

SEE MODEL SET 1 2080

Optional II [Computer Science]

Time : 2 hrs Full Marks: 50

Group 'A'

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

- a) Which device is used to connect PC with telephone line?
- b) What is the vision of IT Policy of Nepal 2072?
- c) Which view is used to modify a record in MS-Access?
- d) What is the default field size of "AutoNumber" data type?
- e) List the modes of operations for opening a sequential file.
- f) Write the name of two selection statement used in C language.

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

- a) The network security systems that monitor and controls the traffic flow between the Internet and private network.
- b) An intelligent device that has ability to determine the best possible path for data transmission.

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

- a) PaaS
- b) EFT

Group B

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

- a) Mention differences between client/server architecture and peer to peer architecture of the network.
- b) What is a digital footprint? Share your thoughts about cyberbullying.
- c) What is Online Payment? Write any four forms of e-payment in Nepal.
- d) What are security threats? Write down any four possible threats to computer security.
- e) How can public get benefited from the e-governance services?
- f) What is MS-Access? Give any two examples of DBMS.
- g) What is foreign key? Why is it important to specify primary key in database?

- h) What is filtering. List any two advantages of sorting.
i) Differentiate between Select query and Action query.

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

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

```
SUB SERIES( )  
X#=11111  
FOR I= 1 TO 5  
PRINT X#^2  
X# = (X# - 1) / 10  
NEXT I  
END SUB
```

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

```
REM To find the sum of even digits of multi digits number  
DECLARE FUNCTION SUM (N)  
CLS  
ACCEPT "ENTER MULTI-DIGITS NUMBER "; NUM  
PRINT "SUM = " ; SUM(N)  
END
```

```
FUNCTION SUM(N)  
WHILE N=0  
R= N MOD 10  
IF R MOD 2 = 0 THEN S=S+R  
N = N \ 10  
WEND  
SUM (N) =S  
END FUNCTION
```

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

- a) Write the names of two built in functions used in the program.
b) List the real parameter and formal parameter in the program.

8. Convert/Calculate as per the instruction. [4×1=4]

- i) $(1011000101)_2 = (?)_{16}$
ii) $(4816)_{10} = (?)_8$

iii) $(1011)_2 \times (110)_2 - (1011)_2 = (?)_2$

iv) $(1011010)_2 \div (111)_2$

9.

a) Write a program in QBASIC that asks radius of a circle and calculate its curved surface area and volume of hemisphere. Create a user - defined function to calculate volume of hemisphere and sub procedure to calculate curved surface area. [**CSA=2πr², Volume= 2πr³/3**] [4]

b) A sequential data file called "rec.dat" has several records having fields name, roll and class. Write a program to copy all the records of class 10 into a newly created file "new.dat". [4]

10. Write a program in C language to ask a number and check whether it is a multiple of 5 or not. [4]

OR

Write a program in 'C' language to display the series 2, 8, 18, 32,..... up to 10th terms.