Total No. of Questions : 8]

SEAT No. : ____

PA-2638

[Total No. of Pages : 2

[5927]-401

B.E. (Information Technology)

WIRELESS COMMUNICATIONS

(2019 Pattern) (Semester - VII) (Elective - IV) (414445D)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Assume Suitable data if necessary.***

Q1) a) Explain the Principal of TDMA. What are different features of TDMA? **[9]**

b) How Code Division Multiple Access Technique is implanted while accessing a channel for multiple users? Support your theory with example. **[9]**

OR

Q2) a) What is MIMO? Explain two formats of MIMO. **[9]**

b) What is OFDM technique? Also, explain OFDMA transmitter and receiver. **[9]**

Q3) a) What are the different challenges in WAP? Also, write down the advantages and disadvantages of WAP. **[9]**

b) What is LoRaWAN? Elaborate LoRaWAN network elements. **[8]**

OR

Q4) a) What is Wi-Fi Direct? What are the different types of Wi-Fi Direct? **[9]**

b) What is NFC? What are the different characteristics of NFC? **[8]**

P.T.O.

Q5) a) What is security? What are the different security issues in 1G, 2G, 3G, and 4G? **[9]**

b) Explain in details Visible Light Communication. Also, explain its applications. **[9]**

OR

Q6) a) Explain security issues and challenges in GSM. **[9]**

b) What is multimedia security? Explain multimedia security in 5G and 6G. **[9]**

Q7) a) Explain how 5G network works along-with its benefits. **[9]**

b) Enlist and explain application of Holographic MIMO surface. **[8]**

OR

Q8) a) What is quantum Technology? Explain quantum Technology for a 5G/6G wireless network? **[9]**

b) Explain Simultaneous Transmission and Reflection (STAR) for 360º coverage in details. **[8]**