

**General Science Model Test Questions 21 With Answers [Physics - 6]**

1. Ball pen works on the principle of  
(A) Viscosity (B) Boyle's law  
(C) Gravitational law (D) **Capillarity and surface tension**
2. All the colours on TV screen are produced from  
(A) **Red, green and blue** (B) Red, yellow, orange and blue  
(C) Blue, green and yellow (D) None of these
3. X-ray was discovered by  
(A) **Roentgen** (B) Coolidge (C) Marie curie (D) Becquerel
4. A radar which detects the presence of enemy aircraft uses  
(A) Sound waves (B) **Radio waves** (C) Electric waves (D) Ultrasonic waves
5. The spectrum of Black body radiation is  
(A) **Continuous** (B) Line (C) Band (D) None of these
6. When the two balls collide elastically, then  
(A) Only momentum is conserved  
(B) Kinetic energy of the system is alone conserved  
(C) **Both kinetic energy and momentum are conserved**  
(D) None of these
7. Which of the following is derived unit?  
(A) Mass (B) **Velocity** (C) Length (D) Time
8. The planet between Earth and Mercury is  
(A) **Venus** (B) Mars (C) Jupiter (D) Neptune
9. Wind velocity is measured by  
(A) pH meter (B) Thermometer (C) **Anemometer** (D) Luxmeter
10. Noise pollution results when the sound increases beyond \_\_\_\_\_ decibels  
(A) 80 (B) **120** (C) 45 (D) 200

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

**List-I**

- (a) Astigmatism
- (b) Cataract
- (c) Hypermetropia
- (d) Myopia

**List-II**

- 1. Concave lens
- 2. Cylindrical lens
- 3. Object in the lens
- 4. Convex lens

Codes:

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

12. The velocity of sound in a gas is independent of

- (A) Temperature      **(B) Humidity**      (C) Gravity      (D) Pressure

13. An astronaut in an earth satellite will observe the sky is

- (A) White      **(B) Black**      (C) Deep blue      (D) Deep red

14. The colour of star is an indicator of it's

- (A) Size      (B) Distance      (C) Weight      **(D) Temperature**

15. A rocket can go vertically upwards in the earth's atmosphere because

- (A) It is lighter than air  
(B) Of the gravitational pull of the sun  
(C) It has a fan which displaces more air per unit time than the weight of the rocket  
**(D) Of the forces exerted on the rocket by gases ejected by it**

16. Raman Effect deals with

- (A) Particle theory      (B) Wave theory  
(C) Electro magnetic theory      **(D) Quantum theory**

17. In the motion of simple pendulum, the tension in the string is the greatest when

- (A) The bob is at the centre**

- (B) The bob is at the maximum displacement position
- (C) The bob is at a distance equal to half the amplitude from the centre
- (D) None of these
18. Gas thermometers are those which
- (A) Use gases (B) Work on thermal expansion of glass
- (C) Use inert gases (D) None of these
19. This is the property of the Ideal gas
- (A) There is no force of attraction, between any two molecules
- (B) There is force of attraction between any two molecules
- (C) All molecules are static
- (D) Each molecule has certain volume
20. Microwaves are used in radar because of
- (A) Refraction (B) Reflection and high frequency
- (C) Interference (D) Diffraction
21. To an astronaut in a spaceship the sky appears pitch dark due to
- (A) The absence of atmosphere in his neighbourhood
- (B) Light from the sky is absorbed by the medium surrounding him
- (C) The fact that at that height, sky radiation contains only infra-red and the ultraviolet
- (D) None of these
22. Light appears to travel in straight line. This is due to its
- (A) Long wave length (B) Short wave length
- (C) Small velocity (D) Large diffraction
23. Madam curie became famous for her discovery of
- (A) Insulin (B) Penicillin (C) Radium (D) Cobalt
24. Two tuning forks have same natural frequency. One of them is loaded with wax. When they are sounded together, they will

- (A) Produce beats (B) Remain in resonance  
(C) Produce forced vibration (D) Produce Interference
25. Cathode ray oscilloscope is used to  
(A) Produce cathode rays (B) Produce positive rays  
(C) Study wave forms (D) Study about electrons
26. The energy generation in sun and stars is mainly due to  
(A) Fission of heavy nucleus (B) Fusion of light nuclei  
(C) Fusion of heavy nuclei (D) Chemical reaction
27. Mercury is used in thermometers because it  
(A) Is heavy (B) Is a liquid (C) Expands uniformly (D) Is a metal
28. Indian scientist who received the Nobel prize  
(A) Sir C.V. Raman (B) S. Ramanujam (C) H.J. Bhava (D) Sir.J.C.Bose
29. The density of water is maximum at  
(A) 0 C (B) 4 C (C) 100 C (D) -10 C
30. To convert centigrade temperature to Kelvin temperature we must add  
(A) 723 (B) 273 (C) 373 (D) 180
31. Sound waves are  
(A) Electrical Waves (B) Magnetic Waves  
(C) Mechanical Waves (D) Micro Waves
32. Radio activity is  
(A) Affected by temperature (B) Affected by pressure  
(C) Affected by electric and magnetic fields (D) Not affected by these factors
33. Traffic signals are painted with \_\_\_\_\_ paints  
(A) Normal (B) Fluorescent (C) Acrylic (D) Light reflecting
34. Radio cobalt is used  
(A) To study the phosphorous in take by plants

