

## Physics -2 (ISBIIPH211)

## Tutorial-4

$$\lambda = CXT = 2\pi C = 2x3.14 \times 3 \times 10^8 = 0.942 \text{ m}$$

$$\omega = 2x10 \text{ for } 3x10^8 = 0.942 \text{ m}$$

$$W = 2\pi y$$

$$y = \omega = 2\pi y$$

$$2\pi = 2\pi y$$

$$2\pi = 2\pi y$$

$$2\pi = 318.5 \text{ MHz}$$

$$2\pi = 2\pi y$$

(c) 
$$T = 1 = 3.14$$
 n sec

(d) 
$$H_0 = \sqrt{\frac{\varepsilon_0}{\mu_0}} \times \varepsilon_0 = 19.91 \text{ Amp/m Az}$$

Q.2. (a) 
$$K = 18ad/m$$
 .  $H = -0.26s(\omega t - z)\hat{i} + 0.5sin(\omega t - z)\hat{j}$  A/m

(b) 
$$K = \sqrt{108} = \omega = Kc = 105 \times 10^8 \text{ rad/sec }$$

(c) 
$$\eta = \sqrt{\frac{u}{\epsilon}} = 376.72 \sqrt{\frac{1}{4}} = 188.36.2$$

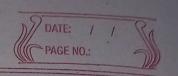
(d) 
$$\vec{E} = -1 \vec{K} \times \vec{H} = 1 \left(0.5 \sin(\omega t - z)\hat{i} + 0.2 \omega s(\omega t - z)\hat{j}\right) \vec{A}$$

$$\vec{E} = \omega \qquad \vec{E} \omega$$

$$Q \cdot 3 \cdot (a) \quad I = \langle S \rangle = \frac{3 \cdot 8 \times 10^{26}}{4\pi (9 \times 10^{9})^{2}} = \frac{3 \cdot 7 \times 10^{3} \text{ W/m}^{2}}{4\pi (9 \times 10^{9})^{2}}$$

(b) The force on the chunk 
$$F = PA = IMW Ay$$

The Gravitation force of the sum  $F_g = GMm = 0.16N Q$ 
 $F_g >> F$ 



(9.4. (a) 
$$I = P = P = 3.97 \times 10^{9} \text{ W/m}^2$$

(b) 
$$f_r = I = 13.2 Pa$$

(d) 
$$G = ma \Rightarrow a = G = 3.14 \times 10^3 \text{ m/s}^2$$

$$0.5 \quad \epsilon_1 = 2a_x - 3a_y + 5a_z$$

$$\epsilon_2 = 2a_x - 3a_y + \epsilon_{z_2}a_z$$

$$ds = 2a_x - 3a_y + 5a_z$$

$$d_1 = \epsilon_0 \epsilon_x \epsilon_1 = 4\epsilon_0 a_x - 6\epsilon_0 a_y + 10\epsilon_0 a_z$$

$$\epsilon_2 = 2a_x - 3a_y + \epsilon_z a_z$$

$$D_2 = D_{N_2} a_N + D_{N_2} a_N + 10\epsilon_0 a_z$$

$$D_{x_{1}} = 2\xi_{0}\xi_{x_{1}} = 10\xi_{0}$$

$$D_{y_{2}} = -3\xi_{0}\xi_{x_{1}} = -15\xi_{0}$$

$$D_{z_{1}} = \xi_{0}\xi_{x}\xi_{z_{2}} = 10\xi_{0} = \xi_{z_{1}} = 2$$

$$\frac{1}{|\mathcal{E}_{1} \cdot \hat{a}_{2}|} = |\mathcal{E}_{1}| \cos(90 - 0_{1})$$

$$0_{1} = \sin^{7}\left(\frac{5}{\sqrt{38}}\right) = 54.2^{\circ}$$

Similarly, 
$$O_2 = Sin^{\dagger} \left( \frac{G_2 Q_2}{|\vec{E}_2|} \right)$$

$$= 29.0^{\circ} Q_1$$

$$B_2 = B_{2}a_x + B_{2}a_y + 0.4q_z \qquad h_2 = 1(8a_x + 5.33a_y + 10^2 \mu_0 H_{22}a_z) 10^2 \mu_0$$

$$H_{Z_2} = B_{Z_2}^2 = 0.4 \text{ A/m}$$

$$\mu_0 H_{Y_2} \qquad \mu_0$$

$$O_1 = S_{1n}^{\circ} / \left( \overrightarrow{B}, Q_2 \right) = 15.5^{\circ} \overrightarrow{A}_{y}$$

$$O_2 = Sin^{-1} \left( \overrightarrow{B}_1 \cdot O_2 \right) = 76.5^{\circ} A_1$$