

Total No. of Questions : 8]

SEAT No. :

P-6637

[Total No. of Pages : 2

[6181]-201

**B.E. (Information Technology)**

**WIRELESS COMMUNICATION**

**(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) Discuss Space Division Multiple Access (SDMA) in detail & state its characteristics. [9]

b) Elaborate on usefulness of MIMO (Multiple Input Multiple Output) technique in multiple access environment. [9]

OR

**Q2)** a) How would you differentiate between CDMA (Code Division Multiple Access) & SDMA (Space Division Multiple Access)? [9]

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

**Q3)** a) Examine Wireless Application Protocol for effectiveness in wireless communication environment. [9]

b) What is LoRaWAN? Enlist & explain LoRaWAN network elements. [8]

OR

**Q4)** a) Write Short Notes on : UMTS Security, Bluetooth Security, WEP, WPA2. [9]

b) Discuss how NFC works? What are different characteristics of NFC? [8]

P.T.O.

- Q5) a)** Enlist and explain different security issues and challenges in 1G, 2G, 3G and 4G communication model. [9]
- b)** Explain in details post-quantum cryptography and Molecular Communication. [9]

OR

- Q6) a)** How can you sort the security issues and challenges found in GSM. [9]
- b)** What is Visible Light Communication and Distributed Ledger? Explain in detail. [9]

- Q7) a)** Investigate the working and benefits of 5G NR (New Radio). [9]
- b)** What is multimedia security? Explain multimedia security in 5G and 6G. [8]

OR

- Q8) a)** What do you understand by Holographic MIMO Surfaces for 6G Wireless Networks? Explain in detail. [9]
- b)** Summarize different application of Wireless Technology. [8]

