Code: 13A04802 **R13**

B.Tech IV Year II Semester (R13) Advanced Supplementary Examinations July 2018

ADVANCED 3G & 4G WIRELESS COMMUNICATIONS

(Electronics and Communication Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 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 X 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 – II

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

7 Write short on the following:

(a) OFDM issues.
(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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