

General Science Model Test Questions 19 With Answers [Physics - 4]

1. Laser is a device to produce
(A) Magnetic waves (B) Micro waves **(C) Coherent waves** (D) X-rays
2. Transfer of heat by molecular collision is
(A) Collimation **(B) Conduction** (C) Convection (D) Radiation
3. The specific volume of water is minimum at
(A) -4°C (B) 0°C **(C) 4°C** (D) 273°C
4. In an isothermal process which quantity remains constant?
(A) Volume (B) Pressure **(C) Temperature** (D) Energy
5. Electron – volt is a unit to measure
(A) Voltage **(B) Energy** (C) Charge (D) Momentum
6. Which instrument can be used to determine the thickness of a piece of paper?
(A) Vernier calipers **(B) Screw gauge**
(C) Spherometer (D) Spectrometer
7. Which condition is favourable for the formation of dew?
(A) Cloudy sky (B) Low temperature during day and night
(C) Hot day followed by a cold night (D) The presence of sea near by
8. Doppler effect in sound produces apparent change in
(A) Amplitude **(B) Frequency** (C) Wave length (D) Intensity
9. Boyle's law states the relationship between
(A) Pressure and temperature **(B) Pressure and volume**
(C) Volume and temperature (D) Pressure and density
10. Which one of the following processes is used to purify a soluble solid?
(A) Evaporation **(B) Crystallisation** (C) Condensation (D) Distillation
11. Which one of the following properties of a liquid does not affect its rate of evaporation?
(A) Volume (B) Surface area (C) Temperature **(D) Boiling point**

12. Which one of the following involves two changes of state?
(A) Evaporation (B) Condensation **(C) Distillation** (D) Filtration
13. The function of the thermostat in a refrigerator is
(A) To heat up the refrigerator **(B) To regulate the temperature**
(C) To start the refrigerator (D) to stop the refrigerator
14. Small bodies from interplanetary space when enter into our atmosphere become luminous. These are called
(A) Asteroids **(B) Meteors** (C) Stones (D) Neutron stars
15. The newly discovered high temperature super conductors are
(A) Inorganic polymers (B) Liquid nitrogen
(C) Metal alloys (D) Ceramic oxides
16. Consider the following statements:
Assertion (A): The brightest planet in the solar system is venus.
Reason (R): It is very close to sun.
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 true, but (R) is false
(D) (A) is false, but (R) is true
17. Why railway tracks are covered with ballasts?
I. It gives the track flexibility to meet variation in pressure as the train passes over the track.
II. It helps in drainage.
(A) I only **(B) II only** (C) Neither I nor II (D) I and II
18. The sound of a guitar and a violin can be differentiated because of the difference in the
(A) Frequency or pitch (B) Quality of timber
(C) Loudness (D) Method of playing
19. Why is there a spluttering sound when water is sprinkled on hot oil?

- (A) Boiling point of the water is higher than that of oil
(B) Boiling point of the oil is higher than that of water
(C) Oil and water do not mix
(D) Oil and water combine to form a compound
20. The phenomenon of mirage is due to
(A) Increased absorption of light at higher temperature
(B) Change in the refractive index of air with change in temperature
(C) Total internal reflection
(D) Decreased absorption of light at higher temperature
21. In India Apsara is connected with
(A) Nuclear reactor (B) Dancer (C) Goddess (D) None of these
22. The instrument used for measuring the force and velocity of wind is
(A) Altimeter (B) Ammeter **(C) Anemometer** (D) Manometer
23. Tungsten is used in the manufacture of electric bulbs because
(A) It is both durable and economical (B) It is cheaper than other metals
(C) It has high melting point (D) It makes the bulb light brighter
24. Which one of the following statements is incorrect?
(A) Evaporation takes place at all temperature
(B) Evaporation increases with pressure
(C) Evaporation takes place from the free surface of the liquid
(D) Evaporation precedes cooling
25. Nobel prize was awarded to Einstein for his work on
(A) Special theory of relativity (B) General theory of relativity
(C) Brownian motion **(D) Photoelectric effect**
26. Silicon is a
(A) Conductor (B) Insulator **(C) Semiconductor** (D) Metal

