T.E. Sem VI (Rev) EXTC - Nov. 2006

Antenna & Wave Propagation

[REVISED COURSE]

CON/4856-06.

YM-7150

(3 Hours)

[Total Marks : 100

N.B. [1] **Question No.1** is <u>compulsory</u>
    [2] Answer **any four** out of remaining <u>six</u> questions
    [3] Assumptions made should be <u>clearly</u> stated
    [4] Assume any <u>suitable data</u> wherever <u>required</u> but <u>justify</u> the same
    [5] Figures to the <u>right</u> indicate marks
    [6] Illustrate answer with <u>sketches</u> wherever required
    [7] Answer to questions should be grouped and written together
    [8] Use a **blue/black ink pen** to write answers. Use of pencil should be done <u>only</u> to draw <u>sketches</u> and <u>graphs</u>

1. Explain the following:-   20
    (a) FRIIS transmission equation.
    (b) Maxwell's equations.
    (c) Ground effects and their applications.
    (d) Planar array and their applications.
    (e) Loop antennas.

2. (a) Explain the basic antenna parameters.   10
    (b) Retarded potential and their importance.   10

3. (a) Wire antenna and their specific applications.   10
    (b) End fire vs Broadside arrays.   10

4. (a) Travelling wave antennas and their applications.   10
    (b) Log periodic antennas vs Aperture antennas.   10

5. Various reflector antennas and their applications.   20

6. Types of microstrip antennas and their characteristics.   20

7 Explain different microwave propagation methods and their effects.   20