

Sample End Semester Question Paper
'I' Scheme

Programme name: Information Technology
Programme code: IF
Semester: Sixth
Course Title: Wireless and Mobile Network
Course code: 22622
Max. Marks: 70

22622

Time: 3 Hrs.

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.

Q.1) A) Attempt any FIVE of the following.

(10 Marks)

- a. Enlist two application of personal communication services. (1-R)
- b. Write the IEEE standard for WiFi and Wi-Max. (2-A)
- c. State any two features of UMTS. (3-R)
- d. List any four applications of IoT. (4-R)
- e. List any four names of Line coding techniques. (4-R)
- f. List any two applications of MANET. (5-R)
- g. Enlist the features of 4G. (3R)

Q.2) Attempt any THREE of the following.

12 Marks

- a. Enlist any four GSM Services. (1-R0)
- b. Explain any four GPRS Services. (2-U)
- c. Describe the Wireless Application Protocol (WAP) (3-U)
- d. Explain WLL architecture. (4-U)

Q.3) Attempt any THREE of the following.

(12 Marks)

- a. Differentiate between 4G and 4GLTE (any four point). (3-A)
- b. How does GPRS architecture differ from GSM. (2-A)
- c. Differentiate between PCM and DPCM on the basis of Bitrate, quantization Error & Distortion, Application and Feedback. (4-A)
- d. Draw and explain ISO equivalent protocol layer Architecture for WSN. (5- U)

Q.4) Attempt any THREE of the following.

(12 Marks)

- a. Describe quality of services in 3G networks. (3- U)
- b. Differentiate between Bluetooth and WiFi on the basis of Range, Bandwidth, Modulation technique and number of devices connected. (2-A)
- c. Differentiate between WSN and IoT network. (any four points) 5-A
- d. Explain operational principle of mobile IP in detail. (2-U)
- e. Explain design challenges in MANET. 5- U

Q.5) Attempt any TWO of the following.

(12 Marks)

- a. Draw the architecture of GSM and explain function of each block. (1-U)
- b. Draw given waveforms for 101001110 (4-A)
 - i. Unipolar RZ and NRZ
 - ii. Bipolar RZ and NRZ
- c. Differentiate between W-CDMA and CDMA-2000. (any four points) 3-A

Q.6) Attempt any TWO of the following.

(12 Marks)

- a. Explain authentication process in GSM. (1-U)
- b. How clustering solves the issue of scalability on WSN.(any Six Points) (5-A)
- c. Explain the architecture of UMTS technology in terms of features, data rates and spectrum.(3-U)