27. For satellite communication, we use

- (A) Radio waves **(B) Micro waves** (C) Infrared rays (D) Ultraviolet rays

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

List-I

List-II

- | | |
|--------------------------|-----------------------|
| (a) Radium | 1. Roentgen |
| (b) X-ray | 2. Alexander Flemming |
| (c) Penicillin | 3. Einstein |
| (d) Theory of Relativity | 4. Madam Curie |

Codes:

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

29. Electric current is the flow of

- (A) Atoms **(B) Free electrons** (C) Valence electrons (D) Molecules

30. The mass of an electron is

- (A) 9.11×10^{-28} gm** (B) 1.6×10^{-20} gm (C) 6.625×10^{-27} gm (D) 3×10^{10} gm

31. Which one of the following lenses should be used to correct the defect of short sightedness?

- (A) Plano – concave lens (B) Double concave lens
(C) Concave lens (D) Convex lens

32. Food is cooked quickly in a pressure cooker because

- (A) Boiling point of water decreases **(B) Boiling point of water increases**
(C) It absorbs heat quickly (D) It remains heat for a longer time

33. The relation between Celsius scale, Fahrenheit scale and Reaumur scale of temperature is

- (A) $C/5 = R-32/9 = R/4$** (B) $C/5 = F/9 = R/4$
(C) $C+32/5 = F/9 = R/4$ (D) $C/5 = F/9 = R+32/4$

34. The unit of surface tension is

- (A) **N/m** (B) N/m^2 (C) $\text{N} \times \text{m}$ (D) $\text{N} \times \text{m}^2$
35. The unit of power is
(A) **Kilowatt** (B) Kilowatt – hour (C) Newton (D) Joule
36. Dry ice is
(A) Water (B) **Solid carbon dioxide**
(C) Sodium hydroxide (D) Acetic acid
37. Which of the following can be identified by using line spectrum?
(A) **Solids** (B) Liquids (C) Gases (D) None of these
38. Banking of curves on road is done to provide
(A) Centripetal force (B) **Centrifugal force**
(C) Angular acceleration (D) None of these
39. The ratio of linear stress to linear strain is
(A) Rigidity modulus (B) **Young's modulus**
(C) Bulk modulus (D) Hooke's modulus
40. A force of 1N acting on a body of 1 kg mass produces an acceleration of
(A) 1 m/s (B) **1 m/s²** (C) 1 km/s (D) 1 km/ s²
41. A medium can carry longitudinal wave because of
(A) Mass (B) Density (C) Compressibility (D) **Elasticity**
42. When a wave goes from one place to another, it transports
(A) Matter (B) **Energy** (C) Mass (D) Nothing
43. A hot body will radiate heat most rapidly if its surface is
(A) White and polished (B) White and rough
(C) Black and polished (D) **Black and rough**
44. The base of the electric iron is brightly polished mainly
(A) To make it smooth and frictionless
(B) To make it rust – proof

(C) To reduce heat lost by radiation

(D) None of these

45. The normal temperature of the human body is

(A) 96°F

(B) **98.4°F**

(C) 98°F

(D) 96.4°F

46. Which of the following can be made into a permanent magnet?

(A) Soft iron

(B) **Hard steel**

(C) Lead

(D) None of these

47. X-rays cannot pass through

(A) Glass

(B) **Bone**

(C) Tree

(D) None of these

48. The scientist who discovered that current can be produced in a closed conductor

(A) **Michael Faraday**

(B) Oersted

(C) Ampere

(D) Lenz

49. Water has maximum density at

(A) 0°C

(B) **4°C**

(C) 100°C

(D) -4°C

50. The densities of three liquids are D, 2D and 3D. What will be the density of the resulting mixture if equal volume of the three liquids are mixed?

