22622

23124

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

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

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

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

(5) 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) Define Roaming.

b) State advantages of GPRS.

c) State any two features of VOLTE.

d) Define –

i) Quantization Noise

ii) Companding with reference to PCM.

e) Define Bitrate and Baud rate.

f) List the characteristics of MANET (Any two)

g) Enlist the features of CDMA. (Any two)

Marks

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

a) State and explain GSM channel types.

b) Describe GPRS architecture with neat diagram.

c) State the characteristics of Wireless Markup Language.

d) Differentiate between DSSS & FHSS.

3. Attempt any THREE of the following : (4 marks each) **12**

a) Explain UMTS architecture with suitable diagram.

b) Explain the operational principle of Mobile IP with suitable diagram.

c) Draw the block schematic of WLL architecture and explain following components of it.

i) WANU

ii) WASU

d) Explain design challenges in MANET.

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

a) Describe WAP protocol with suitable diagram.

b) Differentiate between GSM and GPRS.

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

d) Explain IEEE 802.11 system architecture.

e) Describe WSN and state two applications of it.

Marks

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

a) Explain Network signaling in GSM with block diagram.

b) Draw the encoded waveforms for the bit sequence 11001001 by using the following Line Coding mechanisms.

i) Unipolar RZ

ii) Polar RZ

iii) Manchester (Biphase)

iv) Alternate Mark Inversion.

c) Draw the block diagram of 4G Architecture and explain. State two features of 4G.

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

a) Draw the labelled architecture of GSM and explain the function of the following entities.

i) MSC

ii) HLR

b) Draw block diagram of a sensor node and state the function of each block.

c) Differentiate between W-CDMA and CDMA-2000 in terms with chip rate, speed, frame length, bandwidth, modulation technique and overheads.

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