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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12EC219** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **Digital Communication** | **Max. marks :** | **100** |

**PART-A (10X1=10 MARKS)**

1. Write the types of sampling.
2. What is the other name for PWM?
3. Expand ISI.
4. Write the Nyquist criteria
5. Mention the purpose of bit synchronizer.
6. Draw the geometrical representation of BPSK signal.
7. Define entropy.
8. What is information rate?
9. PN sequence is binary sequence. Say True or false
10. What is rake receiver?

**PART B (5 X 3= 15 MARKS)**

1. How PPM is generated from PWM?
2. When an optimum filter is called as a matched filter?
3. Draw the block diagram for QPSK receiver.
4. Write the channel capacity of a white band limited Gaussian channel.
5. Draw the block diagram of a BPSK communication system incorporated with spread spectrum technique.

**PART C (5 X 15= 75 MARKS)**

1. With neat block diagram explain the PCM communication system.

OR

1. Draw the block diagram for the generation of pulse width modulation and pulse position modulation and explain it in detail.
2. Discuss about the nyquist criterion for distortion less base band binary transmission.

OR

1. Explain briefly about baseband M array PAM transmission.
2. With block diagram explain the generation and detection of DPSK.

OR

1. Discuss about the bit error probability and power spectra of BPSK signal.
2. Explain briefly about channel coding theorem.

OR

1. Discuss about the considerations of cyclic codes.
2. Explain the direct sequence spread spectrum with coherent binary phase shift keying.

OR

1. Explain the types of frequency hop spread spectrum.