A

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ANNUAL EVALUATION 2018-19
PHYSICS

E 906 Ph

Standard: IX

Time : 1½ Hour
Total Score : 40

Instructions

- First 15 minutes is given as cool off time. This time is to be spent for reading and understanding the questions.
- Answer the questions based on instructions.
- Answer the questions according to score and time

Answer any FOUR questions from 1 to 5. Each question carries 1 score. (4 x 1 = 4)

1. Identify the relation between the first pair and complete the second. (1)

   A floating ship : Archimedes principle

   An excavator : .....

2. If 0.8 coulomb of charge flows through a conductor in 2 second the current will be (1)

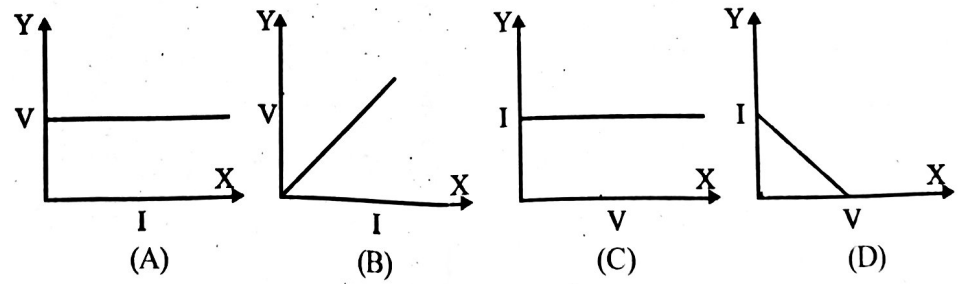
   (0.2 A, 2 A, O.4 A, 4 A)

3. Which among the following can be the possible value of 'g' at the poles of the earth

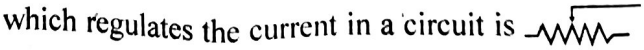
   (9.78 m/s^2, 9.83 m/s^2, 0 m/s^2, 9.6 m/s^2) (1)

4. Name a star which is seen in orange colour ..... (1)

5. From the following, which graph is related to Ohm's law? (1)



Answer any FOUR questions from 6 to 10. Each question carries 2 score. (4 x 2 = 8)

6. The symbol of a device which regulates the current in a circuit is 

   a) Name the device. (1)

   b) Which principle is used to design this device? (1)

7. 'Orion' is a constellation used to find out direction.

   a) Name any other purposes for which our ancestors observed the stars. (1)

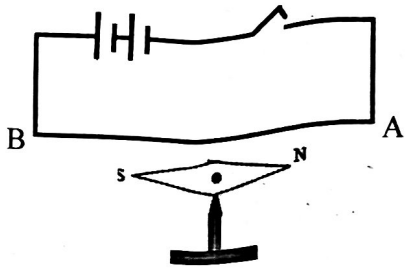
   b) Write the name of another constellation that was observed for finding the direction. (1)

8. Kilogram weight (kgwt) is a unit of weight.

a) Express the value of 1 kgwt in newton. (1)

b) Which device is used to measure weight? (1)

9. A magnetic needle is arranged below the conductor and parallel to it as shown.



a) In which direction does the north pole of this magnetic needle move? (1)
(Clockwise / Anti clockwise)

b) Write the reason for the deflection of magnetic needle? (1)

10. Complete the table.

Voltage (V)	Current I (A)	Resistance R (Ω)
8	(a)	4
12	3	(b) .....

i) Find the values of a and b? (1)

ii) State the law helped you in completing the table. (1)

Answer any <u>FOUR</u> questions from 11 to 15. Each question carries 3 score. (4 x 3 = 12)

11. A stone of mass 100 g is dropped from the top of a tower. It takes 2 s to reach the ground. ($g = 10\ m/s^2$)

a) Calculate the height of the tower. (1)

b) Evaluate the potential energy possessed by the stone when it is at the top of the tower? (1)

c) Evaluate the kinetic energy of the stone when it just touches the ground? (1)

12. The resistance of a copper wire and an aluminium wire of same length and thickness are different.

a) Name the property of the substances responsible for this difference. (1)

b) Define this property. (1)

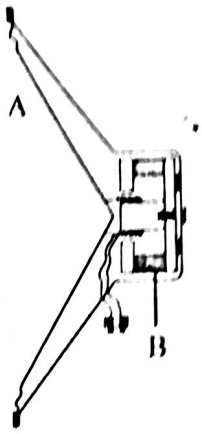
c) Select the factors affecting this property from the following. (1)
(Length, Area of cross section, Temperature)

