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(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0295 **Roll No.**

B.Tech.

(SEM VIII) EVEN SEMESTER THEORY EXAMINATION, 2009-2010

ADVANCED COMMUNICATION SYSTEM

Time : 3 Hours *Total Marks : 100*

Note : *(i) Attempt **ALL** questions.*

*(ii) All questions carry **equal** marks.*

(iii) Assume data wherever missing.

1. Attempt **any two** of the following : **(2x10=20)**

(a) Classify wire Telephony. Explain it in details.

(b) What are the popular standards of Public Telephone Networks ?

(c) Explain the operating principle of Television transmitter.

2. Attempt **any four** of the following : **(4x5=20)**

(a) Why Television standards required ? What are the major U.S.S.R. TV standards? In India which standards are used ?

(b) Explain the working of High Definition transmission.

(c) Draw the block diagram of color television receiver showing all the important function from the tuner to the picture tube.

(d) Explain briefly the difference between B/W chrominance and luminance. How is a color picture tube able to display picture ?

(e) Explain the working of TV Receiver. What is the role of Yagi Antenna in Television signal reception.

(f) Discuss the modulation methods used to generate voice and video signals.

3. Attempt **any two** of the following : **(2x10=20)**

(a) What is the basic principle of RADAR ? With the help of figures explain the working of any two Popular RADARs.

(b) Explain cellular concept. Discuss TDMA and SDMA Multiple Access Techniques.

(c) Discuss GSM and IS-95 standards.

4. Attempt **any four** of the following : **(4x5=20)**

(a) What are the elements of satellite communication ? Explain each of them with a suitable diagram.

(b) What is the difference between Geo synchronous and Geo stationary orbit ? Discuss the advantages and disadvantages of Geo stationary orbit.

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(c) Derive the equation of a path loss when the signal is transmitted from the earth station and back.

(d) Explain the working of LEOs and GEOs. By which type of satellite our TV signals are coming.

(e) Derive general link equations. Find out expression for C/N and G/T ratio. Explain the importance of the satellite link design.

(f) What is the importance of Antenna look angles?

5. Attempt **any four** of the following : **(4x5=20)**

(a) Losses in optical fiber transmission.

(b) Laser principle and operation.

(c) Application of LEDs.

(d) Working of Photo-detectors and applications.

(e) Splicing Techniques.

(f) Component of optical fiber link design.

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