(A) 6 D

(B) 14 D

(C) **2 D**

(D) 3 D

51. Cooking is quicker in a cooker because

(A) **Increased pressure raises boiling point**

(B) Steam is not wasted

(C) Steam cooks food faster

(D) Water boils at lower temperature

52. When a ship floats on water

(A) The weight of water displaced is more than that of the ship

(B) The weight of water displaced is less than that of the ship

(C) **The weight of water displaced equals that of the ship**

(D) It displaces no water

53. GSLV project of India is connected to

(A) Agriculture development

(B) Conservation of river water

- (C) Banking system (D) Missile engines for space programmes
54. A decibel is
- (A) The relative intensity of sound (B) Unwanted noise
- (C) A magnetic assembly in a type (D) The arm of a record – player
55. An antenna
- (A) Converts short waves into long waves
- (B) Absorbs heat
- (C) Converts heat into light
- (D) Converts radio waves into electrical signals
56. The ozone layer protects us from
- (A) UV radiations (B) Radio waves
- (C) Visible radiations (D) Infra – red radiations
57. Through a soap film, different colours are seen by white light because of the phenomenon of
- (A) Interference (B) Reflection (C) Diffraction (D) Dispersion
58. Sound energy is converted into electrical energy by a
- (A) Microphone (B) Loud speaker (C) Telephone (D) Radio
59. Light from the Laser is
- (A) Monochromatic (B) Composite
- (C) Dispersed light (D) Incoherent
60. The unit of impedance is
- (A) Ohm (B) Farad (C) Henry (D) Volt
61. In an electronic watch, the component corresponding to pendulum of a pendulum clock is
- (A) Transistor (B) Crystal oscillator
- (C) Diode (D) Balance wheel
62. Match list-I with list-II correctly and select your answer using the codes given below:

List-I

List-II

- | | |
|-----------------|-------------------------|
| (a) Hydrometer | 1. Current |
| (b) Barometer | 2. Atmospheric pressure |
| (c) Calorimeter | 3. Specific gravity |
| (d) Ammeter | 4. Thickness of a plate |
| | 5. Quantity of heat |

Codes:

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

63. Consider the following statements:

- I. Mass is matter contained in the body.
- II. Weight is a force.
- III. Mass and weight are different
- IV. Mass and weight are the same

Of the statements:

- | | |
|--------------------------------------|--------------------------|
| (A) I alone is correct | (B) I and II are correct |
| (C) I, II and III are correct | (D) All of correct |

64. Density of mercury is _____ times the density of water

- | | | | |
|---------|----------|-----------------|----------|
| (A) 2.4 | (B) 1.36 | (C) 13.6 | (D) 6.31 |
|---------|----------|-----------------|----------|

65. If the power of a lens is 5 dioptre, find the focal length of the lens

- | | | | |
|------------------|----------|------------|------------|
| (A) 20 cm | (B) 2 cm | (C) 200 cm | (D) 0.2 cm |
|------------------|----------|------------|------------|

66. Who invented ultra violet rays?

- | | | | |
|--------------------|-----------|------------|--------------|
| (A) Hershal | (B) Curie | (C) Ritter | (D) Roentgen |
|--------------------|-----------|------------|--------------|

67. Consider the following statements:

Assertion (A): Glass when heated cracks while metal does not

Reason (R): Metal is a good conductor & glass is a bad conductor.

