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Total No. of Printed Pages: [01]

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B.Sc. IT (Semester – 3rd)
CELLULAR AND MOBILE COMMUNICATION
SUBJECT CODE: BECE0F92
Paper ID: [OEI130406]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. Differentiate between wireless and fixed telephone networks.
- b. Briefly define IEEE 802.11 services.
- c. What are the characteristics of cell-site antenna?
- d. What is the need of narrow beam concept?
- e. Which Cellular system uses the most bandwidth efficient modulation?
- f. What is a diversity receiver?
- g. Justify the hexagonal geometry of a cell.
- h. What do you mean by leaky feeder?
- i. What is the difference between cell splitting and cell sectoring?
- j. Write the disadvantage of long distance propagation. How can it be minimized?

Section – B

(5 marks each)

- Q2. What are the advantages and disadvantages of using CDMA for cellular networks?
- Q3. How diversity techniques can be used to improve the link performance?
- Q4. Explain any three types of handoffs and differentiate between proper and improve handoffs with suitable diagram.
- Q5. Explain the frequency reuse concept in brief.
- Q6. Compare the various wireless networks like PANs and LANs on the parameter of IEEE standards used.

Section – C

(10 marks each)

- Q7. Explain GSM system architecture and its main features and services in detail.
- Q8. Define frequency management and channel assignment. Explain different types of channel assignment.
- Q9. Write a short note on operational techniques explaining the concept of parameters of each technique.