

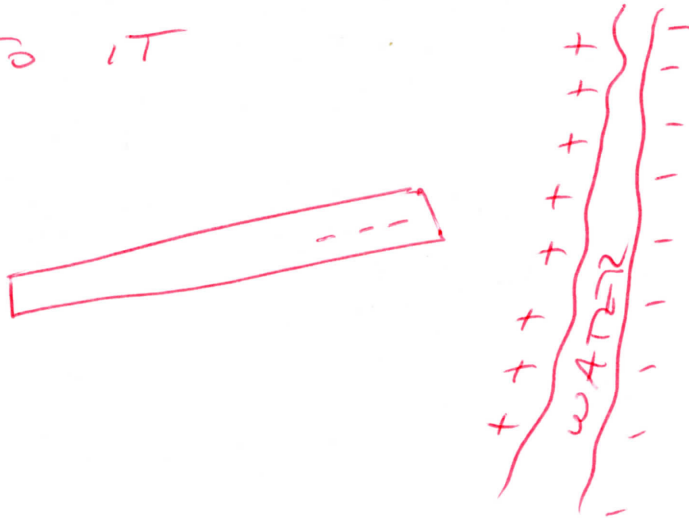
21) TOTAL ENERGY CANNOT BE CREATED OR DESTROYED ONLY CONVERTED FROM ONE TYPE TO ANOTHER

22) D WAVE IS HEADING DOWN

G WAVE IS HEADING UP

⇒ OUT OF PHASE

23) ELECTROSTATIC ⇒ CHARGE SEPERATION IS SET UP IN WATER DUE TO CHARGED ROD BEING BROUGHT CLOSE TO IT



$$24) 1 \times 10^{-2} \text{ m} = \lambda \text{ (wavelength)}$$

$$4 \times 10^{-1} \text{ s} = T \text{ (PERIOD) (How long to complete)} \\ \text{1 cycle}$$

$$T = \frac{1}{f} \Rightarrow f = \frac{1}{T} = \frac{1}{4 \times 10^{-1} \text{ s}}$$

$$f = 2.5 \text{ s}^{-1}$$

$$v = f \lambda \\ = (2.5 \text{ s}^{-1}) (1 \times 10^{-2} \text{ m})$$

$$= 2.5 \times 10^{-2} \frac{\text{m}}{\text{s}}$$

25) RESONANCE WHEN FREQUENCIES MATCH
IT CAUSES ANOTHER TO VIBRATE

26) Doppler effect when truck approaches
the waves get squeezed in front of
it $\Rightarrow \lambda$ decreases \Rightarrow speed is

CONSTANT

$$\Rightarrow v = f \lambda \quad \text{if } \lambda \downarrow \text{ AND} \\ \leftarrow \Rightarrow f \uparrow$$

28) Average EMF's the produced by current carrying wires

29) PERIOD is the amount of TIME TO COMPLETE 1 cycle

\Rightarrow 60 BEATS in 60 sec

\Rightarrow 1 BEAT TAKES 1 sec

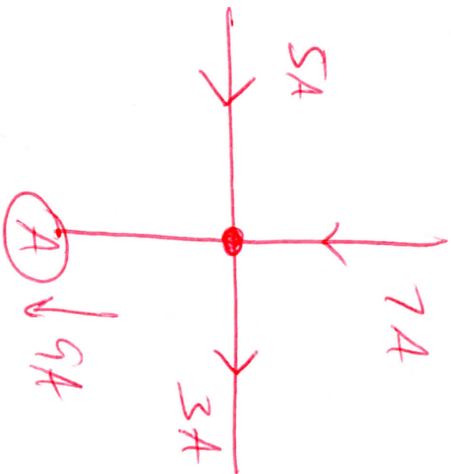
30) $Q = qe$ ~~W~~ $V = \frac{W}{Q}$

$$W = 48 J$$

$$V = ?$$

$$= \frac{48 J}{4e} = 12 \frac{J}{C} \text{ or } V$$

31) At A Junction $I_{in} = I_{out}$



$$12 A \text{ in} = 12 A \text{ out}$$

if 3 LEAVE THIS WAY

THE OTHER 9 MUST GO OUT UEG w/

AMMETER