

Bachelor of Science (B.Sc. I.T.) Semester-III Examination

DATA COMMUNICATION AND NETWORK—I

Paper—III

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (a) Explain Presentation Layer and Application Layer in OSI model. 5
- (b) Explain protocols and standards in detail. 5

OR

- (c) Write a note on :
 - (i) Signal Analysis
 - (ii) Digital Modulation. 5
- (d) Write a note on serial and parallel data transmission. 5

EITHER

2. (a) Differentiate between pulse modulation and pulse code modulation. 5
- (b) Explain transverse electromagnetic waves. 5

OR

- (c) Explain linear versus non-linear PCM codes. 5
- (d) Explain propagation of light through an optical cable. 5

EITHER

3. (a) Explain electromagnetic polarization in detail. 5
- (b) Explain any two error detection and correction code. 5

OR

- (c) Explain line control unit in detail. 5
- (d) Describe optical properties of Radio waves. 5

EITHER

4. (a) Explain IEEE project 802 in detail. 5
- (b) Discuss Collision and Broadcast domains in detail. 5

OR

- (c) Explain access control methodologies in detail. 5
- (d) What are transmission formats ? Explain with example. 5

5. (a) What is Bit rate and Baud rate ? 2½
- (b) Explain metallic cable. 2½
- (c) Write short note on free space path loss. 2½
- (d) Write short note on topologies. 2½