

# PAVEMENT NATIONAL EXAMINATION

## OPENER EXAMINATION TERM ONE 2021/2021

### FORM 4 PHYSICS PP2 (MARKING SCHEME)

1. B- more current was supplied by the batteries to a low resistance circuit.
2. Hard magnetic materials are difficult to magnetize though they retain the magnetism for a longer period. Soft magnetic materials are easily magnetized but don't keep it for a longer period.
3. This is because of multiple reflection of the object and its image on each mirror

4.

$$= 1.524$$

6.

$$= 60.63 \text{ W}$$

7.

$$= ) \text{ m}$$

$$=$$

$$148.5 =$$

$$= 124.5 \text{ m}$$

8.

$$=$$

9.

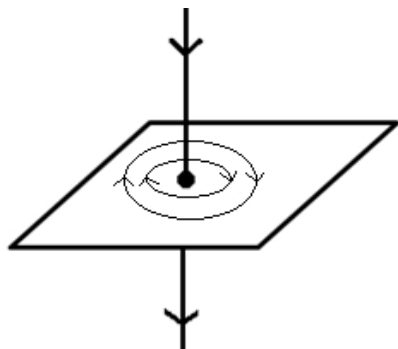
$$=$$

P

$$=$$

$$=$$

10.



11. (a)

=

(b)  $C =$

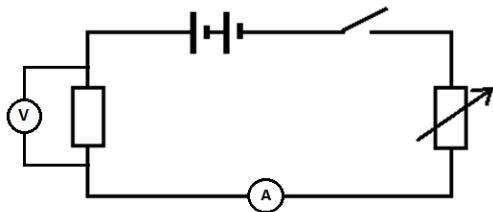
=

=

(c) - the critical angle must be exceeded

- the light ray must be coming from a denser medium to a rarer medium

12.



13. the majority negative charges are first attracted to the cap leading to a decrease in divergence, then minority positive charges are repelled. This leads to increase in divergence

14. I

=

=

15.

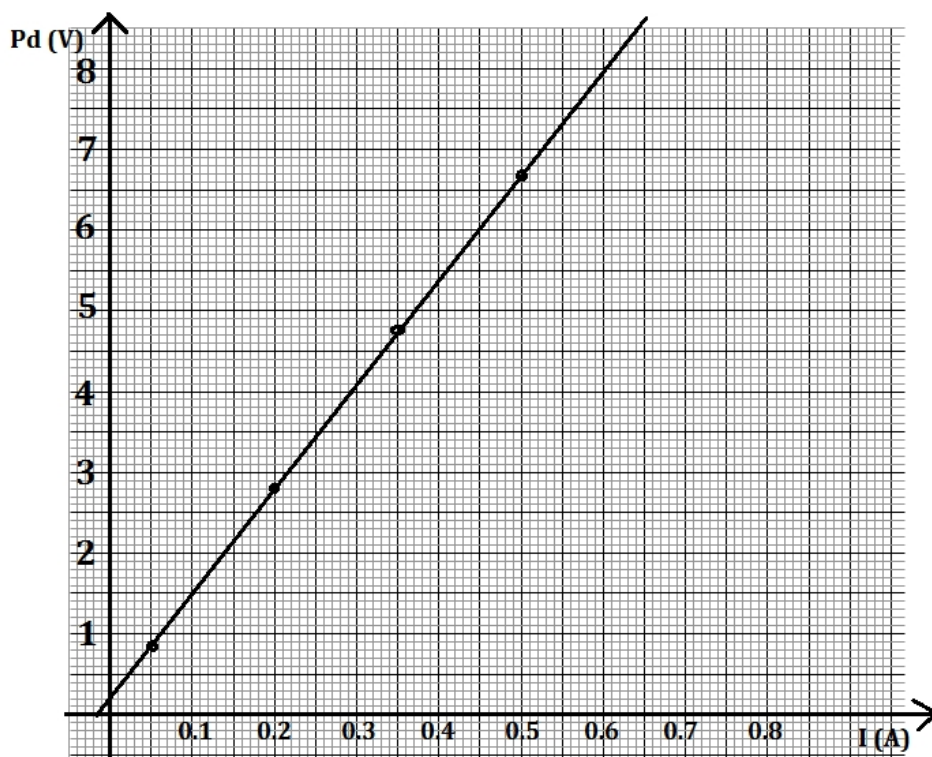
=

16.

The image is - real, diminished and inverted

17. (a) generator  
 (b) has a high resistance and melting point  
 (c) (i)  $V =$   
 (ii)  $= 0.00104 \Omega$

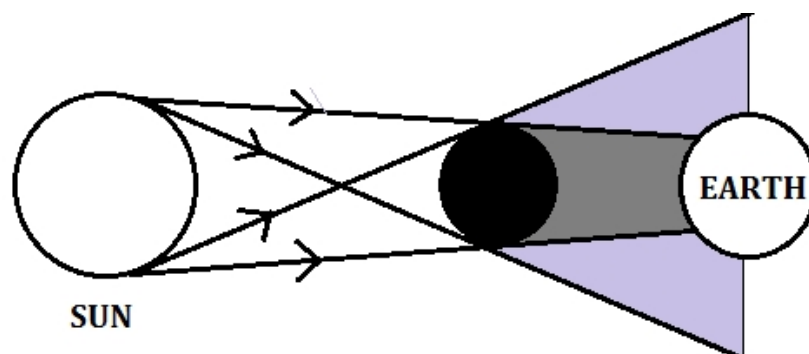
18.



- (a) Gradient =  
 (b) 0.2 V  
 (c) 0.65 V

19. (a) the current flowing in a circuit is directly proportional to the potential difference across it provided temperature and other factors are kept constant  
 (b) (i)  
 (ii)  $3 + 1 = 4 \text{ A}$   
 (iii)  $R = 28 +$   
 (iv)  $V$   
 $= 142 \text{ V}$

20. (a) WZ and XY  
 (b) anticlockwise  
 (c) – increase the current  
 - use stronger magnet  
 - increase the number of turns  
 - making sure that the coils are perpendicular to the magnetic field lines  
 (d) the coil rotates in the opposite direction
21. (a)



- (b) it is possible since moon is rotating/moving. The shadow “moves”  
 (c) when the moon is far from the earth, the moons shadow is usually short and doesn't reach the earth.