First Semester B. Sc. (Information Technology) Examination

DATA COMMUNICATION AND NETWORKI

Paper –– III

Time : Three Hours] [Max. Marks : 50

N. B. : (1) All questions are compulsory and carry equal marks.
(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (a) Explain OSI model. 5

(b) Write short notes on :—

(i) Analog modulation system.

(ii) Digital modulation. 5

OR

(c) Explain serial and parallel data transmission with example. 5

(d) What is Data Communication ? Explain data commu-nication circuit in detail. 5

EITHER

2. (a) Describe advantages and disadvantages of Optical Fiber. 5

(b) Write short note on :—

(i) Pulse modulation.

(ii) Metallic transmission lines. 5

OR

(c) Explain with example characteristics of electromagnetic waves. 5

(d) Classify and Explain optical fiber modes. 5

EITHER

3. (a) Explain Satellite Communication Systems. 5

(b) Write short notes on :—

(i) Spherical wavefront.

(ii) Data Communication Codes. 5

OR

(c) Explain Electromagnetic polarisation in detail. 5

(d) What are Optical Properties of Radio Waves ? Explain. 5

EITHER

4. (a) Explain IEEE project 802. 5

(b) Explain collision and Broadcast Domain in detail. 5

OR

(c) Explain Network Topologies in detail. 5

(d) Write short notes on :—

(i) MAC sublayer.

(ii) Transmission formats. 5

5. (a) What is bit rate Baud rate ? Explain.

(b) Explain electromagnetic spectrum and electromagnetic polarisation.

(c) What is M-ary encodings ? Explain.

(d) Explain microwave Communication System.

$2\frac{1}{2} \times 4 = 10$