

Total No. of printed pages = 3

Et-602/DC&N/6th Sem/2015/M

**DATA COMMUNICATION AND
NETWORKING**

Full Marks – 70

Pass Marks – 28

Time – Three hours

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

Answer any *five* questions.

1. (a) Draw a neat block diagram of a communication system and discuss about the different types of wired links that may be used for data transmission.

- (b) Differentiate between : 1+9+2+2=14
 - (i) Synchronous and Asynchronous data
 - (ii) Baseband and Broadband communication.

[Turn over

2. (a) Discuss in brief the working of an UART.

(b) What is an interface ? Also state the important features of RS-232C and RS-449 standards.

(c) Define the term 'protocol'. $6+6=2=14$

3. (a) What do you understand by the term "Modem" ? Write about the different operating modes in it.

(b) Define the term 'Computer Network'. Draw neat sketches for different topologies that may be used for data transmission in a WAN.

$2+4+2+6=14$

4. (a) State the principles based on which the OSI model has been created with seven layers for communication.

(b) Draw a neat block diagram of the OSI model.

(c) State in brief the main functions of the different layers in the above mentioned model. $3+4+7=14$

5. (a) What are the different IEEE standards for LAN and discuss the features of any one among them.

(b) Explain how the CSMA / CD protocol can help in the transmission of data.

$$3+4+7=14$$

6. (a) State the importance of Gateways, Bridges and Hubs in data communication.

(b) What are the different components of ISDN? Write in brief.

(c) Write the important features of broadband ISDN.

$$6+6+2=14$$

7. Write short notes on any *two* : $7+7=14$

(i) USART

(ii) Telephone system

(iii) Frame format

(iv) TCP / IP.