

# CBCS Scheme

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15MT551

**Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018**

## **Wireless Networks and Communication**

Time: 3 hrs.

Max. Marks: 80

**Note: Answer any FIVE full questions, choosing one full question from each module.**

### Module-1

- 1 a. What is wireless communication system? Explain the block diagram of wireless communication system? (10 Marks)
- b. Define Pathloss? A mobile receiver communicates at a distance of 5km with the transmitter which is having the operating frequency of 750 MHz. calculating the pathloss in the system. (06 Marks)

OR

- 2 a. List out the wireless communication problems and briefly explain any. (08 Marks)
- b. Define packet switching. With the neat diagram explain packet switching. (08 Marks)

### Module-2

- 3 a. Explain the unique properties of WBAN with neat diagram. (08 Marks)
- b. Explain the network architecture of WPAN. (08 Marks)

OR

- 4 a. Describe the Routing protocols suitable for WBAN in Network layer. (08 Marks)
- b. List out the requirement of WPAN devices? Give the diagram of WPAN technologies. Briefly explain few important application of WPAN. (08 Marks)

### Module-3

- 5 a. With suitable diagram, explain the characteristics of the Air interface with respect to outdoor and indoor propagation case. (08 Marks)
- b. Explain the path loss model in free space propagation. Derive an expression relating received signal power to the radio link distance. (08 Marks)

OR

- 6 a. Explain the wireless Telecommunication coding technique. (08 Marks)
- b. With neat diagram, explain the diversity techniques (any two). (08 Marks)

### Module-4

- 7 a. Define WLAN. Explain the two different modes of WLAN network Architecture. (08 Marks)
- b. Describe the Design Requirement of WLAN. (08 Marks)

OR

- 8 a. List out the applications of WLAN, WMAN and WWAN. (06 Marks)
- b. With neat diagram explain WMAN network Architecture? List out the network components with brief explanation of any two. (10 Marks)

### Module-5

- 9 a. What is Mobile AdHOc Networks? Explain the network architecture of MANET along with its characteristics. (10 Marks)
- b. Explain the Network Architecture of a typical VANET with neat diagram. (06 Marks)

OR

- 10 a. What is Wireless sensor Networks? Explain the network Architecture of WSN with neat diagram. (08 Marks)
- b. Describe the Technologies and applications of wireless Mesh Network (WMN). (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.