

General Science Model Test Questions 17 With Answers [Physics - 2]

1. According to Newton's formula, the velocity of sound in a medium is
- (A) $V = \sqrt{\frac{E}{D}}$ (B) $V = \frac{\sqrt{E}}{d}$ (C) $V = \frac{E}{\sqrt{d}}$ (D) $V = \frac{EA}{d}$
2. Light emerging from a Nicol prism has
- (A) Vibration in all direction
- (B) No vibration at all**
- (C) Vibration in two mutually perpendicular directions
- (D) Vibration on only one direction
3. The unit of refraction index is
- (A) Meter (B) Degree **(C) No unit** (D) Degree⁻¹
4. Which of the following is an insulator?
- (A) Aluminium (B) Copper **(C) Glass** (D) Silver
5. A radar which detects the presence of the enemy aircrafts uses
- (A) Sound waves **(B) Radio waves** (C) Electric waves (D) Ultrasonic waves
6. The most basic of all test instruments is the
- (A) Multimeter (B) Ohmmeter
- (C) Cathode ray oscilloscope **(D) Galvanometer**
7. The energy gap of diamond is
- (A) 1 Ev (B) 2 Ev (C) 10 Ev **(D) 7 Ev**
8. The positron is called the antiparticle of the electron, because it
- (A) Has opposite charge** (B) Has same mass
- (C) Annihilates with an electron (D) Collides with an electron
9. The radioactive decay follows
- (A) $N = N_0 e^{\alpha t}$ (B) $N = N_0 e^{\alpha t^2}$ **(C) $N = N_0 e^{-\alpha t}$** (D) $N = N_0 e^{-\alpha 2t}$
10. γ - rays can be detected by passing them through

- (A) Electric field (B) Magnetic field
(C) Electric and magnetic field (D) **Scintillation counter**
11. Magnetron is used for the production of
(A) X-rays (B) Cathode rays (C) **Microwaves** (D) Positive rays
12. The intensity of an earthquake is measured with a
(A) Barometer (B) Hydrometer (C) Polygraph (D) **Seismograph**
13. Which of the following function is performed by a photo – cell?
(A) It converts magnetic energy into electrical energy
(B) It converts chemical energy into electrical energy
(C) It converts electrical energy into light energy
(D) **It converts light energy into electrical energy**
14. Alternating current is converted into direct current by
(A) Dynamo (B) Transformer (C) **Rectifier** (D) Motor
15. The fuse wire is made of
(A) Copper (B) Tungsten (C) Nichrome (D) **Lead-tin alloy**
16. Sun spots are
(A) The mountains found on the surface of the sun
(B) The dark patches having less temperature than the normal surface
(C) Ionized gas found near the solar surface
(D) **The magnetic storms on the surface of the sun**
17. The radiation with highest energy is
(A) UV (B) IR (C) **X-rays** (D) Visible
18. A lift is falling freely after the suspension wire breaks. The weight of a person inside the lift would become
(A) **Zero** (B) Unchanged (C) Doubled (D) Halved
19. Which of the following actions will double the period of a simple pendulum?
(A) Double the length of the pendulum

- (B) Double the mass of the bob
- (C) Make the mass of the bob $\sqrt{2}$ times greater
- (D) Make the pendulum four times long**
20. What makes the hairs of shaving brush cling together?
- (A) Viscosity **(B) Surface tension** (C) Cohesion (D) none of these
21. Centripetal force needed to keep the moon in its orbit round the earth is provided by
- (A) Gravitational pull of sun (B) Gravitational pull of earth
- (C) Rotation about its own axis** (D) None of these
22. Bats can fly in the dark without hitting anything because
- (A) They are flying mammals
- (B) Their night vision is good
- (C) They are guided by ultrasonic waves produced by them**
- (D) Of no scientific reason
23. As a person moves closer to a plane mirror the size of the image formed by the mirror
- (A) Increases (B) Decreases
- (C) First increases and then decreases **(D) Remains the same**
24. Primary colours are
- (A) Red, blue and yellow (B) Blue, green and yellow
- (C) High pressure **(D) Red, blue and green**
25. A pyrometer is used to measure
- (A) Low temperature **(B) High temperature**
- (C) High pressure (D) Low pressure
26. For the measurement of very low temperature we use
- (A) Mercury thermometer** (B) Vapour pressure thermometer
- (C) Resistance thermometer (D) Radiation thermometer
27. Control rods used in nuclear reaction are made of

- (A) Stainless (B) Graphite **(C) Cadmium** (D) Plutonium

28. In order to double the period of a simple pendulum

- (A) Its length should be doubled
(B) Its length should be quadrupled
(C) The mass of its bob should be doubled
(D) The mass of its bob should be quadrupled

NOTE: Make the pendulum four times long.