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

68. The surface water in a lake is just going to freeze. What is the temperature at the bottom?

(A) 0°C

(B) less than 0°C

(C) 4°C

(D) -4°C

69. Velocity of sound in air at a given temperature

(A) Increases with increase in pressure

(B) Decreases with increase in pressure

(C) Is independent of pressure

(D) None of these

70. Decibel is the unit of

(A) Heat intensity

(B) Light intensity

(C) Sound intensity

(D) Electricity intensity

71. The heater element in an electric iron box is made of

(A) Nichrome

(B) Iron

(C) Tungsten

(D) Copper

72. The device employed to convert electrical energy into mechanical energy is

(A) Dynamo

(B) Motor

(C) Voltmeter

(D) Galvanometer

73. When a ship enters a sea from a river

(A) It rises a little

(B) It sinks a little

(C) It remains at the same level

(D) It rises or sinks depending on the material it is made

74. The unit of moment of force is

(A) Joule

(B) Watt

(C) Metre

(D) Newton-metre

75. The single force which effectively replaces two or more forces acting on a body is known as

(A) Resultant force

(B) Couple

- (C) moment of a force (D) Applied force
76. By what process is heat transmitted from the filament of an evacuated electric bulb to the glass?
- (A) Conduction (B) Convection
- (C) Radiation** (D) Heat cannot be transmitted through vacuum
77. Specific heat capacity of water at 293 K is
- (A) $4190 \text{ J Kg}^{-1} \text{ K}^{-1}$** (B) $2090 \text{ J Kg}^{-1} \text{ K}^{-1}$
- (C) $480 \text{ J Kg}^{-1} \text{ K}^{-1}$ (D) $1964 \text{ J Kg}^{-1} \text{ K}^{-1}$
78. To correct long sight defect, the lens used is the
- (A) Convex lens** (B) Concave lens
- (C) Plano – convex lens (D) Plano – concave lens
79. The velocity of light in water is $\frac{3}{4}$ to that in air. What is the refractive index of water?
- (A) $\frac{4}{3}$** (B) $\frac{3}{4}$ (C) $\frac{1}{4}$ (D) 0
80. A compound microscope is constructed using an objective of magnification M_o and an eyepiece of magnification M_e . The magnification of the microscope is
- (A) M_o/M_e (B) M_e/M_o (C) $M_o + M_e$ **(D) $M_o \cdot M_e$**
81. Sonometer can be used to determine
- (A) Nodes (B) Antinodes (C) Pitch **(D) The frequency of a tuning fork**
82. In a tape recorder during the reproduction of sound at the playback head
- (A) Varying electric current produces a varying magnetic field
- (B) Varying electric current produces sound
- (C) Varying magnetic field produces a varying electric current**
- (D) Varying magnetic field produces field produces sound
83. The direction of motion of a current carrying conductor in a magnetic field is given by
- (A) Ampere's swimming rule (B) Fleming's left – hand rule
- (C) Fleming's right – hand rule** (D) Oersted's rule
84. Alpha rays are

- (A) Positively charged particles (B) Negatively charged particles
(C) Chargeless particles (D) Electromagnetic radiators
85. Electron was discovered by
(A) Thomas Alva Edison (B) Michael Faraday
(C) Fleming (D) J. J. Thomson
86. Atom bomb is based on the principle of
(A) Pair production (B) Annihilation of matter
(C) Nuclear fission (D) Nuclear fusion
87. Proton carries
(A) A positive charge (B) A negative charge
(C) No change (D) None of these
88. Electrons are accelerated to very high energies by means of
(A) Thyrotrons (B) Cyclotrons (C) Magnetrons (D) Betatrons
89. What is the name of the nuclear reactor at Trombay?
(A) Bhaba (B) Apsara (C) Aryabhata (D) Venus
90. Short sightedness is corrected by
(A) Convex lens (B) Concave lens (C) Convex mirror (D) Concave mirror
91. "Volume of a gas is inversely proportional to pressure." This is
(A) Boyle's law (B) Charles' law (C) Dalton's law (D) Henry's law
92. A spring balance is pulled by 2 persons equally with 20 newton force on its two ends. Thus it will show a reading of
(A) 20 newtons (B) 40 newtons (C) Zero (D) 10 newtons
93. Day and night are the result of
(A) Earth's rotation around itself (B) Earth's revolution around the sun
(C) Both the above reasons (D) None of these
94. A body executes simple harmonic motion. Its velocity at the mid – point is

- (A) Zero (B) Average value **(C) Maximum** (D) None of these
95. Which of the following is an extensive property?
(A) Boiling point (B) Melting point (C) Viscosity (D) Internal energy
96. A small quantity of water placed in an open pan is allowed to evaporate. The temperature of the pan will
(A) Increase (B) Remain constant
(C) Decrease (D) Increase first and then decrease
97. Lunar eclipse occur
(A) On a full – moon day (B) On a new – moon day
(C) Seven days after the new – moon day (D) None of these
98. When a rubber ball is dropped on a hard surface, it rebounds because of
(A) Elastic forces (B) It cannot penetrate
(C) Earth repels **(D) (A) and (B) are true**
99. What is the reason for the appearance of different colors on soap bubble?
(A) Interference due to multiple reflection
(B) IR spectrum of solar radiation
(C) Scattering caused by the spherical surface
(D) Newton's ring
100. Which wave phenomenon is not common to both light and sound waves?
(A) Reflection (B) Refraction **(C) Polarisation** (D) Diffraction