Total No. of Questions : 8]

SEAT No. : [ ]

PB2332

[Total No. of Pages : 2

[6263]-180

B.E. (Information Technology)

WIRELESS COMMUNICATIONS

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

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 indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) What are advantages of OFDM technique? Explain in detail OFDM technique. **[9]**

b) What is TDMA? Explain how Time Division Multiple Access is useful in Wireless communication with suitable example. **[9]**

OR

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

b) What do you understand by IDMA (Interleave Division Multiple Access)? Discuss in detail. **[9]**

Q3) a) What is NFC? What are the different characteristics of NFC? **[9]**

b) Explain in details SigFox protocol. **[8]**

OR

Q4) a) Explain in details WAP architecture with neat diagram. **[9]**

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

P.T.O.

Q5) a) Explain security issues and challenges in GSM. **[9]**

b) What are Wireless Security tools? Explain URH and Kismet in details. **[9]**

OR

Q6) a) Explain in detail UMTS Security. **[9]**

b) Explain in details Multimedia security in 5G and 6G. **[9]**

Q7) a) What is 5G NR (New Radio)? Explain working 5G NR in detail. **[9]**

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

OR

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

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