29. If the depth of floatation of a ship changes when it sails from the Arabian sea to the Indian ocean, it is due to

- (A) Change of pressure (B) Change in weight of the ship
(C) Change of direction **(D) Change in density of sea – water**

30. A sudden decrease in the barometric pressure indicates

- (A) A stormy weather** (B) A fine weather
(C) A wet weather (D) A dry weather

31. The lens used to rectify long sight is

- (A) Concave lens **(B) Convex lens**
(C) Plano concave lens (D) Plano convex lens

32. A solar eclipse occurs when

- (A) The sun, the moon and the earth are not in the same line
(B) The moon comes between the sun and the earth
(C) The earth comes between the sun and the moon
(D) The sun comes between the earth and the moon

33. Consider the following statements:

Assertion (A): The rear view mirror used in motor vehicles is a convex mirror

Reason (R): A convex mirror produces an erect, diminished virtual image.

Now select your answer according to the coding scheme given below:

- (A) Both (A) and (R) are true, and (R) is the correct explanation of (A)

(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)

(C) (A) is true, but (R) is false

(D) (A) is false, but (R) is true

34. The process in which heat is transmitted without the aid of the intervening medium is

(A) Conduction

(B) Convection

(C) Radiation

(D) None of these

35. When the pressure increase, the boiling point rises. The device which uses this principle is

(A) Pressure cooker

(B) Electric iron

(C) Electric heater

(D) Manometer

36. Consider the following statements:

I. Recording of sound on tapes was first invented by poulson.

II. Audio tapes have magnetic property.

III. The tape is made of cellulose acetate.

IV. The tapes may also be made of poluvinyl chloride.

Of the statement:

(A) I, II, III and IV are correct

(B) I, II, III and IV are wrong

(C) I and II are correct, III and IV are wrong

(D) I and II are wrong, III and IV are correct

37. Nodes are

(A) Positions of maximum displacement

(B) Positions of no displacement

(C) A position between no displacement and maximum displacement

(D) None of these

38. Consider the following statements:

Assertion (A): Soft iron is used for magnetic shielding.

Reason (R): Soft iron attracts the maximum number of magnetic lines of force into it.

Now select your answer according to the coding scheme given below:

(A) (A) and (R) both are wrong

(B) (A) and (R) both are right

(C) (A) is right, but (R) is wrong

(D) (A) is wrong, but (R) is right

39. Transformers are used to

(A) Convert AC into DC

(B) Convert DC into AC

(C) Step up DC voltage

(D) Step up or step down AC voltage

40. Consider the following statements:

Assertion (A): X-rays do not affect the photo graphic plate.

Reason (R): Wavelengths of X-rays are in between 1°A to 100°A

Now select your answer according to the coding scheme given below:

(A) Both (A) and (R) are true

(B) Both (A) and (R) are false

(C) (A) is false, but (R) is true

(D) (A) is true, but (R) is false

41. The instrument used to measure the radioactivity is

(A) Geiger counter

(B) Radio compass

(C) Radio micrometer

(D) Radar

42. The instrument used to purify of milk is

(A) Galvanometer

(B) Calorimeter

(C) Lactometer

(D) Polarimeter

43. The velocity of a freely falling body

(A) Decreases

(B) Increases

(C) Remains constant

(D) May increase or may decrease

44. Consider the following statements:

I. Pressure is measured in newton per m^2 .

II. Stress is the force acting on unit area.

III. Stress and pressure have the same unit.

IV. Stress is $\frac{1}{3}$ rd of the pressure in an area.

Of these:

(A) I alone is correct (B) I and II are correct

(C) I, II and III are correct (D) All are correct

45. Momentum of a moving body

(A) Depends upon its mass alone

(B) Depends upon its velocity alone

(C) Depends upon both its mass and velocity

(D) Does not depend upon its mass and velocity

46. The primary colours are

(A) Green – Yellow – Blue

(B) Yellow – Blue – Red

(C) Green – Blue – Red

(D) Red – Green – Yellow

47. Least distance of distinct vision is nearly equal to

(A) 1 meter

(B) 0.25 meter

(C) 0.5 meter

(D) 0.2 meter

48. The electromagnetic waves are of

(A) Purely electrical in nature

(B) Purely magnetic in nature

(C) Longitudinal in nature

(D) Transverse in nature

49. Match list-I with list-II correctly and select your answer using the codes given below:

List-I

List-II

(a) Boyle's law

1. $P \propto T$

(b) Charle's law

2. $P \propto \frac{1}{V}$

(c) Sublimation

3. $PV = RT$

(d) Gas equation

4. Camphor

Codes:

