Past Year Question 1

Subject: Computer Science

Full Marks: 50 **Time: 1 hour 30 minute**

Group "A"

1. Answer the following questions in one sentence: 6×1=6

a. What is web browser?

b. What is B2B model of e-commerce?

c. Which data type is used to store characters in MS-Access?

d. Which view is used to modify a table in MS-Access?

e. What is Modular Programming?

f. Write any two features of C language.

2. Write appropriate technical term for the following: 2×1=2

a. A security mechanism used on the internet.

b. Two or more computers connected with each other to share data and other resources.

3. Write the full form of the following: 2×1=2

i. UTP

ii. IRC

Group "B"

4. Answer the following questions: 9×2=18

a. Define data communication. What are the components of data communication?

b. What is computer ethics? Write any two of them.

c. What is hardware security? Write any two measures of software security.

d. What is m-Commerce? Write its two important services.

e. What is IoT? Write any two importance of it.

f. What is DBMS? Give any two examples.

g. What is primary key? List any two advantages of it.

h. What is data sorting? List any two advantages of using it.

i. What types of work is done in MS-Access using Form and query object?

5. Write down the output of the given program. Show with dry run in table. 2

```
DECLARE SUB FIBO ()
REM PROGRAM TO GENERATE 2, 2, 4,6,10… UPTO 10TH TERM.
CLS
CALL FIBO
END
SUB FIBO ()
A=2
B=2
FOR I = 5 TO 1 STEP -1
PRINT A; B;
    A=A+B
B=A+B
NEXT I
END SUB
```

6. Re-write the given program after correcting the bugs: 2

```
REM to display all the records from emp.dat file
OPEN "emp.dat" FOR APPEND AS #1
WHILE NOT FOE()
INPUT "Enter name";N
INPUT "Enter address";A
WRITE 1,N$,A$
PRINT N$, A$
LOOP
CLOSE #1
END
```

7. Study the following program and answer the given questions: 2×1=2

```
OPEN "Student.dat" FOR INPUT AS #1
OPEN "Temp.dat" FOR OUTPUT AS #2
INPUT "Enter name of the students "; Sn$
FOR I = 1 TO 10
INPUT #1, Nm$, Cl, A
IF Sn$ <> Nm$ THEN
WRITE #2, Nm$, Cl, A
```

END IF

NEXT I

CLOSE #1, #2

KILL "Student.dat"

NAME "Temp.dat" AS "Student.dat"

END

i. What is the main objective of the program given above?

ii. Do you get any problem in the above program if "Kill" statement is removed? Give reason.

Group "C"

8. Calculate / convert as per the instruction: 4×1=4

i. $(1011)_2 \times (101)_2 - (1011)_2 = (?)_2$

ii. $(10110)_2 \div (101)_2$

iii. $(BEEF)_{16} = (?)_8$

iv. $(235)_{10} = (?)_2$

9.

a. WAP in QBASIC that asks to input length and breadth of room and calculates its area and perimeter. Create a user-defined function to calculate area and sub-program to calculate perimeter.

Hint: [A = L × B], [P = 2[L + B] 4

b. A sequential data file called "Grade.txt" has stored data under the field heading Roll No., Name, Gender, English, Nepali and Computer. Write a program to display all the information of those students whose gender is "Female" and obtained marks in computer is more than 70. 4

10. WAP in C language that asks a number then print whether the number is odd or even. 4

Or

WAP in 'C' language to print Fibonacci series 1 1 2 3 5 8... up to 10^{th} terms.

Model Question 2

Subject: Computer Science

Full Marks: 50 **Time: 1 hour 30 minute**

Group "A"

1. Give answer in one sentence for the following questions: 6×1=6

a. Define topology.

b. What is digital citizenship?

c. Why table is called primary object of MS Access?

d. Which data type of MS Access is used to store photo, video?

e. What is modular programming?

f. List two data types used in C language.

2. Write appropriate technical terms for the following: 2×1=2

a. Network within a city

b. The use of computer technology to create a simulated environment.

