

B.TECH SEM – VI (2007 COURSE) (BIOMEDICAL ENGG.) :

WINTER - 2017

SUBJECT: PRINCIPLES OF TELECOMMUNICATION

Day: **Monday**

Time: **10.00 AM TO 01.00 PM**

Date: **20/11/2017**

W-2017-2533

Max Marks: 80

N.B.:

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the remaining attempt **ANY TWO** questions from each section.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Answers to both the sections should be written in **SEPARATE** answer book.
 - 4) Assume suitable data if necessary.
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SECTION-I

- Q.1** a) What is the concept of telemedicine? (05)
b) Define the terms (05)
i) Tele-radiology ii) Tele-therapy iii) Tele-pathology iv) Tele-education
c) Compare AM and FM. (04)
- Q.2** a) How analog physiological signals are transmitted over telephone lines? (07)
b) What is multi-channel wireless telemetry system used in telemedicine? (06)
- Q.3** a) What is significance of videoconferencing for health care diagnosis? (07)
b) How Artificial Intelligence is used in healthcare? (06)
- Q.4** a) Describe the super-heterodyne receiver with suitable block diagram. (07)
b) How single sideband suppressed carrier (SSBSC) is used to save bandwidth? (06)

SECTION-II

- Q.5** a) State and explain sampling theorem in time domain. (05)
b) Draw the waveforms of ASK, FSK and PSK. (05)
c) What are the different types of optical fiber? (04)
- Q.6** a) How analog signal is converted to digital using Pulse code Modulation? (07)
b) Compare Delta modulation and Adaptive Delta modulation. (06)
- Q.7** a) Draw OSI architecture and explain each layer in detail. (07)
b) What are different Electronic exchange used in telephone networks? (06)
- Q.8** a) What are the types of light sources used in optical communication? (07)
b) Compare TDMA, FDMA and CDMA. (06)

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