

N.B.: (1) Question No. 1 is compulsory.

(2) Answer any three questions from the remaining five questions.

(3) Assume suitable data wherever required.

(4) Figures to the right indicate full marks.

- Q. 1 Answer any FIVE of the following. [15]
- A What is Frequency Modulation (FM)? Draw its waveform. [03]
 - B State the Sampling theorem and explain its significance in digital communication. [03]
 - C What is OSI model? List its different layers. [03]
 - D How handover (handoff) is related to base station in mobile communication. [03]
 - E What is dispersion in Fiber-Optical Communication? [03]
 - F State advantages of satellite communication. [03]
- Q. 2 A Illustrate basic communication system with a neat block diagram. [08]
- B Illustrate the working of mobile communication system with a neat diagram. [07]
- Q. 3 A Sketch a neat block diagram of Pulse Code Modulation (PCM) and explain it in brief. [08]
- B Define critical angle and hence demonstrate with a neat sketch reflection and refraction in optical fiber communication with its examples. [07]
- Q. 4 A What is Analog Modulation? Explain Amplitude modulation with a block diagram and suitable waveforms. [05]
- B With a neat sketch explain TCP/IP model and explain any 2 layers of it. [05]
- C Explain the block diagram of optical fiber communication system and give any two applications. [05]
- Q. 5 A What is ASK, FSK and PSK? Explain it with a suitable waveform. [05]
- B Explain the concept of cell and frequency reuse in mobile communication system. [05]
- C What are the different frequency bands used in satellite communication? [05]
- Q. 6 A Explain the different types of Network topologies with suitable example. [08]
- Q. 6 B What is Satellite communication? List the different types of orbits and justify use of elliptical and polar orbit with respect to altitude, coverage and uses. [07]
