

Total number of printed pages-4

53 (CS 402) CPNT

2017

COMPUTER NETWORKS

Paper : CS-402

Full Marks : 100

Time : Three hours

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

Answer **any five** questions out of seven.

1. (a) Explain how guided media is different from an unguided media. Briefly discuss *any four* types of media used for data transmission taking two from each group. 2+10=12

- (b) Define the following : 4×2=8
 - (i) Repeater
 - (ii) Bridge
 - (iii) Router
 - (iv) Gateway.

Contd.

2. (a) Switch is an intelligent device whereas hub is not. Justify the statement.

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(b) Describe stop-and-wait mechanism for a noisy channel. What is the main disadvantage of a stop-and-wait protocol ?

6+2=8

(c) Explain the steps involved in Internet checksum method of error detection with the help of an example.

8

3. (a) When do collisions occur ? How does CSMA/CD detect and handle collision ?

2+6=8

(b) Define — FDMA and TDMA.

2+2=4

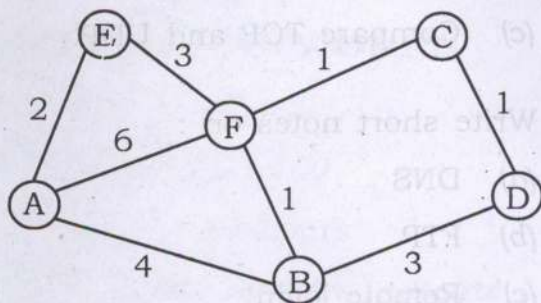
(c) Discuss CDMA with the help of an example.

8

4. (a) What do you mean by connection oriented and connectionless service ?

2+2=4

- (b) Consider the following system where nodes are representing routers and edges are representing links between them. 12



Use distance vector routing to create the routing tables for the different routers. Show each step explicitly.

- (c) What are the advantages of link state routing over distance vector routing? 4
5. (a) Explain link state routing with the help of an example. 10
- (b) Discuss the various congestion control mechanisms. 10
6. (a) List out the various transport layer services. 10

(b) Describe how connection establishment is done in TCP by the help of 3-way handshaking. 5

(c) Compare TCP and UDP. 5

7. Write short notes on : 4×5=20

(a) DNS

(b) FTP

(c) Remote login

(d) Email.