Roll No...

EC-802

B.E. VIII Semester
Examination, June 2016
Advance 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.

1. a) What do you mean by spread spectrum technique? Explain.

b) What is inter carrier interference? Explain how it can be overcome.

c) Give the basic differences of smart antennas over the normal antennas.

d) Discuss the principle and working of direct sequence spread spectrum technique.

OR

Explain the frequency hopped spread spectrum technique with the help of suitable example.

2. a) Explain the concept of multi antenna system.

b) Give some potential advantages of spread spectrum system.

c) How is spectrum sharing done in cognitive radio system? Explain with the help of suitable block diagram.

d) Explain OFDM. Give its types, characteristic features and its applications in communication systems.

OR

Explain the principle of single carrier modulation with frequency domain equalization.

3. a) What do you mean by overlay and underlay?

b) Give a brief note on network coding.

c) Write a short note on multi user MIMO.

d) Explain cognitive radio with the help of transreceiver architecture.

OR

Discuss routing and resource allocation in multihop networks.

4. a) Explain the principle of multiple access technique.

b) Give an introductory note on CDMA.

c) Derive a relation for peak to average power ratio.

d) Discuss the routing and resource allocation in collaborative networks.

OR

Write down the practical applications of network coding.

5. a) Write down some applications of cognitive radio.

b) Explain the operating principle of smart antennas.

c) What do you mean by antenna array? Does antenna array system require for the communication purposes?

d) Write short note on:

i) Interweaving

ii) Spectrum sensing

OR

Write short notes on:-

i) Spectrum Management

ii) MIMO

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