3. Write the full forms of the following: 2×1=2

a. TCP/IP

b. CDMA

Group "B"

4. Answer the following questions: 9×2=18

a. Explain bus topology with diagram in brief.

b. Define e-commerce. List two examples.

c. What is encryption and decryption?

d. Write any four preventive measures for computer hardware security.

e. List two advantages of cloud computing.

f. What is database management? Give any two examples.

g. What is report? Write its uses.

h. List any four objects of MS Access.

i. Differentiate between primary and foreign key.

5. Write the output of the given program. Show with dry run in table. **2**

```
DECLARE SUB SERIES ()
CALL SERIES
END
SUB SERIES
A = 1
B=1
FOR I= 1 TO 5
PRINT A; B;
A=A+B
B=A+B
NEXT I
END SUB
```

6. Re-write the given program after correcting the bugs. **2**

```
REM to display all the record from data file "student.txt"
OPEN "student.txt" FOR OUTPUT AS #1
DO WHILE NOT EOF("student.txt")
INPUT #1,N$,A
PRINT N$,A
CLOSE 1
END
```

7. Study the following program and answer the given questions: **2×1=2**

```
DECLARE FUNCTION CHECK$(N)
INPUT N
PRINT CHECK$(N)
END
FUNCTION CHECK$(N)
IF N MOD 2 = 0 THEN
CHECK$="EVEN"
ELSE
CHECK$== "ODD"
END IF
END FUNCTION
```

a. Will the above program will execute if DECLARE FUNCTION is declared?

b. Why is $ sign used in the above function?

Group "C"

8. Calculate / convert as per the instruction: **4×1=4**

a. $(ABC)_{16}$ into Binary

b. $(492)_{10}$ into Octal

c. $(100101 - 11011)_2 \times (110)_2$

d. $(10110\ 101)_2$

9.

a. Write a program in QBASIC that allows user to enter a number and check whether the given number is odd or even using sub procedure and check given number is positive or negative using function procedure. **4**

b. A data file "rec.txt" contains some records under the heading roll, name, class. Write QBASIC program to search a record on the basis of entered roll. If data is not found, it should display "data is not present". **4**

10. Write C program to input a multi-digit number and calculate the sum of its individual digits. **4**

Or

Write C program that inputs a number and check whether the input number is Armstrong or not.

Answer for MODEL Question 2

2. a. Metropolitan Area Network (MAN)
   b. Virtual Reality (VR)
3. a. Transmission Control Protocol / Internet Protocol
   b. Code Division Multiple Access
5. DRY RUN

For I	Print A	Print B	A = A + B	B = A + B
1	1	1	A = 1 + 1 = 2	B = 2 + 1 = 3
2	2	3	A = 2 + 3 = 5	B = 5 + 3 = 8
3	5	8	A = 5 + 8 = 13	B = 13 + 8 = 21
4	13	21	A = 13 + 21 = 34	B = 34 + 21 = 55
5	34	55	A = 34 + 55 = 89	B = 89 + 55 = 144
FINAL SERIES = 1 1 2 3 5 8 13 21 34 55				

6. AFTER DEBUG

```
OPEN "student.txt" FOR INPUT AS #1
DO WHILE NOT EOF(1)
   INPUT #1, N$, A
   PRINT N$, A
LOOP
CLOSE #1
END
```

7. a. Will the above program will execute if DECLARE FUNCTION is declared?
   No, it will not run until we change CHECK$= "ODD"
   b. Because ODD is string types of data therefore, we must put $ sign
9. a.

```
DECLARE SUB CHECK(N)
DECLARE FUNCTION CHECK$(N)
CLS
INPUT "ENTER NUMBER"; N
CALL CHECK(N)
PRINT "IT IS "; CHECK$(N)
END
SUB CHECK (N)
   IF N MOD 2 = 0 THEN
      PRINT "IT IS EVEN"
   ELSE
      PRINT "IT IS ODD"
   END IF
END SUB
FUNCTION CHECK$ (N)
   IF N > 0 THEN
      CHECK$ = "POSITIVE"
   ELSE
      CHECK$ = "NEGATIVE"
   END IF
END FUNCTION
```

   b.

```
OPEN "rec.txt" FOR INPUT AS #1
INPUT "Enter roll no. tO search"; SR
DO WHILE NOT EOF(1)
   INPUT #1, ROLL, NAME$, CLASS
   IF ROLL = SR THEN
      PRINT ROLL, NAME$, CLASS
   ELSE
      PRINT "DATA IS NOT PRESENT"
   END IF
LOOP
CLOSE #1
END
```

