



Date : 30.12.2018

One Mark Questions

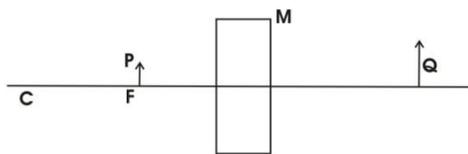
Marks : 100

Time : 3 Hrs.

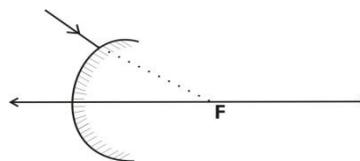
**Sub : Science - Physics**

Class : X

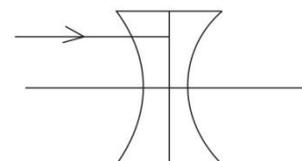
- 1) Define the unit of electric current.
- 2) What is the conventional direction of electric current.
- 3) Define the unit of resistance.
- 4) Define the unit of potential difference.
- 5) A wire of resistivity  $\rho$  is stretched twice its length. What will be its new resistivity?
- 6) Define the unit of electric power.  
Out of the three wires live, neutral and earth, which one goes through ON/OFF switch?
- 7) Draw a diagram to represent the uniform magnetic field in a given region.
- 8) What is the function of iris in eye?
- 9) Write the role of ciliary muscle in the human eye.
- 10) Why does a pencil dipped in water appears bent at the water surface?
- 11) Find the power of concave lens of focal length 200cm.
- 12) Write the causes for the development of the eye defect, presbyopia.
- 13) Consider the following diagram in which M is a mirror and P is an object and Q is its magnified image formed by the mirror. State the type of the mirror M and write one characteristic property of the image Q.



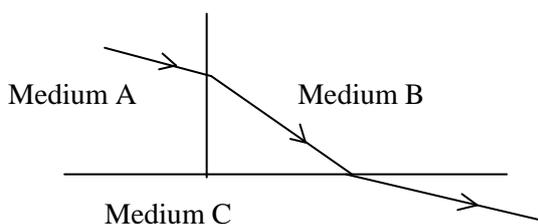
- 14) An incident ray falls normally on a glass slab. What is the angle of refraction?
- 15) Define electric power and write its SI unit.
- 16) Define principal focus of a concave mirror.
- 17) A ray of light is incident on a spherical mirror as shown in the diagram. Redraw the diagram and show the path of reflected ray. Also indicate & mark the angle of incidence.



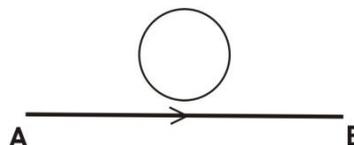
- 18) Refractive indices of water and glass sample is 1.33 & 1.52 respectively. Calculate the refractive index of glass sample with respect to water.
- 19) Define near point of a human eye and what is its value?
- 20) What is the cause of formation of rainbow?
- 21) A light ray travelling in air enters obliquely into water. How is it bend?
- 22) Complete the path of ray of light in the given concave lens.



- 23) Draw a ray diagram to show the formation of three times magnified virtual image of an object kept in front of the converging lens.
- 24) Why do we get colors when white light is passed through a prism?
- 25) Draw a ray diagram to show the formation image when the object is placed between centre of curvature and focus of a concave mirror.
- 26) Write two limitations in harnessing wind energy.
- 27) State the change in the strength of magnetic field at a point when it is moved away from the conductor carrying current.
- 28) List two properties of a good fuel.
- 29) Give one limitation in harnessing energy from geothermal source.
- 30) The resistance of a resistor is kept constant and the potential difference across its two ends is decreased to half of its former value. State the change that will occur in the current through it.
- 31) What happens to the magnetic field when current through the solenoid is reversed?
- 32) What is meant by saying potential difference between two points is 2V?
- 33) Name a device that helps to maintain the potential difference across a conductor.
- 34) A ray of light is incident on the interface separating diamond and water. Given the refractive indices of diamond and water with respect to air are 2.42 and 1.33 respectively. Draw the incident ray and refracted ray for the above case and also mark the angle of incidence and angle of refraction.
- 35) Write the function of iris.
- 36) What is the nature of the image formed at retina of the human eye?
- 37) What do you mean by dispersion of light?
- 38) Write the condition for no refraction.
- 39) What is the minimum distance between the object and image in a concave mirror?
- 40) What is meant by power of a lens?
- 41) What is meant by power of accommodation of eye?
- 42) Name the physical quantity work/charge called.
- 43) Define resistivity of a material.
- 44) What are the two causes of short sightedness?
- 45) What are the two causes of far sightedness?
- 46) The figure shows rays of light passing through three mediums A,B and C. Rank the mediums according to their decreasing refractive index.



