

2023

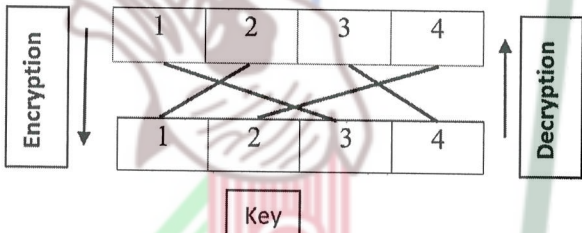
**Mobile and Wireless Communication**

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer any five questions.

1	<p>What is transposition cipher ? Encrypt the following:</p> <p>1) Hello my dear</p> <p>And decrypt the following</p> <p>1) ODGOUKLCOEFRAZXM,</p> <p>Using the provided key.</p> <div style="text-align: center;">  </div>	20
2	<p>a) What is the spread spectrum technique in wireless communication ? Explain the direct sequence spread spectrum technique.</p> <p>b) What is PN sequence ?</p>	15+5
3	<p>a) Describe Kepler's Laws and how they are relevant to the orbits of artificial satellites. Also focus on the concept of geostationary orbits and the necessary satellite speed.</p> <p>b) Using the schematic diagram explain the components of satellite communication.</p>	10+10
4	<p>Using a schematic diagram explain GSM architecture and its components.</p>	20
5	<p>Compare TDMA, CDMA, and FDMA as multiple access techniques in wireless communication systems. Discuss their advantages, limitations, and application areas.</p>	20
6	<p>Write a short note on the following</p> <p>a) WiFi</p> <p>b) WiMAX</p> <p>c) Bluetooth</p> <p>d) Fax</p>	5+5+5 +5=20