10.

```
#include <stdio.h>
 #include <conio.h>
int main()
{
   int num, sum = 0, rem;
   printf("Enter a number: ");
   scanf("%d", &num);
   while (num != 0)
   {
      rem = num % 10;
      sum = sum + rem;
      num = num / 10;
   }
   printf("Sum of digits of the number is %d", sum);
   getch();
   return 0;
}
```

SEE Board Exam 2079

समय : १ घण्टा ३० मिनेट

SEE 2079 (2023) ऐच्छिक द्वितीय कम्प्युटर विज्ञान

पूर्णाङ्क : ५०

समूह क **(Group A)**

१. तलका प्रश्नहरुको एक वाक्यमा उत्तर दिनुहोस् :

Answer the following questions in one sentence: 6×1=6

(क) नेटवर्क प्रोटोकल भनेको के हो ? What is network protocol?

(ख) इ-कमर्स भनेको के हो ? What is e-commerce ?

(ग) एम्.एम्. एक्सेसमा टेक्स्ट फिल्डको डिफल्ट साइज कति हो ?
What is the default size of text field in MS-Access?

(घ) एम्.एस्. एक्सेसमा कुन डाटा टाइपमा फोटो भण्डारण गर्न अनुमति दिन्छ ?
Which data type is used to store photo in MS-Access?

(ङ) Looping भनेको के हो ? What is Looping?

(च) C-Programming ल्याङ्गवेजमा प्रयोग गरिने कुनै दुईओटा data type हरु उल्लेख गर्नुहोस् ।
List any two data types used in C-programming language.

२. उपयुक्त प्राविधिक शब्द लेख्नुहोस् :

Write appropriate technical term for the following: 2×1=2

(क) भाइरस हटाउन सक्ने प्रोग्राम
A program that can disinfect a file from virus.

(ख) विद्युतीय माध्यमबाट हुने सिकाइ
Learning through the electronic media.

३. पूरा रुप लेख्नुहोस् :

Write the full form of the following. 2×1=2

(क) G2G

(ख) ISP

समूह ख **(Group B)**

४. तलका प्रश्नहरुको उत्तर दिनुहोस् :

Answer the following questions: 9×2=18

(क) नेटवर्क टोपोलोजी भनेको के हो? नेटवर्क टोपोलोजीको कुनै दुई प्रकार सूचीबद्ध गर्नुहोस्।
What is network topology? List any two types of network topology.

(ख) एन्टिभाइरस सटवेयर के हो? कुनै दुई लोकप्रिय एन्टिभाइरस सटवेयरको नाम लेख्नुहोस्।
What is antivirus software? Name any two popular antivirus softwares.

(ग) साइबर कानुन र साइबर अपराध भनेको के हो?
Define cyber law and cybercrime.

(घ) भर्चुअल रियालिटीको परिभाषा लेख्नुहोस्। भर्चुअल रियालिटी प्रयोग भएको कुनै दुई क्षेत्र लेख्नुहोस्।
Define virtual reality. Write any two areas where virtual reality is used.

(ङ) पासवर्ड भनेको के हो? पासवर्ड सुरक्षाको कुनै दुई महव लेख्नुहोस्।
What is password? Write any two importance of password protection.

(च) DBMS भनेको के हो? एम्.एस्. एक्सेसको चार अब्जेक्टहरुको नाम लेख्नुहोस्।
What is DBMS? Write four objects of MS-Access.

(छ) भेलिडेसन टेक्स्ट र भेलिडेसन रुल भनेको के हो?
What are validation text and validation rule?

(ज) Form भनेको के हो? यसका दुई फाइदाहरु लेख्नुहोस्।
What is form? Write two advantages of it.

