

M. TECH.-II (ELECTRONICS V.L.S.I.) (CBCS – 2015 COURSE)

: SUMMER - 2018

SUBJECT: WIRELESS NETWORKS

Day: **Monday**
Date: **18/06/2018**

S-2018-3005

Time: **11.00 AM TO 02.00 PM**
Max Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the indicate **FULL** marks.
 - 3) Answer the both sections in **SEPARATE** answer books.
 - 4) Assume suitable data, if necessary.
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SECTION-I

Q.1 Explain in detail radio propagation mechanism in mobile communication. **(10)**

OR

Q.1 What are the difference between co-channel interference and adjacent channel interference? Explain with suitable diagrams. **(10)**

Q.2 What are various multiple access techniques? Differentiate between FDMA and TDMA. **(10)**

OR

Q.2 Discuss the basic operation of a cellular system. Explain its advantages and disadvantages. **(10)**

Q.3 Explain the IS-95 CDMA forward channel in detail. **(10)**

OR

Q.3 Explain the time diversity techniques of DSSS and the RAKE receiver. **(10)**

SECTION-II

Q.4 a) Draw and explain the frame structure of GSM. **(06)**
b) Explain how a call to a mobile subscriber is routed? **(04)**

OR

Q.4 Explain the GSM services and the reference architecture of GSM cellular networks. **(10)**

Q.5 What are the two different goals in designing MIMO transmission schemes and give an example of each one. **(10)**

OR

Q.5 a) What is meant by outage capacity and why is this useful? **(06)**
b) Explain MIMO diversity – OSTBC. **(04)**

Q.6 a) Which are the different frequency bands and channel bandwidth used for Wi-Max. **(07)**
b) Write a short note on bit-error rate performance of UWB. **(03)**

OR

Q.6 a) Discuss the functions of GPRS. **(07)**
b) What are the features of UWB? **(03)**