Total No. of Questions : 5]   [Total No. of Printed Pages : 2

Roll No...........................

EC-802
B.E. VIII Semester
Examination, December 2016
Advanced Communication System

Time : Three Hours

Maximum Marks : 70

Note: i)   Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

v)   Assume suitable data if any missing. Answer must be to the point.

1. a) Why is there a process gain in a spread spectrum system?

   b) What is jamming margin?

   c) List the advantages of spread spectrum.

   d) Draw the simplified block diagram of direct sequence spread spectrum and describe its working principle.

   OR

   Explain the basic concept of spread spectrum and discuss the basic techniques of spread spectrum.

2. a) What do you mean by linear equalization?

   b) What is intersymbol interference?

   c) What is input backoff?

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   d) Explain in detail the block diagram of OFDM system and state the importance of each stage.

   OR

   Discuss multilevel coding.

3. a) What is delay spread?

   b) Write the drawbacks of smart antenna.

   c) What is spatial division multiple access?

   d) Give an overview of Direction-of-Arrival algorithms.

   OR

   Discuss MIMO system model.

4. a) What is cognition cycle?

   b) Define self aware cognitive radio.

   c) List out the design considerations in cognitive radio.

   d) Draw cognitive radio frame work and explain each block.

   OR

   List and explain the characteristic of radio cognition task.

5. a) What is degraded relay channel?

   b) What is space time code?

   c) Are there any other advantages than capacity for co-operative communication? If yes, list.

   d) Discuss three node relay channel model.

   OR

   Discuss full duplex relaying.

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