

Code: 13A04802

B.Tech IV Year II Semester (R13) Regular & Supplementary Examinations April 2018

ADVANCED 3G & 4G WIRELESS COMMUNICATIONS

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Define Rayleigh Fading.
 - (b) Differentiate between wired and wireless communication.
 - (c) What is delay spread?
 - (d) List out the essential elements of a cellular system.
 - (e) What is CDMA? Give its advantages.
 - (f) What are the issues in OFDM?
 - (g) Briefly explain about multiplexing in MIMO.
 - (h) Write down the features of Ultra Wide Band.
 - (i) What do you understand by GSM?
 - (j) What are the limitations of WiMAX?

PART – B
(Answer all five units, 5 X 10 = 50 Marks)**UNIT – I**

- 2 Explain in detail about BER of wired and wireless communication.

OR

- 3 Discuss in detail about Multi-antenna Maximal Ratio Combiner.

UNIT – II

- 4 Describe the following channel models:

- (a) Doppler spectrum.
- (b) Jakes model.

OR

- 5 Give a detailed note on Multiple Access Technologies for Cellular Communication. Give its applications.

UNIT – III

- 6 Give the comparison between RAKE receiver and CDMA receiver.

OR

- 7 Explain in detail about Multi carrier Modulation and Cyclic Prefix in OFDM.

UNIT – IV

- 8 Write short notes on:

- (a) MIMO Spatial Multiplexing.
- (b) MIMO Diversity.

OR

- 9 Describe about the Bit Error Rate Performance of UWB.

UNIT – V

- 10 Explain about GSM standard with essential diagrams.

OR

- 11 Discuss in detail about WCDMA with necessary diagram.