(झ) रेकर्ड भनेको के हो? रेकर्डमा प्राइमरी की किन आवश्यक छ?
What is record? Why is primary key necessary in record?

५. तल दिइएको प्रोग्रामको आउटपुट लेख्नुहोस् :

Write down the output of the given program: 2

```
DECLARE SUB Series (A)
CLS
A=20
CALL Series (A)
END
SUB Series (A)
FOR K= 1 to 5
PRINT A;
A= A+10
```

```
NEXT K
END SUB
```

६. तल दिइएको प्रोग्राममा रहेका गल्तीहरुलाई सच्याएर पुनः लेख्नुहोस्।

Re-write the given program after correcting the bugs:

```
REM program to make a word reverse
DECLARE FUNCTION Rev$ (N$)
CLS
LNPUT "Enter a word"; N$
DISPLAY "Reversed is"; Rev$ (N$)
END
EUNCTION Rev$ (N$)
FOR K = LEN$ (N$) To 1 STEP-1
B$ = B$+MID$ (N$,1, K)
NEXT K
B$= Rev$
END FUNCTION
```

७. तल दिइएको प्रोग्रामलाई अध्ययन गरी दिइएका प्रश्नहरुको उत्तर दिनुहोस् :

Study the following program and answer the given questions: 2×1=2

```
DECLARE FUNCTION SUM (N)
CLS
INPUT "Enter any number"; N
X=SUM (N)
PRINT "The sum of individual digit is "; X
END
FUNCTION SUM (N)
WHILE N<>0
WEND
R=N MOD 10
S=S+R
N=INT (N/10)
SUM=S
END FUNCTION
```

(क) INT को कार्य लेख्नुहोस्। Write the function of INT.

(ख) **N** को मान ज्ञद्दघ हुँदा WHILE... WEND लुप कति पटक दोहोरिन्छ?

How many times does the WHILE... WEND loop repeat if the value of N is 123?

समूह ग (Group C)

८. निर्देशनअनुसार रुपान्तर र हिसाब गर्नुहोस् :

Convert/Calculate as per the instruction: 4×1=4

(i) $(10110011)_2 = (?)_{16}$

(ii) $(410)_{10} = (?)_2$

(iii) $(1001+110)_2 - (1000)$

(iv) $(10110)_2 + (101)_2$

९. तलका प्रश्नहरुको उत्तर लेख्नुहोस् :

Answer the following questions. 4×2=8

(क) कुनै एक वृत्तको अर्धव्यास मागी उक्त वृत्तको क्षेत्रफल र परिधि पत्त लगाउने तद्यब्क्ष्क्ष् भाषाको प्रयोग गरी प्रोग्राम लेख्नुहोस्। क्षेत्रफल गणना गर्न युजर डिफाइन्ड फङ्सन र परिधि गणना गर्न सब-प्रोग्राम बनाउनुहोस्।

Write a program in QBASIC that asks radius of a circle to calculate its area and circumference. Create a user-defined function to calculate area and sub-program to calculate circumference. [HINT A = πr2, C= 2πr]

(ख) "Record.dat" भन्ने सिक्वेन्सियल डाटा फाइलमा Roll No., Name, Gender, English, Nepali, Maths computer field data USR गरेर राखिएको छ । त्यस data file बाट English मा 40 भन्दा बढी अङ्क भएका विद्यार्थीहरुको रेकर्ड प्रिन्ट गर्ने प्रोग्राम लेख्नुहोस्।

A sequential data file called "Record.dat" has stored data under the field headings: Roll No., Name, Gender, English, Nepali, Maths and Computer. Write a program to display all the information of those students whose marks in English is more than 40.

१०. सी ल्याङ्ग्वेजमा एउटा प्रोग्राम लेख्नुहोस् जसले कुनै दुई सङ्ख्या मागी उक्त सङ्ख्या मागी उक्त सङ्ख्या मध्ये ठुलो सङ्ख्या देखाउँछ।

Write a program in C-language that asks any two numbers and displays the greatest among them. 4

jf (OR)

सी ल्याङ्ग्वेजको प्रयोग गरी दिइएको अनुक्रमको योगफलसहित देखाउने प्रोग्राम लेख्नुहोस्। ज्ञ,द्द,घ,द्ध ॥॥, दशौं पदसम्म।

Write a program in C-language to display the series with their sum. 1,2,3,4......, up to 10th term.

