SREE VIDHYA HIGH SCHOOL, ERUTHENPATHY

STUDENT'S TEAM TEACHING AND EMPOWERMENT PROGRAMME FOR SCIENCE

PHYSICS STUDY MATERIAL

COLLECTION OF VERY SHORT ANSWER QUESTIONS

JANUARY 2021

1. EFFECT OF ELECTRIC CURRENT

1. Battery (charging)
   Electrical energy --> chemical energy

   Mixie (working) - Electrical energy --> ----------

   Mechanical Energy

2. Soldering Iron - Heating Effect of electric current
   Grinder - ----------

   Magnetic effect of electric current

3. Unit of Charge is ----------

   Coulomb

4. The unit of energy is ----------

   Joule

5. The process by which heat is developed in a circuit on passing current through it is known as----------

   Joule Heating or Ohmic Heating

6. When 3Ω, 6Ω resistances are connected in parallel, the effective resistance will be -------

   (3Ω, 1Ω, 6Ω, 2Ω)

   R = R1R2/ R1+R2 = 18/9 = 2Ω

7. In Microwave oven, microwave and in Induction cooker ---------- are used to produce heat.

   Eddy current

8. How is the fuse wire connected to a circuit ? Where it is connected ?

   In series, in phase

9. ---------- is the ratio of the power of an equipment to the voltage applied.

   Amperage

10. The reciprocal of the diameter of a conductor is called as ----------

    Gauge

11. Calculate the power of the Heating appliance having 115 Ω resistance and 2 A current passing through it.

(115 W, 230 W, 460 W, 345 W)

$P = IR^2 = 2^2 \times 115 = 460$ W

12. When eight 10 Ω resistances are connected in parallel, what will be the effective resistance of the same ?

(80 Ω, 8 Ω, 1 Ω, 1.25 Ω)

R = r/n = 10/8 = 1.25 Ω

13. The metal used to make filament

Tungsten

14. Which are the constituent elements in Nichrome ?

Nickel, Chromium, Iron

15. Write the name of the alloy used to make heating element in heating appliances ?

Nichrome

2. MAGNETIC EFFECT OF ELECTRIC CURRENT

16. A ---------- is an insulated wire wound in a shape of a helix.

Solenoid

17. In a current carrying solenoid, if the current is in clockwise direction, the end of that solenoid will be ---------- pole.

South Pole

18. Which law is help us to find the direction of the movement in an equipment working under magnetic effect of electric current.

Fleming's left hand rule.

19. Give two examples of equipments working under motor principle.

Fan, Mixie

20. Which is not a part of an electric motor ?

(Field Magnet, Armature, Voice coil, Split rings)

Voice coil.

21. Moving coil Loud speaker is working under ---------- principle.

Motor principle.

22. The law used to find out the direction of magnetic field around a current carrying conductor.

Right hand thumb rule.

3. ELECTRO MAGNETIC INDUCTION

23. Who discovered the principle of electro magnetic induction ?

Michael Faraday.

24. Write the name of the instrument used to find out the presence of very low electric current and it's direction ?

Galvanometer.

25. Father of electricity

Michael Faraday.

26. Whenever there is a change in the magnetic flux linked with a coil, an emf is induced in the coil. This phenomenon is known as ----------

Electro Magnetic Indiction.

27. The law used to find out the direction of induced emf is ----------

Fleming's Right Hand Rule.

28. The energy transformation takes place in Generator is ----------energy into ---------- energy.

Mechanical Energy --> Electrical Energy

29. The main parts of an AC Generator

Permanent Magnet(field magnet), Armature, Slip rings, Brushes

30. The frequency of AC generated transmission in our country is in ----------

50 Hz

31. Which are the main parts of a DC Generator ?

Field Magnet, Armature, Split Rings, Brushes

32. How many times changes the direction of electric current of AC in one second ?

(25, 50, 100, 200)

100

33. The working principle of a Transformer is ----------

Mutual Induction

34. The name of transformer which increases the voltage of AC is ----------

Step up transformer

35. The name of transformer which decreases the voltage of AC is ----------

Step down transformer

36. According to a transformer, the power in primary = ----------

Power in secondary

37. The change in magnetic flux due to the flow of an AC in a solenoid will generate a back emf in the same solenoid. This phenomenon is known as ----------

Self Induction.

38. ---------- are used to reduce current in a circuit to the desired value without loss of power.

(Resistor, Inductor, Ammeter, Voltmeter)

Inductor.

39. Select and write from the following relations given in bracket which are suitable for step up transformer.

(Is < Ip, Ns/Np < 1, Vs > Vp, Ns/Np > 1)

Vs > Vp, Ns/Np > 1

40. Write the main parts of moving coil microphone ?

Permanent Magnet, Voice coil, Diaphragm.

41. What is the energy changes takes place in moving coil microphone ?

Sound Energy --> Electrical Energy

42. Which type of microphone is used in Hearing Aids ?

Capacitor Microphone.

43. What is the method used to reduce the transmission loss ?

Increase the voltage.

44. Which are the lines essential for household electrification ?

Phase & Neutral

45. Safety Fuses are connected in ---------- lines.

Phase

46. Which method of connection is adopted in household appliances ?

Parallel Connection

47. A grinder of power 750 W works for 2 hours. Calculate the energy consumed.

(1, 2, 1.5, 1.25)

Kwh = (750 x 2) / 1000 = **1.5 units**

4. REFLECTION OF LIGHT

48. The measurements of angle of incident and the angle reflection are ----------

Equal/Same

49. The images formed in a plane mirror is real or virtual ?

Virtual

50. If two plane mirrors are kept in an angle of 40^0, how many images can be observe ?

n = (360/ø) – 1 = (360/40) – 1 = 9-1 = **8**

51. The maximum range of the vision through the mirror is ----------

Field of view

52. ---------- mirror always forms virtual, erect and diminished images.

