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Total Pages : 3

**015601**

**May 2023**

**B.Tech. (ENC) VI SEMESTER**

**Mobile Communication (ECP-601)**

Time : 3 Hours]

[Max. Marks : 75


*Instructions :*

- 1. It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
- 2. Answer any four questions from Part-B in detail.*
- 3. Different sub-parts of a question are to be attempted adjacent to each other.*

**PART-A**

1. (a) What do you mean by forward channel and reverse channel? (1.5)
- (b) When does WLAN become a Personal Area Network (PAN)? (1.5)
- (c) Define DSSS. (1.5)
- (d) What is the difference between TDD and FDD? (1.5)
- (e) List any four advantages of third generation (3G) mobile networks. (1.5)
- (f) What are the advantages of AIN? ' (1.5)
- (g) Define Grade of Service. (1.5)

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- (h) What are the limitations of conventional mobile telephone system? (1.5)
- (i) What is Paging? Give any two examples of wireless communication systems. (1.5)
- (j) What is borrowing strategy in channel assignment? (1.5)

### PART-B

- 2. (a) Explain cellular system architecture in detail. (8)
- (b) Explain the different techniques of improving coverage and capacity in cellular system. (7)
- 3. (a) Discuss with the help of timing diagram how a call initiated by a mobile is established. (8)
- (b) Explain difference between WLL and Bluetooth. (7)
- 4. (a) Explain GSM architecture and its elements with suitable diagram. (8)
- (b) What is Cellular system? Explain the performance criteria of Cellular system. (7)
- 5. (a) What is hand off mechanism? Explain practical handoff considerations. (8)
- (b) Derive the relation  $Q = \sqrt{3}N$  where Q is co-channel reuse ratio, N is cluster size. (7)

- 6. (a) What is FDMA? Explain different features of FDMA. (8)
- (b) Draw the CDPD network. Also explain the ARDIS and RAM mobile data. (7)
- 7. (a) Distinguish between fixed channel assignment and dynamic channel assignment in cellular networks. (8)
- (b) Distinguish between ISDN for AIN. (7)