



PHYSICS

BOOKS - S CHAND PHYSICS (HINGLISH)

TEST PAPER 1

Section A

1. An electric geyser has the rating $2000W - 220V$ marked on it. What should be

the maximum current rating (in whole number) of the fuse-wire to be used ?



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2. You are given three resistors of 10Ω , 10Ω and 20Ω , a battery of emf 2.5 V , a key, an ammeter and a voltmeter. Draw a circuit diagram showing the correct connections of all given components such that the voltmeter connected across the ends of 20Ω resistor gives a reading of 2.0 V



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3. A person is able to see objects clearly only when these are lying at distances between 50 cm and 300 cm from his eye.

(a) What kind of defects of vision is he suffering from? (b) What kind of lenses will be required to increase his range of vision from 25 cm to infinity? Explain briefly.



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4. (i) What is the meaning of the term 'frequency' of an alternating current?

(ii) Why is alternating current considered to be advantageous over direct current for long range transmission of electric energy?



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5. (a) Differentiate between nuclear fission and nuclear fusion.

(b) Which of the two, nuclear fission or nuclear

fusion, is made use of:

(i) for the production of electricity?

(ii) for making a hydrogen bomb?



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6. (a) Give reasons for the following:

(i) The sky appears to be blue during day time to a person on earth.

(ii) The sky near the horizon appears to have a reddish hue at the time of sunset and sunrise.

(iii) The sky appears dark instead of blue to an

astronaut.

(iv) The stars appear to twinkle.

(v) The planets do not twinkle.



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7. What is an electromagnet ? Draw a circuit diagram to show how a soft-iron piece can be transformed into an electromagnet .



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8. (a) State four factors on which the resistance of a conductor depends.

(b) A piece of wire of resistance $20\ \Omega$ is drawn out so that its length is increased to twice its original length. Calculate the resistance of the wire in the new situation.



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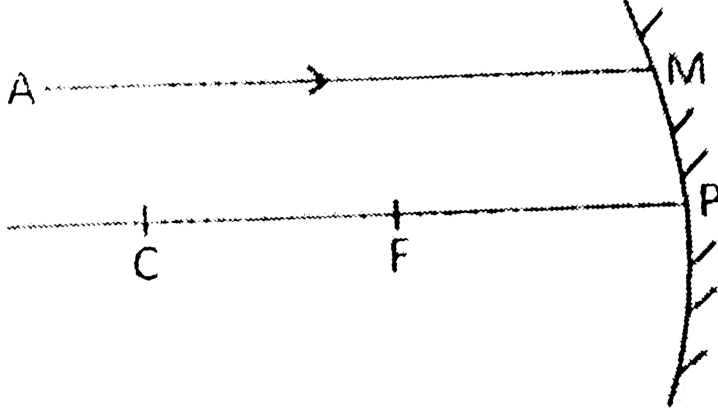
Section B

1. Draw the pattern of magnetic field lines of a current carrying solenoid. What does the pattern of field lines inside the solenoid indicate? Write one application of magnetic field of current carrying solenoid.



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2. A ray of light AM is incident on a spherical mirror as shown in the diagram.



Redraw the diagram on the answer sheet and show the path of reflected ray. Also indicate and mark the angle of reflection in the diagram.



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3. Draw the path of light ray passing through a prism. Label angle of incidence and angle of deviation in the ray diagram.



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4. A student has been given 3 resistances of 3 ohms each.

(a) How should he connect these resistances so as to obtain a resultant resistance of 1 ohm ?

(b) Draw a labelled diagram to show the combination of these resistances.



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