

[Time: 3 Hours]

[Marks: 80]

Please check whether you have got the right question paper.

- N.B: 1. Question.No.1 is compulsory.
2. Attempt any three questions from the remaining five questions.

- Q.1 Answer the following: 20
- a) What is meant by frequency reuse? What is its effect on the co-channel interference?
 - b) State the radio specifications of GSM.
 - c) Compare GSM and CDMA technologies.
 - d) Explain the terms of soft, softer and soft-softer handoffs.
- Q.2 a) Draw a well labelled diagram and explain in detail the architecture of GSM. 10
- b) Explain GSM frame and time slot structure with the required figures. 10
- Q.3 a) Explain CDMA reverse channel processing 10
- b) Discuss mobility and resource management in CDMA. 10
- Q.4 a) Explain 4G-LTE architecture with a neat block diagram in detail. 10
- b) Explain cell splitting. 04
If the radius of each new microcell is half that of the original cell, show that 06
- i) Traffic load increases four times
 - ii) Transmit power must be reduced by 12dB to maintain the S/N requirement with a path loss exponent of 4.
- Q.5 a) Describe UMTS architecture with a neat diagram and interfaces. 10
- b) Compare 3G and 4G technologies. 05
- c) Write a detailed note on mobile IP. 05
- Q.6 Write short notes on: 20
- a) WiMax
 - b) GPRS
 - c) RFID
 - d) MANET