

ANNUAL EVALUATION 2017  
STANDARD IX - PHYSICS  
ANSWER KEY

1. Ampere or A
2. Voice coil. Others are parts of DC motor
3. If all the cells have equal emf then the emf of the circuit is same as that of a single cell.

4.  $1/10 \Omega$

5. Right hand rule

6. a) Law of flotation

b) When a hydrometer is placed in a liquid of higher density, it rises up.

7.

Resistance in series	Resistance in parallel
<ul style="list-style-type: none"> <li>• Effective resistance increases</li> <li>• The current through each resistor is same</li> </ul>	<ul style="list-style-type: none"> <li>• Effective resistance decreases</li> <li>• Each resistor can be controlled by using separate switches</li> </ul>

8. a) 6 V

b)  $I = V/R = 6/6 = 1 \text{ A}$

9. a) A conductor which can move freely and which is kept in a magnetic field experiences a force when current passes through it

b) Moving coil loudspeaker or any relevant answer

10. a) Equatorial Satellite: Communication network, Defence and intelligence etc  
Polar Satellite: Weather forecast, observing the Earth's surface etc

b) If the period of revolution of the equatorial satellite is equal to the period of rotation of the earth (24 hours), it is called geostationary satellite.

11. a) Momentum is a characteristic of moving objects or any other relevant answer.

b)  $m = 2 \text{ kg}$

$v = 10 \text{ m/s}$

$p = mv = 2 \times 10 = 20 \text{ kgm/s}$

12. a) at A

b) The value of 'g' at poles is more than the value of 'g' on the equator. So the weight of a body is more at poles than at the equator.

c) zero

13.

a)  $W = mgh$

$= 2 \times 5 \times 10 \times 9$

$= 900 \text{ J}$

b)  $P = W/t$

$= 900/30$

$= 30 \text{ W}$

$= 30/1000 \text{ kW}$

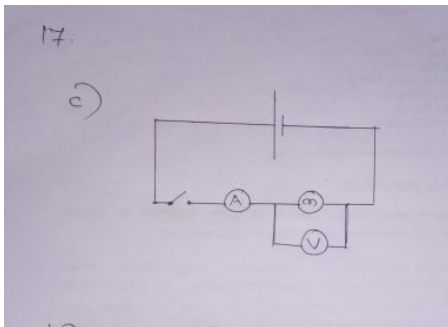
$= 0.03 \text{ kW}$

14. a) South pole of the magnetic needle  
 b) At the end Q the current is flowing in the anti clockwise direction. So North pole is formed at the end Q. So the end Q attracts the south pole of the magnetic needle.  
 c) i) Increase the intensity of current  
 ii) Increase the number of turns  
 iii) Use a core made of soft iron

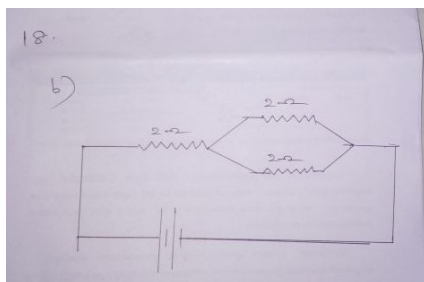
15. a) Chromosphere, Corona  
 b) Corona. During total solar eclipse the photosphere of the sun is covered by the shadow of the moon

16. a) far sightedness  
 b) (i) The size of the eye ball is shorter than normal.  
 (ii) The lens of the eye has less power  
 c) Convex lens

17. a) Cell  
 b)  $I = Q/t$   
 $= 30/60$   
 $= 0.2 \text{ A}$   
 c)



18. a)  $R = R_1 + R_2$   
 $= 2 + 2$   
 $= 4 \Omega$   
 $1/R = 1/R_1 + 1/R_2$   
 $= 1/4 + 1/2$   
 $= 3/4$   
 $R = 4/3 \Omega$



19. a) The magnetic needle is deflected as a result of the mutual interaction of the magnetic field developed around the current carrying conductor and field around the magnetic needle

b) To change the direction of the current

c) Ampere's swimming rule.

If a man swims along the wire carrying current such that his face is always towards the magnetic needle with current entering his feet and leaving his head then the North Pole of the magnetic needle is always deflected towards his left hand

20.

a) Karthika

b) Njattuvela is the duration of time the sun is seen along with an asterism.

c) Taurus

d) The duration of a njattuvela is approximately 14 days

