

**2022**

*Time : 3 hours*

*Full Marks : 80*

*The figures in the right-hand margin indicate marks.*

*Answer **all** questions.*

- ✓ 1. (a) How is frequency reuse use in mobile communication ? 4
- (b) What is handoff in mobile communication ?  
What are the various types of handoff ? 6
- Ⓢ (c) Explain the microcell zone concept. 6

**OR**

- (a) What is cell sectoring ? Write down the benefits of cell sectoring. 6
- (b) Wht is the need of cell splitting ? Explain the 4:1 cell splitting. 6

- (c) How many types of interferences are there in mobile communications ? Explain them.

4

2. (a) Explain the free space propagation model.

6

- (b) Differentiate diffraction from scattering. 5

- (c) Briefly explain the Okumura model. 5

OR

- (a) Explain the ground reflection model radio propagation. 8

- (b) Define the following : coherence bandwidth, coherence time, fast fading, slow fading. 8

3. (a) List out few features of various generations of wireless networks. 4

- (b) Represent the GSM architecture and explain. 8

- (c) Write about various types of channels used in GSM. 4

OR

(a) Explain about circuit switching and packet switching. 6

(b) Draw and explain the frame structure in GSM. 4

(c) Explain the DCMA architecture. 6

4. (a) With all components and interface explain the WAP architecture. 8

(b) What are the functions of Wireless datagram protocol in WAP ? 4

(c) What are the major advantages and disadvantages of X.25 ? 4

**OR**

(a) Explain the WLL architecture. 6

(b) Explain about wireless transaction protocol. 5

(c) Summarize the main features of third generation mobile phone systems. How do they achieve higher capacities and higher data rates ? 5

5. (a) Explain the GPRS architecture. 6  
(b) Write down the advantages and disadvantages of WLAN. 5  
(c) Explain the system architecture of IEEE 802.11. 5

OR

- (a) What are various network nodes in GPRS ?  
Explain briefly. 5  
(b) Explain the protocol architecture of IEEE 802.11. 5  
(c) Explain the operation of IP packet delivery in Mobile IP. 6

