ABES Engineering College, Ghaziabad

Department of Applied Sciences & Humanities

Session: 2023-24 **Semester: II** **Section: Common to All**

Course Code: BAS201 **Course Name: Engineering Physics**

Assignment 2 (ELECTROMAGNETIC FIELD THEORY)

Date of Assignment: **Date of submission:**

1. a) Write down the physical significance of Poynting vector. **(2023-24 ODD SEM) (K1, CO2)**
   b) What is Poynting Theorem? **(2019) (K1, CO2**)

2. a) In an electromagnetic wave, the electric and magnetic fields are 100V/m and 0.265 A/m. What is the maximum energy flow? **(2021-22). (K2, CO2)**
   b) If a plane electromagnetic wave in free space has magnitude of H 1 A/m. What is the magnitude of E? **(2016) (K2, CO2)**

3 a) What is displacement current? **(2016, 2017, 2019, 2021) (K1, CO2)**
   b) Why Maxwell proposed that Ampere's law requires modification? **(2019) (K2, CO2)**

4. a) Show that magnetic monopoles do not exist. **(2021) (K2, CO2)**
   b) Differentiate between conduction current and displacement current? **Or** Write the similarities and dissimilarities between conduction and displacement current. **(2018, 2023) (K1, CO2)**

5. a) Define the concept of skin depth for high and low frequency waveforms. **(2021-22), (K1, CO2)**
   b) What do you mean by depth of penetration or skin depth? **(2019), (K1, CO2)**