**232/2**

**PHYSICS**

**PAPER 2**

**MARKING SCHEME**

1. i. Distance between the two plates🗸1

ii. Dielectric used🗸1

iii. Area of overlap ***any two***

1.

I

F

F

O

 🗸1

 🗸1

1. No. of units

 Cost=15x10🗸1

 Sh.150🗸1

**2**

**4**

**6**



Wave fronts√1

Focal point√1

√1

1. Mechanical wave needs a material medium for transmission but electromagnet can pass through a vacuum.√1

**N**

**S**

**Force**

1. U.V light removes electrons from the zinc plate.🗸1 The negative charge on electroscope repels the electrons hence discharging the electroscope.🗸1
2. P=IV🗸1

P=🗸1

R=

=🗸1

1. Speed=

 =400m/s🗸1

1. Using two pins attach each on each end of the metal rod. 🗸1Switch off the power. The pin attached to iron falls first.🗸1
2. The gas insulates the copper plate.🗸1
3. The induced current flows in such a direction that produces magnetic effect that oppose the change causing it.

Vs=x vp

=

Is=

 =🗸

=90A🗸

1. Energy supplied per second

 =

 =440 x

 =4.4x 108 J/S

1. P.E=Mgh

M=

(d) By use of efficient core designs

 By use of thick coils

 Use of limited core

 Use of core made of soft magnet material

1. It is the emission of electrons from a metal surface by use of electromagnetic radiation.
2. Intensity of radiation🗸1
3. Frequency of radiation🗸1
4. eVs=hf-hfo

 Vs=

 Gradient=🗸1

H=e x gradient =1.6x

 =6.4x10🗸1

1. w=hfo

fo=x-intercept=3.5x

w=6.4x🗸1

 =2.24x J🗸1

w=hfo

 = 6.6x

 = 3.7xJ

1. K.E=hf-hfo

 = 6.6x🗸1

 = 6.6x

 = 1.98x J

1. The current through a conductor is proportional to the p.d across the conductor provided all physical

 quantities are kept constant.(1mk)

1. E=I(R+r)

Case1=E=0.25(5.5+r)

 E=1.375+0.25r………….. (i)🗸1

Case 2=E

 E=1.25+0.5r……………….(ii)🗸1

Solving (i) and (ii) simultaneously

 (i)-(ii)

 0=0.125-0.25r

 r=0.5Ω🗸1

 E=1.25+0.5r

 =1.25+0.5x0.5

 =1.5V🗸1

1. Q=CV

 =6x

=36x

1. Q=Q1+Q2

=C1V+C2V

 36x√1

V=

 =2V √1

1. Q1=C1V

 =6x

 =12x

Q2=C2V

 =12x

 =48x C √1

17.

1. The ratio of the sine of the incident angle to that of the sine of the refracted angle is always a constant.
2. wηg=

Sin r=

 r=26.40

1. ray travelling from dense to rare medium, the angle of incidence in the dense medium🗸1 must be greater than the critical angle.🗸1
2. diagram

A

P4

P3

P1

P2

Image

A.D

R.D

B

Object Pin

* Place the white sheet of paper on the soft board, place the glass block on the sheet of paper and trace its outline. Stick a object pin at one end of the glass block.🗸1
* With the eye position at A, stick pins P1 and P2 so that they are on the same line with the image. Do the same with the eye position at B and stick pins P3 andP4.🗸1
* Join P1 and P2 to the image and also P3 and P4 to the image.
* Measure the A.D and R.D and find the refractive index using.
* η=🗸1

∝-decay

 🗸1

1. This is the time taken by a radioactive substance to decay by half.
2. Fraction remaining=

 X=5 half lives

 Half-life=

1. It allows the radiation into the casing🗸1
2. The bromine gas causes quenching effect so that it reduces secondary ionisation.🗸1

The radiation enters through the mica window. It causes ionization🗸1postive ion move to the cathode while negative ions move to the anode. A pulse current flows which is measured by scalar or ratemeter