(Concave Mirror, Convex Mirror, Plane mirror)

Convex Mirror

53. The mirror having the largest field of view

Convex Mirror

54. ---------- mirror is used in Solar concentrators

Concave mirror

55. This mirror is used as rear view mirror

Convex Mirror

5. REFRACTION OF LIGHT

56. ---------- is a measure that shows how a medium influences the speed of light passing through it.

Optical density

57. The ratio of the sine of the angle of incidence to the sine of the angle of refraction will be a constant. This constant is known as ----------

Refractive Index

58. Speed of light in air / speed of light in glass = Refractive Index of ----------.

Glass

59. The refractive index of a medium with respect to vacuum is called ----------.

Absolute Refractive Index

60. Which phenomenon of light is used in telecommunication of optical fibre cables.

(Dispersion, Scattering, Refraction, Total Internal reflection)

Total Internal Reflection.

61. Write the critical angle of glass and water

42^0, 48.6^0

62. If the principal focus of a lens is real, it's focal length will be ----------

(Positive/Negative)

Positive.

63. This lens is having negative focal length

(Convex Lens/Concave Lens)

Concave Lens

64. The ratio of the height of the image to the height of the object is called as ----------

Magnification

65. What are the characteristics of the image of a lens, if the magnification is positive ?

Erect & Virtual

66. The reciprocal of focal length of a lens expressed in meters is called ----------

Power

67. Calculate the power of a lens of focal length +25 cm ?

(1D, 2D, 3D, 4D)

4D

68. What is the reason of twinkling of a star ?

Refraction

6. VISION AND THE WORLD OF COLOURS

69. The nearest point at which the objects can be seen distinctly is known as ----------

Near point

70. The near point of an eye with healthy vision is ---------- cm

25

71. The ability of the eye to form an image on the retina by adjusting the focal length of the lens in the eye, by varying the curvature of the lens, irrespective of the position of the object, is called as ----------

Power of Accommodation.

72. By changing the curvature of lens and there by adjusting the focal length is an ability of our eye. It can be done by the help of ----------

Ciliary Muscles

73. The defect of an eye caused by decreasing the curvature of eye or decreasing the power of the lens is known as ----------

Long sightedness or Hypermetropia

74. The defect of an eye caused by increasing the curvature of eye or increasing the power of the lens is known as ----------

Near sightedness or Myopia

75. Write the name of the defect of an eye caused by the distance of the near point changed more than 25 cm ?

Presbyopia

76. Any light that is composed of more than one colour ?

Composite light.

77. ---------- is the phenomenon of splitting up of a composite light into it's constituent colours.

Dispersion of light.

78. More deviated light due to dispersion

Violet

79. Low deviated light due to dispersion

Red

80. The colour of light having maximum wavelength

Red

81. The colour of light having shortest wavelength

Violet

82. The colour of light that can be seen at the lower edge of Rainbow

Violet

83. The colour of light that can be seen at the upper edge of Rainbow

Red

84. The primary colours

Red, Green & Blue

85. Green + Red = ----------

Yellow

86. Green + ------ = Cyan

Blue

87. Blue + Red = ---------

Magenta

88. If the Newton's colour disc is rotated fast, the disc appeared white due to ----------

Persistence of vision

89. Which component colour in white light undergoes maximum scattering ?

Violet

90. What is the relation between wavelength and scattering ?

Wavelength increases, scattering decreases
or
Wavelength decreases, scattering increases

7. ENERGY MANAGEMENT

91. Non-renewable energy sources are ----------

Fossil fuels

92. What are the products obtained from the distillation of coal in the absence of air ?

Coal tar, Coal gas, Coke, Ammonia

93. --------- is the most abundant fossil fuel on the earth.

Coal

94. Main constituent of L.P.G (Cooking gas)

Butane.

95. The main component of C.N.G

Methane

96. The main component of L.N.G

Methane

97. The chemical substance which is added into L.P.G to beware of gas leakage.

Ethyl Mercaptain

98. The components of biogas are ---------- and Carbon dioxide

Methane

99. The amount of heat liberated by complete combustion of 1 Kg of fuel is called it's ----------

Calorific Value

100. Which type of Generator is used in power station.

(DC Generator, Single phase AC Generator, Three Phase AC Generator)

Three Phase AC Generator

101. ---------- is the best fuel based on calorific value.

Hydrogen

102. Give two situations in daily life, where hydrogen is used as fuel.

Hydrogen fuel cell, Rocket fuel (Propellent)

103. A large number of solar cell suitably assembled to form ----------

Solar Panel

104. Where is the most of our Solar Thermal Power Plants functioning in India ?

In Rajasthan

105. ---------- is the process by which nuclei of greater mass are split into lighter nuclei.

Nuclear Fission

106. ---------- is the process in which lighter nuclei are combined to form heavier ones.

Nuclear fusion

107. ---------- is a system that converts nuclear energy into electrical energy.

Nuclear reactor.

108. Which is Green energy in the following fuels given in brackets ?

(Coal, Naphtha, Biogas, Petroleum gas)

Biogas