**TRIAL ONE EVALUATION TEST**

**PHYSICS PAPER TWO MARKING SCHEME**

1. Angle of incidence = = 350

 Angle of reflection = 350✓

 New angle of reflection = 35° + (2 x 20)°

 = 750 ✓

2. Magnetism is easily induced in them✓. The dipoles of the keepers form a closed loop✓ with those in

the magnets hence protecting the magnets from being demagnetized;

3.(a) W – Microwave✓

 (b) Uses – Cooking

 - Communication ✓ Any one @

4.(a) Transverse waves are waves whose particles are displaced perpendicular to the direction of travel whereas longitudinal waves are waves whose particles are displaced parallel to the direction of travel. ✓

(b) T= 2.0 sec, ✓

5. a) speed= 2d/t

= 400 x 2

 2.5 ✓

= 320 mls ✓

 b) 320 = 2 (x - 400)

 4.5 ✓

x- 400 = 320 x 4.5✓

 2

X - 400 =720

x = 1120m ✓

6.To concentrate the magnectic field✓

7. More information can be transmitted at the same time since there is

minimal loss of energy during transmission.

8.-number of turns on the coil✓

 -strength of magnet✓

9.

10.



11.-The relative density✓

 -The voltage✓

12. Accumulation of hydrogen gas on the copper plate insulates the copper plate which prevents further reaction

13(a) (i) = V = IR ⇒ R =

= ✓

= 6Ω✓

(ii) Y, Z are parallel

 = +

 = 3Ω ✓

X in series with

⇒ = (6 + 3)

= 9Ω ✓

(iii) I = ✓

=

= 1.33A ✓

X

Y

Z

(iv)

 ✓

 ✓

(b) (i) E.m.f = 1.5V

 (ii) Terminal voltage = 1.3V

 (iii) R =

 =

 = 2.6Ω

***15. a) state two factors that determine the capacitance of parallel place capacitor***

-area of plates✓

-nature of dielectric✓

-distance between the plates✓

b***) A 5μ capacitor is charged to a potential of 200v and isolated . it is then connected to a 10μF capacitor***

***i) find the resultant potential difference across combination***

Q = Q1  + Q2 1x10-3 v 1x10 -3  = 15 x10-6 ✓

Q = 5x10 -6  x200 ✓ 1x10-3/5x10-6  = ***6667v*** ✓ ***( 3MKS)***

***ii) energy stored in the capacitors after connection***

E= ½ x 15 x10-6  x 200 2✓= 0.1 joules✓ ***( 2mks)***

ii0)total energy in the capacitors after connection

E= ½x 15x 10-6  x 66.672✓

= 0.00333367 joules ✓ ***( 2mks)***

(14)(i) Long sighted. ✓

(ii) Using converging lens to shortly converge he rays from a near object on the retina ✓

**O**

**I**

**√**

**√**

(iii)

(c) Eye lens is variable, camera is fixed

1. ***Give one application of capacitors***

– smoothening rectified circuits ✓

* Reduction of sparking in induction coils in tuning✓
* Circuits /delay /camera flash✓@1 mark

16 a)(i) Is to provide coherent sources √1

ii) - Alternating dark and bright fringes√1

* Dark fringes due to destructive interference√1
* Bright fringes due to constructive interference√1

iii) I. Increased distance between the fringes √1

 II) Coloured fringes are formed√1

 b) Sound becomes fainter√1 on cooling ,steam condenses creating√1 vacuum hence can’t be transmitted √1

17.(a) (i) Dispersion of white light ✓

(ii) X – Red ✓

 Y – Violet ✓

 (b) (i) ang = ✓

 = ✓

 = 1.6667 ✓

 (ii) Sin C = ✓

 =

 C = Sin-10.5999

 = 36.86✓

C

(

600

r

θ

 ✓