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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- Dec 2018

Ph.D. 1st Semester

COURSE CODE: 18M1WEC831

MAX. MARKS: 35

COURSE NAME: Computational Electromagnetics

COURSE CREDITS: 3

MAX. TIME: 2 Hrs

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. What are basis functions? Explain Finite Element Method (FEM) with the help of basis functions. [CO-2; 5 Marks]
2. Explain in detail how Method of Moment (MoM) is different from Finite Element Method (FEM). [CO-2; 5 Marks]
3. Explain direct and indirect variational methods. [CO-3; 5 Marks]
4. Derive the expressions of electric and magnetic components of TE modes in circular waveguides. [CO-2; 5 Marks]
5. Write the major differences between FDFD and FDTD systems. [CO-3,4; 5 Marks]
6. What is magnetic vector potential? Explain its importance in calculation of antenna fields. [CO-1,5; 5 Marks]
7. Derive the expression for cut off frequency in rectangular waveguides. [CO-4; 5 Marks]