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Code: 13A04802



Max. Marks: 70

B.Tech IV Year II Semester (R13) Advanced Supplementary Examinations July 2018 ADVANCED 3G & 4G WIRELESS COMMUNICATIONS

(Electronics and Communication Engineering)

Time: 3 hours

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PART – A

(Compulsory Question)

- Answer the following: $(10 \times 02 = 20 \text{ Marks})$
 - (a) Define the term diversity.
 - (b) Briefly explain about maximal ratio combiner.
 - (c) What is meant by call setup?
 - (d) What is frequency reuse?
 - (e) Give the advantages of RAKE receiver.
 - (f) Draw the channel model of OFDM.
 - (g) What are the benefits of CDMA?
 - (h) Give the Bit-Error rate of Ultra Wide Band.
 - (i) List out some 4G wireless standards.
 - (j) Write down the special features of WiMAX.

PART – B

(Answer all five units, $5 \times 10 = 50$ Marks)

UNIT – I

2 Discuss about BER in wireless communication.

OR

3 Explain about the BER with diversity and spatial diversity in detail.

UNIT – IL

4 Give a detailed note on the coherence bandwidth of the wireless channel.

OR

5 Describe about cellular process in detail with diagram.

UNIT – III

6 What do you mean by Walsh codes? Illustrate with an example and necessary equations.

OR

- Write short on the following:
 - (a) OFDM issues.

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(b) Frequency and timing offset issues.

UNIT – IV

8 What is the MIMO channel capacity? Explain in detail about SVD and Eigen modes of the MIMO channel.

OR

9 Discuss in detail about UWB wireless channels.

UNIT – V

10 Explain about GPRS in detail with essential diagrams.

OR

11 What is the role of WiMAX in wireless network? Explain in detail and give some applications of WiMAX.

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