Roll No……..….. **Total No. of Printed Pages: [01]**
Total No. of Questions: [09]

B. Tech. (EE) (Semester: 6th/7th)
CELLULAR AND MOBILE COMMUNICATION
Subject Code: BECEO1002
Paper ID: [18OE111523]

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) What do you mean by call hand-off?
b) Define: Co-channel Interference.
c) List the classification of generations of cellular mobile systems.
d) Define Spectrum Utilization factor.
e) Give the need of hand-off in mobile communication.
f) Define: Coherence time & System capacity.
g) List some common techniques to increase frequency spectrum utilization.
h) What is Grade of Service?
i) What is the minimum separation required between cell site antennas?
j) Define Paging channel.

Section – B **(5 marks each)**

Q2. Discuss the significance of frequency re-use in cellular radio channels.
Q3. Differentiate between Analog and Digital Cellular systems giving examples.
Q4. Explain the effect on coverage and interference of mobile link by decrease in transmitted power level.
Q5. Explain how a diversity receiver reduces the interference?
Q6. Discuss the Channel assignment to the cell sites based on adjacent channels.

Section – C **(10 marks each)**

Q7. Discuss in details the operation of a basic cellular system. Also give its performance criteria.
Q8. What are the various Hand-off strategies based on algorithms of handoff? Explain in details.
Q9. Write a note on: Mobile to Mobile Propagation.