**I M.Tech - II Semester – Regular Examinations – AUGUST 2018**

# COMPUTATIONAL ELECTRO-MAGNETICS
## (MICROWAVE & COMMUNICATION ENGINEERING)

Duration: 3 hours                                           Max. Marks: 60
Answer the following questions.

1. a) Derive the boundary conditions for two different dielectric
    media.                                                                                   7 M

   b) Explain the classification of differential equations.      8 M
                                         (OR)
2. a) Explain about Time-harmonic Fields.                            7 M

   b) Prove the Uniqueness Theorem.                               8 M

3. Estimate the derivative of f(x) for various finite difference
    schemes.                                                                             15 M
                                         (OR)
4. Explain the Finite Differencing of Parabolic PDEs.      15 M

5. Explain Green's Functions and its applications.          15 M

<div align="center">(OR)</div>

6. a) Formulate the connection between differential and integral
    equations.                                          7 M

   b) Discuss about Expansion and Weighting Functions.    8 M

7. Determine element coefficient matrix for solving Laplace
   equation.                                             15 M

<div align="center">(OR)</div>

8. Classification and Explanation of Higher Order Elements.
                                                        15 M