22622

23242

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **10**

a) Enlist two application of personal communication services.

b) Write IEEE standard for Bluetooth and WiFi.

c) State two features of 4G technology.

d) List any two WLL application.

e) List any two features of MANET.

f) List any two application of UMTS.

g) Enlist any two characteristics of WSN.

2. Attempt any THREE of the following: **12**

a) Draw the block diagram of the architecture of PCS and explain.

b) Draw GPRS architecture and list logical channel.

c) Describe quality of services in 3G networks.

d) Compare DSSS and FHSS. (any four points)

P.T.O.

Marks

3. Attempt any THREE of the following: **12**

a) Draw the waveform for data stream 10110010 for following digital modulation techniques.

i) ASK - Amplitude Shift Keying

ii) BPSK - Bipolar Phase Shift Keying

b) Compare WCDMA and CDMA 2000. (any four points)

c) Explain the quality of services parameters of GPRS.

d) Draw the architecture of WSN and explain.

4. Attempt any THREE of the following: **12**

a) Draw the architecture of UMTS and explain.

b) Explain home agent and foreign agent in mobile IP.

c) Draw the MANET topology and explain. State two applications of MANET.

d) Draw the block schematic of WLL architecture and explain.

e) State and explain any four features of IOT in mobile computing.

5. Attempt any TWO of the following: **12**

a) Draw the waveform for 10110111 in following formats :

i) Unipolar NRZ

ii) Polar RZ

iii) AMI

iv) Manchester

v) Unipolar RZ

vi) Polar NRZ

b) Draw the architecture of GSM and explain the function of each block.

c) Draw the architecture of 4G and explain .

Marks

6. Attempt any TWO of the following: **12**

a) Describe the process of mobile terminated call (incoming call) in GSM with neat call flow sequence diagram.

b) Compare 3G and 4G wireless system with respect to

i) Frequency band used

ii) Data rate

iii) Access technique

iv) Switching used

c) Draw the block diagram of a sensory node in WSN and state the function of various components.