Answer for SEE Board Exam 2079

2. A program that can disinfect a file from virus. → Antivirus Software

   Learning through the electronic media. → E-Learning

3. Write the full form of the following.

   G2G → Government To Government

   ISP → Internet Service Provider

5.
```
CLS
A = 20
CALL Series(A)
END
SUB Series (A)
   FOR K = 1 TO 5
      PRINT A;
      A = A + 10
   NEXT K
```

Variable A	For Loop K	Print A	A = A +10
20	1	20	A = 20 + 10 = 30
30	2	30	A = 30 + 10 = 40
40	3	40	A = 40 + 10 = 50
50	4	50	A = 50 + 10 = 60
60	5	60	A = 60 + 10 = 70
LOOP OVER AND THEN IT PRINTS 20 30 40 50 60			

6. Re-write the given program after correcting the bugs:

REM program to make a word reverse DECLARE FUNCTION Rev$ (N$) CLS LNPUT "Enter a word"; N$ DISPLAY "Reversed is"; Rev$ (N$) END EUNCTION Rev$ (N$) FOR K LENS (N$) To 1 STEP-1 B$-B$+MIDS (N$,1, K) NEXT K B$= Rev$ END FUNCTION	REM program to make a word reverse DECLARE FUNCTION Rev$ (N$) CLS INPUT "Enter a word"; N$ PRINT "Reversed is"; Rev$(N$) END FUNCTION Rev$ (N$) FOR K = LEN(N$) TO 1 STEP -1 B$ = B$ + MID$(N$, K, 1) NEXT K Rev$ = B$ END FUNCTION

7. (क) INT returns numeric integer.

   (ख) It repeats 3 times only.

9. (क)
```
DECLARE FUNCTION area(p,r)
DECLARE SUB circum(p,r)
CLS
p = 3.14
INPUT "Enter value for r"; r
PRINT "Area is"; area(p, r)
CALL circum(p, r)
END
FUNCTION area (p, r)
   a = p * r * r
   area = a
END FUNCTION
SUB circum (p, r)
   c = 2 * p * r
   PRINT "Circumference is "; c
END SUB
```

   (ख)
```
OPEN "Record.dat" FOR INPUT AS #1
CLS
DO WHILE NOT EOF(1)
   INPUT #1, N$, G, E, N, M, C
   IF ENG > 40 THEN
      PRINT N$, G, E, N, M, C
   END IF
LOOP
CLOSE #1
END
```

10.
```
#include <stdio.h>
#include<conio.h>
int main()
{
```

```
    int num1,num2;
    clrscr();
    printf("Enter two numbers: ");
    scanf("%d %d", &num1,&num2);
    if (num1>num2)
    {
       printf("%d is the greatest number",num1);
    }
    else
    printf("%d is the greatest number",num2);
    getch();
    return 0;
}
```

OR

```
#include <stdio.h>
#include<conio.h>
int main()
{
   int i,sum;
   clrscr();
   for (i=1;i<=10;i++)
   {
   sum=sum+i;
   printf("%d ",i);
}
printf("\nThe sum is %d",sum);
   getch();
   return 0;
}
```


New grid for SEE Class 10 Computer Science

Chapter	Very Short (1 mark each)	Short (2 marks each)	Long (4 marks each)	Total
Computer Fundamental	6×1=6 (2 QnA, 2 technical Term, 2 Full Form)	5×2=10 (5 QnA)	1×4=4 (Number System)	20 marks
DBMS	1×1=1 (1QnA)	4×2=8 (4 QnA)	-	10 marks
QBASIC	1×1=1(1QnA)	3×2=6 (Output, Debug, QnA)	2×4=8 (WAP Sub or Function and File Handling)	15 marks
C-Programming	1×1=1(1QnA)	-	1×4=4 (WAP in C)	5 marks
Total	10 questions	12 questions	4 questions	50 marks