Registration No:

M.TECH 2ND SEMESTER REGULAR EXAMINATIONS, MAY 2018
ADVANCED ANTENNAS FOR WIRELESS COMMUNICATION
Branch: EC, Subject Code:MECPE2053
Time: 3 Hours
Max Marks : 70

PART-A   (10 X 2=20 MARKS)

1. Answer the following questions.
a) Draw the block diagram of a cellular system?   (CO1)
b) Write the differences between Multiple Access and Multiplexing?   (CO2)
c) Why cell splitting is needed? Is it different from Handoff? Justify your answer?   (CO2)
d) For N = 7 cell reuse pattern, the co-channel interference reduction factor q is ____   (CO3)
         a)D/R = 5.6 b) D/R = 7.6 c) D/R = 6 d) D/R = 4.6
e) The Macro and Micro cells are available in   (CO1)
        a) Handoff b) cell sectorization c)Co Channel cellular region d)Umbrella pattern
f) What is a dipole? Draw a neat diagram to explain?   (CO2)
g) Write down two reasons to describe the use of smart antenna for wireless communication?
                                                                                      (CO3)
h) What is the use of directional antennas?   (CO1)
i) Define reciprocity theorem.   (CO4)
j) Draw the general model for TDOA Estimation.   (CO4)

PART-B   (5 X 10=50 MARKS)

Answer any five questions from the following.
2.a) Discuss in detail about small scale multipath propagation?   [5] (CO2)
  b) What is near-end-far-end interference ratio and explain its effects?   [5](CO3)

3.a) Describe the different technique to achieve Cell Handoff.   [5] (CO4)
  b) What is the need of splitting and explain the cell splitting?   [5] (CO1)

4.a)Write down the Advantages & Disadvantages of Cellular Systems with Small Cells?[5] (CO2)
  b) Write down the Duality in Maxwell's Equations?   [5] (CO3)

5.a) With proper diagram explain Coherent CDMA Spatial Processors?   [5] (CO1)
  b) Differentiate between Hyperbolic &DF PL Systems?   [5] (CO2)

6.a) What is Femto cell? How it is different from pico cell? Explain.   [5] (CO1)
  b) Write down pros and cons of Indoor network?   [5] (CO4)

7.a) Explain about the Free Space Propagation model.   [5] (CO4)
  b) What is Diversity? Explain about the Spatial Diversity.   [5] (CO3)

8) Write short notes on
   a) HATA Model   [5] (CO3)
   b) Micro Cell   [5](CO2)

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