a b c d

(A) 2 1 4 3

(B) 4 3 2 1

(C) 3 4 2 1

(D) 2 3 1 4

50. Land and sea breezes are due to

(A) Conduction of heat (B) Convection of heat

(C) Radiation of heat (D) Conversion of heat

51. If sound persists even after its source has stopped producing sound, then its called

(A) Forced vibration (B) Free vibration

(C) Resonance (D) Reverberation

52. Reed instrument without pipe is

(A) Trumpet (B) Harmonium (C) Flute (D) Nateswaram

53. The instrument, which is used to measure the current flowing through a circuit is

(A) Volt meter (B) Ammeter (C) Ohm meter (D) Magnetometer

54. The magnetic permeability of free space is

(A) 10^{-7} h/m (B) $\frac{10^{-7}}{4\pi}$ (C) $4\pi \cdot 10^{-7}$ h/m (D) $\frac{4}{10^{-7}}$ h/m

55. β - particles are

(A) Neutrons (B) Protons (C) Electrons (D) Thermal neutrons

56. Which one of the following statements given below is incorrect?

(A) X – rays exhibit the phenomenon of interference

(B) X – rays ionize the gases through which they pass

(C) X – rays affect photographic plates

(D) X – rays are charged particles

57. The phenomenon of radioactivity was discovered by

(A) Madam Curie (B) Becquerel (C) Juliot Curie (D) Roentgen

58. Which falls down fastest in vacuum, a feather, a wooden or a steel ball?

(A) Wooden ball (B) Feather ball

(C) Steel ball (D) All will fall down at the same speed

59. The normal temperature of human body on the Kelvin scale is,
(A) 280 (B) 290 (C) 300 (D) **310**
60. What is the normal body temperature of a human body?
(A) 39.5° C (B) 35.8° C (C) **37° C** (D) 98.6° C
61. A micron is equivalent to
(A) 1/1000 mm (B) 1/100 cm (C) 1/1000 cm (D) **1/1000 mm**
62. The temperature at which centigrade and Fahrenheit scales give the same reading
(A) 40°C (B) 40° R (C) **-40°C** (D) 40° F
63. Why do we prefer white clothes in summer?
(A) They are poor absorbers and poor emitters
(B) They are good absorbers and poor emitters
(C) **They are poor absorbers and good emitters**
(D) None of these
64. A bob executes simple harmonic motion. Which value is maximum when the bob is in the mean position?
(A) Time period (B) Mass of the particle
(C) Amplitude (D) **Velocity**
65. The scientist who discovered the relation between electricity and magnetic effects is
(A) **Oersted** (B) Ampere (C) Laplace (D) Ohm
66. For a transversely vibrating string the frequency of vibration is directly proportional to
(A) Its length (B) its linear density (C) **The load** (D) None of these
67. The exclusive principle was proposed by
(A) Pascal (B) **Pauli** (C) Planck (D) Einstein
68. The momentum of a body of the mass m moving with a constant velocity v is
(A) mv^2 (B) m^2v (C) **mv** (D) m/v
69. The period of oscillation of a simple pendulum
(A) Decreases with length (B) **Is independent of length**

- (C) Increases with length (D) increases with amplitude
70. The weight of the body at the centre of the earth is
(A) Zero (B) Infinite
(C) Slightly less than at the poles (D) Slightly less than at the equator
71. By the use of cold water, how will you separate two tumblers stuck together into each other?
(A) Pouring cold water in the outer tumbler
(B) Pouring cold water on the inner tumbler
(C) By putting both the tumblers in cold water
(D) We cannot separate them by using cold water
72. A rainbow is caused by
(A) Interference (B) Diffraction
(C) Total internal reflection (D) Dispersion
73. Water drops are spherical because of its
(A) Surface tension (B) Viscosity (C) Density is one (D) Polarity
74. Loudness of sound produced by a vibrating string is directly proportional to
(A) The amplitude (B) Square of the amplitude
(C) The frequency (D) Vibrating length
75. The co-efficient of reflectivity if a perfect black body is
(A) Zero (B) Infinite (C) One (D) Between zero and one
76. Joule is the unit of
(A) Temperature (B) Amplitude (C) Energy (D) Electric potential
77. The colour of light is determined by its
(A) Velocity (B) Amplitude (C) Wave length (D) Phase
78. Wave theory was proposed by
(A) Newton (B) Huygen (C) Raman (D) Young
79. Charge of an electron is

