

PABSON 2080 (Karnali/Sudurpaschim)

Opt. II Computer Science

Time: 2 hours

Full Marks: 50

Candidates are required to give their answer according to the given instructions.

Attempt all questions.

Group 'A'

1) Answer the following questions in one sentence. [6×1=6]

- a) What do you mean by primary key?
- b) What is a database? Give example.
- c) Define cyber ethics.
- d) Write any two keywords used in C-programming.
- e) What do you mean by B2C model of e-commerce?
- f) What is the function of INT() in QBasic programming?

2) Write appropriate technical term for the following. [2×1=2]

- a) The device that is used to connect two networks with different communication protocols.
- b) A person who breaks computer security and uses a computer and file present in it.

3) Write the full form of the following. [2×1=2]

- a) VOIP
 - b) WLAN
-

Group 'B'

4) Answer the following questions. [9×2=18]

- a) What is computer network architecture? Mention its types.
- b) What do you mean by digital signature? Why is it important?
- c) What is a firewall? Enlist the types of firewall.
- d) Differentiate between computerized and non-computerized databases.
- e) What is AI? Enlist two application areas of AI.
- f) What is hardware security? Enlist any two measures to protect it.
- g) What is field property in MS-Access? Enlist any four of them.
- h) What is Indexing? Why form and report are used in MS-Access?
- i) What is Query? Write the types of Action Query.

5) Write the output of the given program. (workout with a dry-run table) [3]

```
DECLARE SUB Show ( )  
CLS  
CALL Show  
END
```

```
SUB Show  
C = 3  
B = 2  
FOR I = 2 TO 8 STEP 2  
PRINT C;  
SWAP B, C  
B = C + 1  
NEXT I  
END SUB
```

6) Rewrite the given program after correcting bugs. [3]

```
REM To add a few records in the existing data file  
CLS  
OPEN "emp.dat" FOR OUTPUT AS #2  
DO
```

```

INPUT "Enter Employee Name, Post, Salary"; EN$, POST$, SALARY
PRINT #2, EN$, POST$, SALARY
INPUT "ADD MORE RECORDS (Y/N)?"; C
LOOP WHILE LCASE$(C$) = "Y"
CLOSE #1
END

```

7) Study the following program and answer the given questions. [2]

```

DECLARE FUNCTION SUM(N)
CLS
INPUT "Enter a number"; N
X = SUM(N)
PRINT "The sum of individual digits is"; X
END

```

```

FUNCTION SUM(N)
WHILE N <> 0
R = N MOD 10
S = S + R
N = INT(N/10)
WEND
SUM = S
END FUNCTION

```

Questions:

- Name the user defined function in the above program.
 - How many times the WHILE WEND loop repeats if the value of N is 1234?
-

Group 'C'

8) Calculate or convert as per the instructions. [4×1=4]

- $(CA)_{16} = (?)_{10}$
- $(652)_{10} = (?)_8$
- $(10101)_2 \times (11)_2 - (1110)_2$

d) $(111011)_2 \div (100)_2$

9) Answer the following. [2×4=8]

- a) Write a program in QBasic to input a radius, create a user defined function to calculate the volume of hemisphere and total surface area (TSA) of the sphere using sub procedure.
- b) A sequential data file "record.dat" contains the name, address, salary of employees, and displays the record of those whose salary is more than 37000 and whose name ends with "DHA".

10) Write a C program to input a character and check whether it is vowel or consonant. [4]

OR

Write a program in C language to input a number and check whether it is a palindrome or not.