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

PAPER ID : 0295 Roll No. | | | | | | | | | | |

B. Tech.

(SEM. VIII) THEORY EXAMINATION 2010-11

ADVANCED COMMUNICATION SYSTEM

Time : 3 Hours *Total Marks : 100*

Note : (1) Attempt **all** questions.

(2) Each question carries equal marks.

(3) Assume data wherever missing.

1. Attempt any **two** of the following : **(10×2=20)**

(a) Wire Telephony

(b) Public Telephone Networks

(c) Mobile Satellite Communication.

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

(a) Why television standards required. What are the major U.S TV standards ?

(b) Explain the importance of Facsimile 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 what is meant by Y, I &Q signals in color TV and why they are generated ?

(f) Explain how television Sound is transmitted ?

3. Attempt any **two** of the following : **(10×2=20)**

(a) What is the Basic principle of RADAR ? With the help of Figures explain the working if any two Popular RADA/

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

(c) Elaborate GSM and IS-95 standards.

4. Attempt any **four** of the following : **(5×4=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.

(c) Derive the equation of a satellite orbit.

(d) The semi major axis and the semi minor axis of an elliptical satellite orbit are 20,000 Km & 1600 Km respectively. Determine the apogee and perigee distances.

(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 do you mean by look angles ? Explain them with reference a Geo stationary satellite and earth station.

5. Attempt any **two** of the following : **(10×2=20)**

(a) Discuss the components of Optical fiber communication system with the help of the Block diagram. Draw the signal format of NRZ and Manchester coding format. Why these codes are useful in optical communication ?

(b) Discuss any two types of optical sources you have studied with the mathematical support and relevant figures.

(c) Discuss various types of losses taking place in optical fiber Transmission.