

Seat No. **OCT-NOV 2025 WINTER EXAMINATION****1154 B.Tech. CBCS****Sub. Name: Mobile Technology (ETC)****Sub. Code: 81651/81861/84928/84929****Day and Date: Thursday ,18-12-2025****Total Marks: 70****Time: 10:30 AM To 01:00 PM**

- Instructions:**
- 1. All questions are compulsory**
  - 2. Assume suitable data wherever necessary and mention it boldly**
  - 3. Draw neat labelled diagrams wherever necessary**
  - 4. Figures to the right indicate full marks**

**Q1) Solve following MCQ.****[14]**

- In \_\_\_\_\_ systems, resources are allocated on demand**
  - Packet switching
  - Circuit switching
  - Line switching
  - Frequency switching
- Frequency division multiple access (FDMA) assigns \_\_\_\_\_ channels to \_\_\_\_\_ users.**
  - Individual, Individual
  - Many, Individual
  - Individual, Many
  - Many, Many
- Which of the following is not true for TDMA?**
  - Single carrier frequency for single user
  - Discontinuous data transmission
  - No requirement of duplexers
  - High transmission rates
- What is frequency reuse?**
  - Process of selecting and allocating channels
  - Process of selection of mobile users
  - Process of selecting frequency of mobile equipment
  - Process of selection of number of cells
- What is a cluster in a cellular system?**
  - Group of frequencies
  - Group of cells
  - Group of subscribers
  - Group of mobile systems

- vi. Which of the following feature makes impossible to eavesdrop on GSM radio transmission?
- A. SIM
  - B. On the air privacy
  - C. SMS
  - D. Packet switched traffic
- vii. A normal Flooding technique is an example of \_\_\_\_\_
- A. Multicasting
  - B. Unicasting
  - C. Telecasting
  - D. Broadcasting

**Q2) ATTEMPT ANY TWO**

- a. Differentiate TDMA, FDMA, SDMA and CDMA. [7]
- b. Discuss different mobile generations. [7]
- c. Explain packet switching technique in detail. [7]

**Q3) ATTEMPT ANY TWO**

- a. Elaborate the concept of frequency reuse in detail [7]
- b. Explain the free space propagation model in detail. [7]
- c. Discuss the different services offered by GSM. [7]

**Q4) ATTEMPT ANY TWO.**

- a. Explain in detail different GSM channels. [7]
- b. Highlight the GSM frame structure. [7]
- c. Differentiate unicast and multicast routing. [7]

**Q5) ATTEMPT ANY TWO.**

- a. Explain dynamic source routing protocol. [7]
- b. Explain the architecture of 4G LTE network [7]
- c. Draw the electromagnetic spectrum and comment on the frequencies used by 4G and 5G mobile technology. [7]

## **End Of Question Paper**

**Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -**

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

- 1] (1154) B.Tech. CBCS (81651) Mobile Technology (ETC) Part 3 SEM 6
- 2] (101) Bachelor of Engineering (84929) Mobile Technology (ETC) Part 3 SEM 6
- 3] (1154) B.Tech. CBCS (84928) Mobile Technology (ETC) Part 3 SEM 6
- 4] (101) Bachelor of Engineering (81861) Mobile Technology (ETC) Part 3 SEM 6

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