- (A) 1.6×10^{-10} coulomb (B) 1.6×10^{-27} coulomb
(C) **-1.6×10^{-19} coulomb** (D) 6.1×10^{-19} coulomb
80. The common emitter configuration is more preferred than the common base configuration because the common emitter configuration gives
- (A) Low current gain, low voltage gain and low power gain
(B) Low current gain, high voltage gain and low power gain
(C) **High current gain, high voltage gain and high power gain**
(D) High current gain, high voltage gain and low power gain
81. Crystals having low melting points are in
- (A) Van der waal's bond (B) Ionic bond
(C) **Covalent bond** (D) Metallic bond
82. In an AC circuit containing capacitance only,
- (A) **Current lags the emf by $\pi/2$** (B) Current leads the emf by $\pi/2$
(C) Current leads the emf by π (D) Current lags the emf by π
83. Substance which lose their electrical resistance at very low temperature are called
- (A) Good conductors (B) Semi – conductors
(C) Dielectrics (D) **Super – conductors**
84. Einstein was awarded Nobel Prize for
- (A) Theory of relativity (B) **Photoelectric effect**
(C) Gravitational effect (D) Quantum effect
85. Two men talk on moon
- (A) They hear each other with lower frequency
(B) They hear each other with higher frequency
(C) They can hear each other as such
(D) **They cannot hear each other at all**
86. In mountains because the atmospheric pressure is low, the boiling point of water

- (A) Decreases (B) Increases
 (C) May increase or decrease (D) Remains the same

87. By centrifugal action we can separate particles of different

- (A) Colours (B) Densities (C) Masses (D) Sizes

88. Match list-I with list-II correctly and select your answer using the codes given below:

- | List-I | List-II |
|----------------|------------------------|
| (a) Anemometer | 1. Speed of rotation |
| (b) Ammeter | 2. High temperature |
| (c) Tachometer | 3. Wind speed |
| (d) Pyrometer | 4. Electric current |
| | 5. Pressure difference |

Codes:

- | | a | b | c | d |
|------------|----------|----------|----------|----------|
| (A) | 3 | 5 | 2 | 1 |
| (B) | 3 | 4 | 1 | 2 |
| (C) | 4 | 3 | 1 | 5 |
| (D) | 1 | 4 | 3 | 2 |

89. Consider the following statements :

Assertion (A): Diffraction of sound waves is more evident than that of light waves

Reason (R): Sound waves are longitudinal and light waves are transverse.

Now select your answer according to the coding scheme given below:

- (A) Both (A) and (R) are true, and (R) is the correct explanation of (A)
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)

(C) (A) is true, but (R) is false

(D) (A) is false, but (R) is true

90. Raman effect is due to

- (A) Scattering of light (B) Total internal reflection
 (C) Dispersion effect (D) Interference of light

91. A diamond shines brightly because it has

- (A) Low refractive index and low critical angle
(B) Low refractive index and high critical angle
(C) High refractive index and low critical angle
(D) High refractive index and high critical angle
92. Water in a lake and nearby wells seeks the same level because of
(A) Anomalous expansion of water (B) Surface tension of water
(C) Force of gravity (D) The same atmospheric pressure
93. The base of an electric iron is highly polished mainly to
(A) Make it smooth and friction less (B) Make it rust proof
(C) Reduce heat loss by radiation (D) Make it more durable
94. Electronic devices that convert D.C. power into A.C. power are called
(A) Converters (B) Transformers (C) Inverters **(D) Rectifiers**
95. The heating element in an electric stove is made of
(A) Copper (B) Platinum **(C) Nichrome** (D) Tungsten
96. The least distance of distinct vision is
(A) 15 cm (B) 15 m (C) 25 m **(D) 25 cm**
97. The first satellite launched by India is
(A) Bhaskara (B) Varuna **(C) Aryabhata** (D) Agni
98. Aeroplane was invented by
(A) Nicolas (B) Volta **(C) Orville & Wilbur Wright** (D) Ampere
99. What is the principle of a thermopile?
(A) Peltier effect **(B) Seebeck effect** (C) Zeeman effect (D) Compton effect
100. Who proposed the wave theory of light?
(A) Huygens (B) Newton (C) Foucault (D) Michelson