GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

(An Autonomous Institute of Government of Maharashtra)

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Name of Examination : **Summer 2021** - (Preview)

Course Code & Course Name : **ET454B - (Elective III)-Radiation and Antenna Design**

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Maximum Marks : **60**   Duration : **3 Hrs**

Edit   Print   View Answer Key   Close   **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. *All questions are compulsory.*
2. *Illustrate your answer with suitable figures/sketches wherever necessary.*
3. *Assume suitable additional data; if required.*
4. *Use of logarithmic table, drawing instruments and non programmable calculators is allowed.*
5. *Figures to the right indicate full marks.*

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1)   Answer any two of the following

a)   What is antenna? Explain types of antenna.   [6]

b)   What are dipole antennas? Explain full-wave dipole antennas.   [6]

c)   Explain antenna parameters?   [6]

2)   Answer the following

a)   Define the following:

   1. Radiation pattern   [1]
   2. Radiation power density   [1]
   3. Radiation intensity   [1]
   4. Antenna polarization   [1]
   5. Antenna gain (G)   [1]
   6. Directivity   [1]

b)   Explain current and voltage distribution.   [6]

3)   Answer any two of the following

a)   Explain Antenna Polarization with its types?   [6]

b)   What is mean by antenna array? Explain its types and various applications.   [6]

c)   Explain end-fire array and compare it with broad side.   [6]

4)   Answer the following

a)   What are parabolic reflectors? Explain its construction and working.   [6]

b)   Write short notes on:

   1. Horn antenna   [3]
   2. Log periodic antennas   [3]

5)   Answer any two of the following

a)   Write short notes on:

   1. Phased (scanning) arrays   [3]
   2. Collinear array   [3]

b)   Explain broadband antennas.   [6]

c)   Explain radiation from a quarter –wave monopole or half wave dipole.   [6]

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