13. Stars have birth and death.

a) From where do stars born? (1)

b) Energy is produced in stars by nuclear fusion. Explain how the conditions for this energy production is achieved? (2)

14. The figure shows the pictorial depiction of a loud speaker.



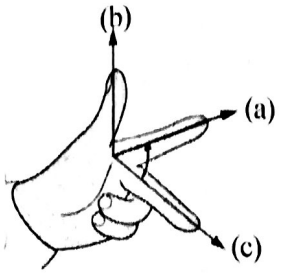
a) Identify the parts A and B. (1)

A ..... B .....

b) What energy transformation is taking place in this device? (1)

c) Name the basic principle of its working. (1)

15. The picture shows Fleming's left hand rule. Choose appropriate terms from the box that is represented by a, b and c. (3)



Force, Current, Resistance, Magnetic field

Answer any <u>FOUR</u> questions from 16 to 20. Each question carries 4 score. (4 x 4 = 16)

16. A lorry of mass 1500 kg moves with a velocity of 10 m/s. By applying brakes it is brought to rest in 5 seconds.

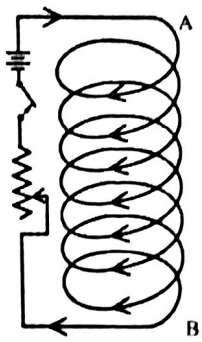
a) What is the initial momentum of the lorry? (1)

b) What is the final momentum? (1)

c) What is the rate of change of momentum? (1)

d) 'Rate of change of momentum depends on the applied force'. Name the law related to this statement. (1)

17. Observe the figure given below.

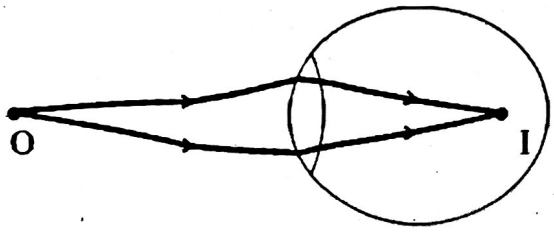


a) When a current is passed through the circuit in a direction as shown. Which polarity is developed at A? (1)

b) Write down two methods to increase the strength of the magnetic field of a solenoid carrying a current. (2)

c) Name a device that works using the magnetic effect of electric current? (1)

18. Given below is the ray diagram of image formation in the eye of a child when he views a far off object.

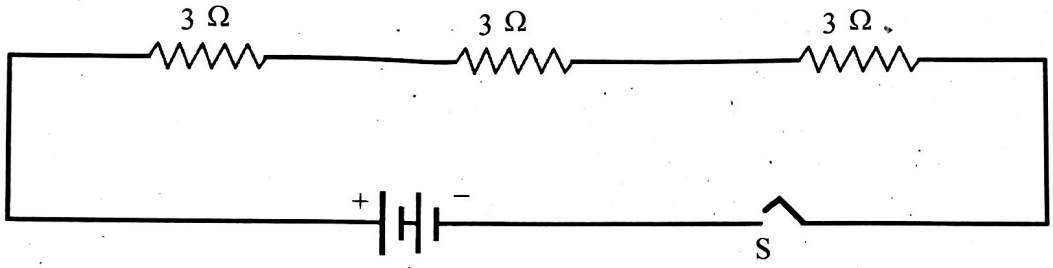


a) Name this defect of eye. (1)

b) What would be the reasons for this defect of eye? (2)

c) Suggest a method to rectify this. (1)

19. Observe the figure.



a) Calculate the effective resistance in the above circuit. (1)

b) Draw the diagram by rearranging the circuit so as a to get an effective resistance of one ohm. (1)

c) From the given statements, choose those suitable for the circuit you have drawn. (2)

i) The current through each resistor is different.

ii) The potential difference across each resistor is different.

iii) The same current flows through all the resistors.

iv) The potential difference across each resistor is the same.

20. Match the items in columns A, B and C. (4)

A	B	C
Geosynchronous satellite	Surface of the sun	Energy production
Main sequence star	24 hours	Thiruvathira
Sun spot	13 - 14 days	Strong magnetic field
Njattuvela	H is converted to He	Communication