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Roll No.

Date:

## NORTHWEST ACCREDITATION COMMISSION, USA

HIGH SCHOOL DIPLOMA (Sr. Secondary/12<sup>TH</sup>)

Subject- Computer Science (Practical)

Subject Code – PC410

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Question Paper No. :

Question Paper code:

### Important Instructions

**1. OPENING AND CHECKING OF THE QUESTION-BOOKLET**

Break open the seal of the Question-Booklet only when the announcement is made by the Invigilator. After

breaking the seal and before attempting the questions, student should immediately check for:

a) The number of the printed page in the Question-Booklet is the same as mentioned on the cover page of the Booklet and

b) Any printing error in the Booklet pages, if any.

Any discrepancy or error should be brought to the notice of the Invigilator who will then replace the Booklet.

No additional time will be given for this.

**2. No student, without the permission of the Superintendent, or the Invigilator concerned, is to leave his/**

her seat or the Examination Room.

**3. FILLING UP THE REQUIRED INFORMATION ON QUESTION-BOOKLET AND ANSWER SHEET**

After breaking open the seal and checking the Booklet, student should:

a) Fill up the **Question Paper No.** and **Question Paper Code** (mentioned on the cover of Question-Booklet) in the space provided on the First Answer Sheet.

b) Fill up his/her Roll Number on the First Answer Sheet and on each Supplementary Answer Sheet,

if taken.

- C) Student should mention the total number of **Supplementary Answer Sheet**, if taken, in the space provided on the First Answer Sheet and also fill up the Serial Number mentioned on each **Supplementary Answer Sheet** along with his/her Roll Number in the register maintained by the Invigilator. Student must tie all the Answer Sheets with the thread provided by the Invigilator.

#### 4. INSTRUCTIONS ABOUT QUESTION PAPER

- a) This Question Paper includes five questions. All questions are compulsory.  
b) All questions are carrying six marks each.

5. Student found in possession of Cellular Phone / Mobile Phone / Pager or any other Communication Device and/or any Book/Note whether using or not, will be liable to be debarred for taking examination(s) either permanently or for specified period or/and dealt with as per law or/and ordinance of the School/SERI according to the nature of offence, or/and he/she may be proceeded against and shall be liable for prosecution under the relevant provision of the Statutory Law.

TIME: 1:30 Hours.

TOTAL MARKS: 30

THE ANSWER SHEET IS TO BE RETURNED ON COMPLETION OF THE TEST

P.T.O.

|                                     |  |                        |
|-------------------------------------|--|------------------------|
| <b>Total number of questions: 5</b> | <b>Marks allocated to each question: 6</b> | <b>Total marks: 30</b> |
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Question 1. An array MAT [15] [7] is stored in the memory along the column with each element occupying 2 bytes of memory. Find out the base address and the address of element MAT [2] [5], if the location of MAT [5] [4] is stored at the address 100.

OR

Write a function in C++ to delete a node containing customer's information, from a dynamically allocated Queue of Customers implemented with the help of the following structure:

```
struct Customer
{
    int CNo;
    char CName[20];
    Customer *Link;
};
```

Question 2. Define a class CABS in C++ with the following specification:

Data Members

- . CNo - to store Cab No
- . Type - to store a character 'A', 'B' or 'C' as City Type
- . PKM - to store per Kilo Meter charges
- . Dist - to store Distance travelled (in KM)

Member Functions

- . A constructor function to initialize Type as 'A' and CNo as '1 | 1 | 1'
- . A function to assign PKM as per the following table:

| Type | PKM |
|------|-----|
| A    | 25  |
| B    | 20  |
| C    | 15  |

o A function RegisterQ to allow administrator to enter the values for CNo and Type. Also, this function should call Charges0 to assign PKM Charges.

. A function ShowCab0 to allow user to enter the value of Distance and display CNo, Type, PKM, PKM\*Distance (as Amount) on screen

OR

Write SQL statements for the following:

- (a) To display TEACHERNAME, PERIODS of all teachers whose periods are more than 25.
- (b) To display all the information from the table SCHOOL in descending order of experience.
- (c) To display DESIGNATION without duplicate entries from the table ADMIN.
- (d) To display TEACHERNAME, CODE and corresponding DESIGNATION from tables SCHOOL and ADMIN of Male teachers.

Question 3. Write PUSH(Names) and POP(Names) methods in python to add Names and Remove names considering them to act as Push and Pop operations of Stack.

OR

- (a) Differentiate between a Run Time Error and Syntax Error. Also give suitable examples of each in C++.
- (b) In the following C++ program what is the expected value of MyMarks from Options (i) to (iv) given below. Justify answer.

P.T.O.

```
#include<stdlib.h >
# include<iostream.h>
void main ()
{
    randomize ();
    int Marks [ ]= {99, 92, 94, 96, 93, 95}, MyMarks;
    MyMarks = Marks [1 + random (2) ];
    cout<<MyMarks<<endl;
}
```

- (i) 99
- (ii) 94
- (iii) 96
- (iv) None of the above

Question 4. Define a class named HOUSING in C++ with the following descriptions:

Private members

REG\_NO                      integer(Ranges 10 — 1000)  
NAME                         Array of characters(String)  
TYPE                         Character

COST

Float

Public Members

- Function Read\_Data ( ) to read an object of HOUSING type
- Function Display ( ) to display the details of an object
- Function Draw Nos ( ) to choose and display the details of 2 houses selected randomly from an array of 10 objects of type HOUSING Use random function to generate the registration nos. to match with REGNO from the array.

OR

(a) Write a function in C++ to print the count of the word is as an independent word in at text file DIALOGUE.TXT.

For example, if the content of the file DIALOGUE. TXT is

This is his book. Is this book good?

Then the output of the program should be 2.

(b) Given a binary file GAME.DAT, containing records of the following structure type

```
struct Game
{
    char GameName [20];
    char Participant [10] [30];
};
```

Write a function in C++ that would read contents from the file GAME.DAT and creates a file named BASKET.DAT copying only those records from GAME.DAT where the game name is "Basket Ball"

- Question 5. (a) Mention the names of functions accessible from the member function Read\_office\_details ( ) of class office.
- (b) What is the size of MyFurniture in bytes?
- (c) Create an object, such that it invokes Constructor I.
- (d) What is "this" pointer? Give an example to illustrate the use of it in C++.

OR

P.T.O.

Write a function bubble sort to sort the passed array of 10 integers in descending order using bubble sort.

END OF THE QUESTION PAPER