

Code: 17ECMC2T1

**I M.Tech - II Semester – Regular/Supplementary Examinations  
July - 2019**

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

Duration: 3 hours

Max. Marks: 60

Answer the following questions.

1. a) Develop the Laplace and poisson's equation from Maxwell's equations. 7 M  
b) Derive the expression for Time-varying Potentials. 8 M  

OR
2. a) Explain about Time-harmonic Fields. 7 M  
b) Find the Wave equations using Maxwell's equations. 8 M
  
3. Explain Finite Differencing of Elliptic PDEs. 15 M  

OR
4. Determine the field components for the Maxwell's equations in isotropic medium using YEE's finite difference algorithm. 15 M

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

OR

6. a) Explain the classification of integral equations. 7 M

b) Write short note on Pocklington's Integral Equation. 8 M

7. Determine element coefficient matrix for solving Poisson's Equation. 15 M

OR

8. Classify and Explain Higher Order Elements. 15 M