

Maharashtra Board

# Question Paper

## 2023

Class 12



HSC

QUESTION PAPER

Presented By

AGLASEM.COM

DAY - **16**

SEAT NUMBER

2023	III	14	1100	<b>V - 554</b>	(E)
<b>COMPUTER SCIENCE</b> <b>PAPER - I (D-9)</b>					
Time : 3 Hours		4 Pages		Max. Marks : 50	

- Instructions :**
- (1) All questions are compulsory.
  - (2) Figures to the right indicate full marks.
  - (3) Use of any type of calculator not allowed.
  - (4) Draw neat diagram wherever necessary.
  - (5) Header files and comments in C++ program are not necessary.

1. (A) Select the correct alternative and rewrite the following.:

(a) Wastage of memory space within the partition is called as \_\_\_\_\_.

1

- ☒ (i) Internal fragmentation
- (ii) External fragmentation
- (iii) Compaction
- (iv) Segmentation

(b) Data items that are divided into subitems are called as \_\_\_\_\_.

1

- ☒ (i) Group item
- (ii) Elementry item
- (iii) Nodes
- (iv) Arrays

(c) When a member function is defined inside the class, then it is treated as \_\_\_\_\_ function.

1

- (i) Inline
- (ii) Outline
- (iii) External
- ☒ (iv) Virtual

V-554]

1

[P.T.O.]

(d) Long form of IIREF is \_\_\_\_\_.

1

(i) Horizontal Reference

(ii) Hypertext Reference

(iii) Hyperlink Reference

(iv) Hypermedia Reference

(B) Answer any two of the following :

(a) Define following terms regarding data structure :

3

(i) Entity

(ii) Group item

(iii) Elementary item

(b) What is Binary Tree ? Draw a binary tree diagram of following mathematical expression :

3

$$E = (a^2 + bc^2) / d$$

(c) Explain the use of video RAM. Explain data byte and attribute byte.

3

2. (A) Answer any two of the following :

(a) Explain functions of each of following components of GUI :

3

✓(i) Title bar

✓(ii) Scroll bars

(iii) Minimize and Maximize or Restore button

(b) State any six principal advantages of object oriented programming.

3

(c) Explain page memory management system with a suitable Page Map Table (PMT).

3

(B) Answer any one of following :

(a) Define following :

4

(i) Track and Sector

(ii) Seek time

(iii) Transmission time

(iv) Rotational delay

(b) Write an algorithm for bubble sort with suitable example.

4

3. (A) Answer any two of the following :

- (a) What is Class ? Explain general form of class declaration. 3
- (b) Which are three main areas in O.S. divides it's services ? Write example of each. 3
- (c) What is Computer Worm ? Explain mode of operation of computer worm. 3

(B) Answer any one of the following :

- (a) Write any eight rules for operator overloading. 4
- (b) What is Searching ? Explain binary search algorithm with example. 4

4. (A) Answer any two of the following :

- (a) What is HTML ? State it's two advantages and disadvantages. 3
- (b) Differentiate between Class and Object. 3
- (c) Explain following tages of html with example : 3

(i) <Hr>

(ii) <PRE>

(iii) <Br>

(B) Answer any one of the following :

(a) Write functions of each of followings : 4

(i) ifstream

(ii) ofstream

(iii) filebuf

(iv) fstream

(b) Explain following tages of html with example : 4

(i) <B>

(ii) <UL>

(iii) <sup>

(iv) <img>



5. Answer any two of the following :

- (a) Write a C++ program which finds fibonacci series of 'n' terms. 5
- (b) Write a C++ program to find factorial of a number during execution by using constructor function. 5
- (c). Write a html code to produce following output : 5

Years	Students		
	Boys	Girls	Total
2011	30	20	50
2012	45	35	80
2013	55	75	130
2014	75	95	170

Record

OR

5. Answer any two of following :

- (a) Write a C++ program to find entered number is armstrong number OR NOT armstrong. 5
- (b) Implement a class average that accepts value of three float variables another function print() average of three numbers. 5
- (c) Write the exact output of following html program code with font specifications in bracket : 5

```
<html>
<body>
<Table border="2">
<TR> <TD Colspan = "2">
<H1 align = "center"> HSC Board Exam </H1>
</TD> </TR>
<TR> <TD align = "center"><u> PAPER.I </u>
</TD>
<TD align = "center"> <u>PAPER-II </u>
</TD> </TR>
<TR> <TD> <P align="center"> <i> 50 marks </i>
</P> </TD>
<TD align = "center"> <i> 50 marks </i>
</TD>
</TR>
</Table>
</Body>
</HTML>
```

V-554/4