

JUNE 2008

Code: DE12

Subject: COMMUNICATION ENGINEERING

Time: 3 Hours

Max. Marks: 100

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q. 1. must be written in the space provided for it in the answer book supplied and nowhere else.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or best alternative in the following: (2x10)

- a. In a communication channel, noise is most likely to affect the signal
- | | |
|-------------------------|---------------------|
| (A) at the transmitter. | (B) in the channel. |
| (C) at the receiver. | (D) both (B) & (C). |
- b. The value of resistor creating thermal noise is halved. The noise power generated is
- | | |
|--------------|-----------------|
| (A) halved. | (B) quadrupled. |
| (C) doubled. | (D) unchanged. |
- c. The modulation index of an AM signal is decreased from 1 to 0. The carrier power
- | | |
|------------------------|------------------------|
| (A) remains unchanged. | (B) gets half. |
| (C) gets doubled. | (D) None of the above. |
- d. The percentage of modulation for 60 KHz deviation in the FM broadcast band will be
- | | |
|--------|--------|
| (A) 40 | (B) 80 |
| (C) 20 | (D) 0 |
- e. The S/N ratio in PCM depends on
- | | |
|--------------------------------|-----------------------|
| (A) sampling rate. | (B) Bandwidth. |
| (C) no. of quantization levels | (D) None of the above |
- f. What type of transmission is used in TV broadcasting?
- | | |
|---------|-----------|
| (A) VSB | (B) ISB |
| (C) DSB | (D) SSBSC |
- g. The output of the vertical amplifier applied to the yoke in TV receiver consists of
- | | |
|--------------------------|--------------------------|
| (A) direct current. | (B) a saw tooth current. |
| (C) a saw tooth voltage. | (D) None of the above |

matching.

(8)

b. What is photo detector? Describe PIN diode with the help of diagram. **(8)**

Q.8 a. Describe horn antenna. **(8)**

b. Describe the synchronizing pulses used in TV transmission. **(8)**

Q.9 a. Draw and explain by way of a block diagram the operation of satellite system. **(8)**

b. Write short note on pre-emphasis and deemphasis. **(8)**