

ET801M - Mobile Communication and Networks

P. Pages : 2

Time : Three Hours



GUG/S/23/14354

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Draw the block diagram of element of a switching system and explain each blocks. **8**
- b) Draw and explain following signaling tones in automatic exchanges with their frequency. **8**
- i) Dial tone
 - ii) Ringing tone
 - iii) Busy tone
 - iv) Call in progress tone

OR

2. a) Draw and explain electronic stored program control switching system. **8**
- b) What circuit switching. Explain the working of circuit switching also state their advantages and disadvantages. **8**
3. a) Explain the techniques to improving capacity in cellular systems. **8**
- b) Explain an impulse response model of multipath channel. **8**

OR

4. a) Explain: **8**
- i) Frequency reuse
 - ii) Co-channel interference reduction factor
 - iii) Hand-off
 - iv) Frequency reuse distance

- b) With neat diagram explain direct RF channel impulse response measurement system. **8**

5. a) Draw and explain GSM frame structure. **8**
- b) State the function of following: **8**
- | | |
|--------|---------|
| 1) BTS | 2) BSC |
| 3) MSC | 4) HLR |
| 5) VLR | 6) GMSC |

OR

6. a) With the help of neat block diagram explain the GSM operation from speech input to speech output. **8**
- b) State the function of following: **8**
- i) EIR
 - ii) AUC
 - iii) OMC
 - iv) A bis interface
7. a) What is frequency division multiple access. Explain with neat diagram. Also state its advantages and disadvantages. **8**
- b) State the function of following: **8**
- i) Paging channel (PCH)
 - ii) Random Access Channel (RACH)
 - iii) Access Grant Control Channel (AGCH)
 - iv) Stand alone dedicated control channel (SDCCH)

OR

8. a) Draw and explain the GPRS system architecture. **8**
- b) Write short note on: **8**
- i) HSCSD
 - ii) EDGE
9. a) Explain what are the opportunities and requirements in 5G network. **8**
- b) Draw and explain architecture of 5G network. **8**

OR

10. a) Draw and explain CDMA (IS – 95) forward link architecture. **8**
- b) What is LTE. State the feature of LTE also explain the LTE Frame structure. **8**