- 47) Calculate the power of a concave lens of focal length 25cm.
- 48) A concave mirror produces three times magnified real image of an object placed at 10cm in front of it. Where is the image located?
- 49) When two lenses of focal lengths +10cm and -5cm are placed in contact, calculate the net power.
- 50) Two lenses have power of i) +2D and ii)-4D. What is the nature and focal length of each lens?
- 51) The refractive indices of water and glass are  $\frac{4}{3}$  and  $\frac{3}{2}$  respectively with respect to air. Calculate the refractive of glass with respect to water.
- 52) Which colour of the visible spectrum deviates i) the least and ii) the most?
- 53) Why are danger signal lights red in colour?
- 54) Write any two characteristics of the image formed by the plane mirror.
- 55) Name nay two energy sources that you would consider to be renewable.
- 56) Name any two fossil fuels.
- 57) What is acid rain?
- 58) Name the part of a biogas plant where reactions take place in the absence of oxygen.
- 59) Bio-gas is also known as gobar gas. Justify.
- 60) List two nutrients that the slury left behind in the bio gas plant contain.
- 61) A black surface absorbs more heat radiations as compared to a white or a reflecting surface under identical conditions. List two solar devices which make use of this property in their design.
- 62) Name two elements that are used in fabricating solar cells.
- 63) Write the name of the substance whose vapours are used to run the turbine of the generator of ocean thermal energy plant.
- 64) Why a solar cooker painted black from outside?
- 65) Mention the minimum temperature difference required between surface water and water at a depth of up to 2km in an ocean thermal energy plant.
- 66) Name one fuel used in nuclear reactor.
- 67) Name the reaction responsible for large energy production in the sun.
- 68) Why is CNG considered as environmental friendly fuel?
- 69) Write any two limitations of hydro electric power plants.
- 70) Name any two gases commonly present in bio-gas.
- 71) How is an ammeter connected in a circuit to measure current flowing through it?
- 72) Resistance of an incandescent filament of a lamp is comparatively much more than that when it is at room temperature. Why?
- 73) Write relation between heat energy H produced in a conductor when a potential difference V is applied across its terminals and a current I flows through for time t.
- 74) Which property of a proton can change while it moves freely in a magnetic field?
- 75) A steady current of 5A is flowing through a conductor AB. Will the current be induced in the circular coil of radius 1m?



- 76) An electron suffers a maximum deflection while passing through a region of uniform magnetic field. What is the direction of the magnetic field?
- 77) The angle between the incident ray and the reflected ray is  $60^\circ$ . What is the angle of incidence?
- 78) Magnification of the images formed by the plane mirror is +1. Why?
- 79) When light undergoes refraction at the surface of two media, what happens to the speed of light?
- 80) When does an object and its image coincide in a convergent mirror?
- 81) Give an example of a phenomenon where Tyndall effect can be observed.
- 82) Define the term least distance of distinct vision.
- 83) Calculate the work done in moving a charge of 5C from a point at 20V to another point at 30V.
- 84) State a difference between the wire used in the element of an electric heater and in a fuse wire.
- 85) Why is the series arrangement not used for domestic circuits?
- 86) Which uses more energy, a 2kW appliance used for 5hr, or a 0.2kW appliance used for 10hr?
- 87) How is a voltmeter connected in a circuit to measure potential difference between two points?
- 88) An electric iron of resistance 20 ohm takes a current of 5A. Calculate the heat developed in 10s.
- 89) Judge the equivalent resistance when a 1 ohm and 1 kilo ohm resistances are connected in parallel. Why do you judge so?
- 90) Name the device that helps to maintain a potential difference across a conductor.
- 91) What determines the rate at which energy is delivered by a current?
- 92) What does an electric circuit mean?
- 93) Name three devices in which electric motors are used.
- 94) Name the device which is used to draw magnetic field lines around a bar magnet.
- 95) What will happen to the deflection of the current carrying rod kept in a uniform magnetic field if the polarity of the battery is reversed.
- 96) On what basis would you classify energy sources as exhaustible and inexhaustible?
- 97) Name two dams/projects which faced opposition over their construction from the local public.
- 98) Write the SI units of electric energy and electric power.
- 99) What is cataract?
- 100) What will happen to the least distance of distinct vision of a person suffers from hyperopia?

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