

FACULTY OF ENGINEERING
B.E.(IT) IV - Semester (AICTE) (New) (Main) Examination,
September/October 2022

Subject: Data Communication

Time: 3 Hours

Max. Marks: 70

- Note:** (i) First question is compulsory and answer any four questions from the remaining six questions. Each Questions carries 14 Marks.
(ii) Answer to each question must be written at one place only and in the same order as they occur in the question paper.
(iii) Missing data, if any, may be suitably assumed

1. (a) Draw Block diagram of Communication Model.
(b) Define Protocol.
(c) What is a layered model.
(d) Write the functions of Data link layer.
(e) Differentiate between Analog and Digital transmission.
(f) Differentiate between FDM and TDM.
(g) Differentiate between first generation and second generation cellular systems.

2. Discuss Data encoding techniques to implement Digital data analog signals transmission system with a neat block diagram

3. (a) For each of the following applications, determine whether TCP or UDP is used as the transport layer protocol and explain the reason(s) for your choice
(i) File Transfer
(ii) Watching a real time streamed video
(iii) Web browsing
(iv) A Voice over IP (VoIP) telephone conversation
(v) YouTube video
(b) What is flow control? Explain sliding window flow control mechanism.

4. (a) What is Multiplexing? Differentiate between FDM and TDM.
(b) What are the differences between ADSL and xDSL.

5. Discuss in detail about CSMA/CD.

6. Discuss architecture and protocols of Zigbee.

7. (a) What is a cellular network? Differentiate between first generation and second generation cellular systems.
(b) Explain frame relay in detail.
