Q. 4. (A) Solve any two :

- (a) State three characteristics of Static Data. 3
 (b) Explain use of Memory Management Operators in C++. 3
 (c) What is a Record? How it is represented in Memory? 3

- (B) Solve any one :
- (a) What is Virtual Memory ? Explain any three terms related to virtual memory. 4
- (b) Explain following terms with respect to memory management : 4
- (i) Internal Priority (ii) External Priority (iii) Purchase Priority (iv) Time Slice
- Q. 5. Solve any two :
- (a) Write a program in C++ to print first 20 terms of Fibonacci Series (Series is - 0, 1, 1, 2, 3, 5, 8,) 5
- (b) Implement a class temperature. Include a constructor in it which accepts value of temperature from user in degree Celsius. Include two functions in it, one of which calculates its equivalent temperature in degree Fahrenheit and other function prints the answer : 5

$$\left[\text{Formula: } \frac{C}{5} = \frac{F - 32}{9} \right]$$

- (c) Write an HTML Code for following : 5

Year	Students		
	Boys	Girls	Total
2004	25	30	55
2005	80	25	105

Record

OR

- Q. 5. Solve any two :
- (a) Implement a class average. Include a constructor in it which will accept value of three variables from user. Include two more functions in it, one functions calculates average and other prints it. 5



Implement the above class hierarchy of inheritance. Class student accepts roll number of student, class marks accepts marks of three subjects and class result calculates the total and prints all details.

(Create object of class result)

- (c) Write an HTML Code for following output : 5

COLLEGE	← h1 and center
Principal • Vice Principal • Professors • Non-teaching Staff For more details click here	

(The words click here act or hyperlink to next page whose address is "C:\My Documents \ A1.HTML")