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Roll No .....

**MEDC-302(A)**  
**M.E./M.Tech., III Semester**  
 Examination, December 2017  
**Advanced Digital Communication**  
**(Elective-I)**

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.  
 ii) All questions carry equal marks.

1. a) Discuss the principle working of QPSK modulation technique.  
 b) Explain the use of optimum receiver for signals corrupted by AWGN and their performance of memory less channel.
2. a) Discuss the principle working of BPSK technique.  
 b) Discuss the use of optimum receivers for PCM.
3. Discuss about signal design band limited channels and their characterization.
4. a) Discuss about the probability of error in detection of PAM with zero ISI.  
 b) Discuss about the modulation codes for spectrum spacing.
5. a) Discuss about multi channel and multi carrier systems.  
 b) Explain the principle working of frequency hopped spread spectrum technique.

6. a) Discuss the use of optimum receivers for channels with ISI and AWGN.  
 b) Explain adaptive linear and adaptive decision feedback equalizer.
7. a) Discuss about frequency non selective slowly fading channels.  
 b) Discuss about the coded waveform for fading channels and their applications.
8. Write short notes on any two of the following:
  - a) Link Budget analysis
  - b) OFDM
  - c) Diversity techniques for fading multipath channels.

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