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Question Paper Code : X 60375

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020
Third Semester
Computer Science and Engineering
CS 2204/CS 36/EC 1207/080230008/10144 CS 305 – ANALOG AND DIGITAL
COMMUNICATION
(Regulations 2008/2010)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Define modulation index of AM wave
2. Distinguish between FM and PM.
3. Give the Shannon's capacity formula.
4. What are PLL's ?
5. What do you mean by non-linear encoding in PCM system ?
6. What is the advantage of differential PCM ?
7. Contrast Connection oriented and connectionless protocols.
8. Define Baudot code.
9. What is a chip code in CDMA system ?
10. Distinguish between FDMA and TDMA.

PART – B

(5×16=80 Marks)

11. a) Draw the block diagram of AM superhetrodyne receiver and explain function of each block.

(OR)

- b) With the help of a block diagram and theory explain FM demodulation employing PLL.



12. a) i) Describe the Shannon limit for information capacity. (6)
ii) Explain the transmitter and receiver of binary phase shift keying communication system with block diagram. (10)
- (OR)
- b) i) Explain the principle of operation of FSK transmitter and receiver. (8)
ii) Explain about squaring loop and costas loop. (8)
13. a) i) With block diagram explain the PCM transmitter and receiver. (12)
ii) What is intersymbol interference ? How can it be reduced ? (4)
- (OR)
- b) i) Describe delta modulation system. What are its limitations ? How can they be overcome ? (12)
ii) Give brief notes on eye pattern. (4)
14. a) i) Discuss the following error correcting methods : (8)
1) Retransmission
2) Forward Error Correction.
ii) Describe data communication hardware with neat sketch. (8)
- (OR)
- b) i) Discuss the following error detection techniques : (8)
1) Redundancy checking
2) Check sum
3) Cyclic redundancy checking. (8)
ii) Discuss different data communication modems. (8)
15. a) In detail, describe the DS spread spectrum with a coherent binary PSK. Give necessary diagrams. Comment on BER performance. (16)
- (OR)
- b) Give detailed notes on :
i) FM spread spectrum (8)
ii) CDMA in wireless systems. (8)
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