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Subject Code : 34

HY 23-C

**DISTRICT LEVEL INTERNAL EXAMINATION COMMITTEE**

**HALF-YEARLY EXAMINATION  
2023**

**COMPUTER SCIENCE (E)**

**CLASS - X**

Full Marks : 70

Pass Marks : 21

**Time : 3 hours**

*The figures in the margin indicate full marks for the questions*



5. Answer the following questions (any twelve) 2x12=24
- Write difference between MAC address and IP address.
  - How many types of functions are there in C ? What are they ?
  - Write a pseudocode to generate the following using nested loop.
 

```

X
X X
X X X
X X X X
X X X X X
      
```
  - Write any two difference between LAN and MAN network.
  - What is a base element ? Explain with a suitable example.
  - What is a NIC ? What are the different types of NIC ?
  - What do you mean by index and position of the array elements ? Explain with a suitable example.
  - What is a caller function and a callee function ? Give a suitable example to illustrate your answer.
  - Write a C program to store your name and your mother's name in two different strings and display them separately. <https://www.assamboard.com>
  - Write the indices of the first and the last element of the following array elements :
 

```
char city [ 9 ] = { ' G ' , ' U ' , ' W ' , ' A ' , ' H ' , ' A ' , ' T ' , ' I ' } ;
```
  - What happens when the condition of Do-While loop is wrong ? Explain with a suitable example.
  - Write any two features of functions in C.
  - Write a program strategy to find out the largest element in an array.
  - What is a nested loop ? How does the inner loop works inside a nested loop ?
6. Briefly write the answers for the following questions: 3x2=6
- Explain the three demerits of array.
  - Explain the different parts of a function with a suitable example.
7. Write descriptive answers to the following questions: 4x4=16
- Write a C programming code to generate the following output:
 

```

1
1 2 3
1 2 3 4 5
1 2 3 4 5 6 7
1 2 3 4 5 6 7 8 9
      
```

[ Contd.

- b) Write a C program to accept few elements in the array from the user and print the even numbers within the array and also count how many even numbers exists in the array. Calculate the sum of the even numbers.
- c) Write a C program and define a recursive function to find the summation of the first N natural numbers.
- d) Write a C programming code to find the factorial of any given number by the user using an user defined function.

1x4=4

8. Define the following terms:

- i. Third party client software
- ii. Loop
- iii. Library function
- iv. Return type of a function

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