

Instructions

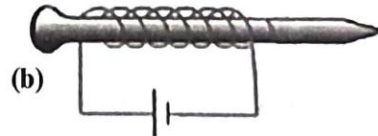
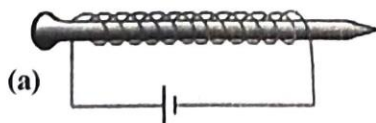
- The total cool off time for Physics, Chemistry and Biology is 15 minute. Read the questions carefully and understand them during this time.
- Answers are to be written in the order Physics, Chemistry and Biology. The time for each section is 40 minute. The answer books must be returned to the teacher after writing each subject.

Physics

Time: 40 minute
 Score : 20

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

1. Observe the relation in the first pair and complete the second pair. (1)
 Electric charge: coulomb :: Capacitance :
2. How many second make one solar day? (1)
 (24 s, 60 s, 86400 s)
3. Designing the shape of an object in order to reduce friction is (1)
4. Which of the following has more susceptibility. (1)
 (Steel / Soft iron)
5. The following figures depict, two electromagnets made from two iron nails of same size. Which is the strongest electromagnet? (1)



Answer any **FIVE** questions from 6 to 13. Each question carries 2 score. (5 x 2 = 10)

6. a) The radius of curvature of a concave mirror is 40 cm. Find the focal length of the mirror. (1)
 b) Which type of spherical mirrors are used as rear view mirror in vehicles? (1)
7. a) Draw magnetic lines of force between the given poles of magnets. (1)

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 b) Write any two peculiarities of magnetic lines of force. (1)
8. 1 mm is the least count of a metre scale.
 a) What do you mean by least count? (1)
 b) Arrange the following units in ascending order of their values. (1)
 (μm , km, nm, cm)

9. Observe the figure.



- a) Identify the device. (1)
 b) When you touch the metallic sphere of this device with a charged object, what do you observe? (1)

10. Classify the following as acceleration and retardation (2)

- a) A ball rolling on a level ground.
 b) A train starting from station.
 c) Motion of a stone thrown up, when it goes up.
 d) A coconut falling from a coconut tree.

11. The weight of the air column over unit area of earth's surface is atmospheric pressure.

- a) What is standard atmospheric pressure? (1)
 b) Name the instrument used to measure atmospheric pressure (1)

12. Two identical balloons one filled with water and other with kerosene of equal quantity.



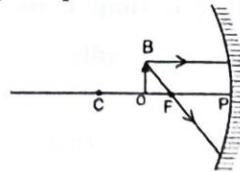
- a) Identify the balloon filled with water. (1)
 b) Why is the expansion of balloons appear different in figures (a) and (b)? (1)

13. Two immiscible liquids A and B of densities 0.8 g/cm^3 and 1 g/cm^3 respectively are taken in a beaker.

- a) Which liquid comes on the upper layer. (1)
 b) Give reason. (1)

Answer any TWO questions from 14 to 16. Each question carries 3 score. (3 x 2 = 6)

14. a) Complete the following diagram by depicting the path of reflected rays. (2)
 b) Write any two features of the image. (1)



15. Production of sound in a manner unhealthy to human beings is noise pollution.
 a) Write any two harmful effects of noise pollution. (1)
 b) Write any two methods to minimize noise pollution. (2)

16. The following figure depicts the path of an object which takes 10 s to travel from P to R through Q at uniform speed. Observe the figure and answer the following questions.

- a) What is the speed of the object? (1)
 b) Among velocity and speed, which one is a vector quantity. Why? (2)

