Or,

(b) What are the main advantages of using a database system and how does database system differ from traditional file system ? 5

4. Briefly discuss different layers of TCP/IP model.

How it is better than OSI reference model ?

5+5=10

5. (a) What is maximum data rate of 6 KHz channel with signal-to-noise ratio 40 dB ?

(b) Write down the differences between connection-less and connection oriented services. 5+5=10

6. (a) What is shortest path routing ? What do you mean by character suffering ?

(b) Explain shortest path routing. 5×2=10

7. Write short notes on any *two* : 5×2=10

(i) TCP

(ii) DNS

(iii) Proxy Server

(iv) IP addresses.

8. What are the different classes of IP addresses ? Discuss each with examples.

What do you mean by sub-neting?

What is classless IP address ? 5+3+2=10

2012

COMPUTER SCIENCE (General)

Seventh Paper

Group - A

Full Marks : 50 Time : Three Hours

The figures in the margin indicate full marks.

Answer any *five* questions .

1. (a) Explain the following terms :

(i) Data

(ii) Database

(iii) DBMS.

(b) Briefly explain different components of a DBMS and inter relations between the components with a suitable diagram. Discuss data integrity. 6+3+1=10

2. (a) What are entities ? Mention, with example, the different types of relationships among the entity sets.

(b) What are physical and logical dependencies? Discuss their implication in database design. 5+5=10

3. (a) Write down the general features of SQL to perform operations of relational algebra. Is SQL a relationally complete language ? 5

(b) Discuss with example, the record structures in indexed sequential a B-tree file organisation. 5

P.T.O.

5. (a) Write a program in VB to print the following outputs :

```
1
0 1
1 0 1
0 1 0 1
1 0 1 0 1
```

(b) Define topology. Discuss different types of topology used in network. 5+5=10

6. (a) Explain three main responsibility of DBA.

(b) Discuss the advantages of Internet.

(c) Explain : Switch, Gateway. 3+3+4=10

7. (a) Write a program in VB to find first ten Fibonacci Numbers.

(b) Define DDL and DML.

(c) Differentiate between Lan and WAN. 5+2+3=10

P-III (1+1+1)G/13

2013

COMPUTER SCIENCE (General)

Seventh Paper

Full Marks : 50 Time : Two Hours

The figures in the margin indicate full marks.

Answer any *five* questions.

1. (a) What is normalization ? Explain 1 NF, 2 NF, 3 NF and BCNF with example.

(b) What is implicit and explicit declarations of variables in VB ? 6+4=10

2. (a) Give a comparison among hierarchical, network, and relational database model.

(b) Why VB is called event-driven programming language ? 6+4=10

3. (a) Briefly discuss different layers of OSI reference model.

(b) Explain loop-structures in VB. 6+4=10

4. (a) Define Relational Database System. Give its utility with example.

(b) Draw an E-R diagram of a typical library database. 5+5=10

P.T.O.

```
1
1  2
1  2  3
1  2  3  4
```

(b) What is the difference between Procedure Oriented Programming and Object Oriented Programming ? 5+5

5. (a) Describe elements of user interface in VB.

(b) Describe ISDN and Modem OR mac-address and ip-address.

(c) What is ARP and RARP ? 4+3+3

6. (a) What is Data dictionary and RDBMS ?

(b) Write a program in VB which detect a string is palindrome or not. 3+2+5

7. Write short notes on (any *two*) : 5×2=10

(i) TCP/IP

(ii) ICMP

(iii) Normalization in Database

(iv) Concept of keys in query

(v) Visual programming

(vi) Variables in VB.

2014

COMPUTER SCIENCE (General)

Seventh Paper

Full Marks : 50 Time : Two Hours

The figures in the margin indicate full marks.

Answer any *five* questions.

1. (a) Write difference between file system and DBMS.

(b) What is WWW and electronic mail ?

(c) What is RPC ? 4+3+3

2. (a) Write short-notes on DCL, DML and DDL.

(b) How we Grant or Revoke Privileges in DBMS.

(c) Distinction between Natural join and Outer join. (2×3)+2+2

3. (a) Define two layer 3 devices briefly. (Layer 3 is according to OSI reference model layer). Why is it open system ?

(b) What is Switch and Access point ? (3+3)+(2+2)

4. (a) Write a VB program which will give following out put.

P.T.O.