**(B) In the treatment of cancer**

(C) To measure the thickness of paper

(D) To study the atomic structure

35. According to Stefan's law, the total energy emitted by a black body is proportional to

(A)  $T$  (B)  $T^2$  (C)  $T^3$  **(D)  $T^4$**

36. All bodies large or small, fall with the same

(A) Velocity **(B) Acceleration** (C) Momentum (D) Force

37. Electric charges flowing along a conductor are

(A) Positrons **(B) Electrons** (C) Protons (D) Positive ions

38. Power of lens is measured in

(A) Centimetres (B) Metres **(C) Dioptres** (D) None of these

39. In a visible spectrum, as we move from violet to red the wavelength

(A) Decreases **(B) Increases**  
(C) Remains constant (D) Varies irregularly

40. Light is propagated in the form of

(A) Longitudinal waves **(B) Transverse waves**  
(C) Pressure waves (D) Shear waves

41. Analyse the statement and choose the correct answer

Assertion (A): A stone is thrown up. At its point of maximum height

Reason (R-I): Velocity is zero

(R-II): Potential energy is maximum

Codes:

(A) (R-I) is correct, but (R-II) is wrong

(B) (R-II) is correct, but (R-I) is wrong

**(C) Both are correct**

(D) Both are wrong

42. Water is in a beaker. Ice floats in it. If it melts the water level will  
(A) Increase                      **(B) Remain the same**                      (C) Decrease                      (D) Freeze
43. A bucket of water is suspended from a spring balance. A stone is tied to a thread and immersed into water from outside. Then the reading will  
**(A) Increase**    (B) Decrease  
(C) Remain same    (D) Depend on the depth of immersion
44. Outer atmosphere is speed up to a height of  
(A) 50 km                      (B) 100 km                      (C) 200 km                      **(D) 300 km**
45. Which does not involve the principle of inclined plane?  
(A) Mountain Road                      (B) Staircase                      **(C) Sea-saw**                      (D) Ladder
46. The total pressure exerted by our atmosphere over 1 sq.cm. area of the floor is equal to a weight of  
(A) 1 gm                      **(B) 1.03 kg**                      (C) 2.2 kg                      (D) 3.03 kg
47. Analyse the statement and choose the correct answer from the codes given below  
Assertion (A): A cyclist applies a greater force at start due to  
Reason (R-I): Static friction of force  
(R-II): Dynamic friction force  
Codes:  
(A) (R-I) is correct, but (R-II) is wrong  
**(B) (R-I) is greater than (R-II)**  
(C) (R-I) is less than (R-II)  
(D) (R-I) is equal to (R-II)
48. A red light is used in a traffic signal, because  
**(A) It has the longest wavelength**                      (B) It is beautiful  
(C) It is visible to people with bad eyesight                      (D) None of these
49. Our eye is most sensitive to  
**(A) Red colour**    (B) Blue colour

- (C) Red-green colour (D) Yellow-green colour
50. A cloth appears green in yellow, blue in blue and dark in red light. Its true colour will be  
(A) Green (B) **Yellow** (C) Blue (D) White
51. A transformer  
(A) Transformer energy (B) Transformer frequency  
(C) **Transformer voltage** (D) Generates emf
52. Which one of the following fundamental interactions is the weakest?  
(A) Nucleus (B) Electro magnetic (C) Weak nucleus (D) **Gravitational**
53. Zenes diode is used as a regulator of  
(A) **Current** (B) Voltage (C) Power (D) Heat
54. In potentiometer experiment when the galvanometer shows no deflection, then no current flows on  
(A) Potentiometer wire (B) **Galvanometer circuit**  
(C) Primary circuit (D) Battery
55. Isotopes of uranium are used in  
(A) Photography (B) Medicine  
(C) **Nuclear fission** (D) Volumetric analysis
56. If the humidity of air increases, the velocity of sound  
(A) Decreases (B) **Increases**  
(C) Remains the same (D) First increases and then decreases
57. Energy is measured in the same unit as  
(A) Power (B) **Work** (C) Momentum (D) Inertia
58. Which of the following combination of properties would be most desirable for a cooking vessel?  
(A) High specific heat and low conductivity (B) **Low specific heat and high conductivity**  
(C) High specific heat and high conductivity (D) Low specific heat and low conductivity
59. The door of an open Rating refrigerator in a room is kept open  
(A) The room will become cooler

- (B) The room will become warmer
- (C) Room temperature will not change
- (D) The room temperature will go up in winter and will go down in summer
60. If the distance between two charges placed in air is increased two times the force between them
- (A) Increases by two times (B) Decreases by four times
- (C) Decreases by two times (D) Increases by four times
61. Particles which can be added to the nucleus of the atom without changing its chemical properties are
- (A) Electron (B) Protons (C) Neutrons (D) Positrons
62. Which one of the following is the unit of current?
- (A) Coulomb (B) Newton (C) Volt (D) Ampere
63. Light year is a unit of
- (A) Time (B) Distance (C) Mass (D) Gravity
64. Raman effect involves
- (A) Interference of light (B) Scattering of light
- (C) Diffraction of light (D) All the above
65. No two electrons will have all the four quantum numbers equal. This statement is known as
- (A) Uncertainty principle (B) Quantum principle
- (C) Pauli's exclusion principle (D) Avogadro's principle
66. The primary colours used in colour T.V. is
- (A) Green, Yellow, Violet (B) Violet, Red, Orange
- (C) Green, Red, Blue (D) Blue, Green, Violet
67. The emission of a  $\beta$ -particle in radio activity
- (A) Increases the atomic number by one (B) Decreases the atomic number by one
- (C) Increases the mass number by one (D) Decreases the mass number by one
68. Match list-I with list-II correctly and select your answer using the codes given below:

List-I

List-II

- |                         |           |
|-------------------------|-----------|
| (a) Electrical capacity | 1. ohm    |
| (b) Electric current    | 2. Farad  |
| (c) Electromotive force | 3. Ampere |
| (d) Electric resistance | 4. volt   |

Codes:

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

69. Consider the following statements:

Assertion (A): The velocity of sound in solids is generally greater than that in gases

Reason (R): The density of solids is more than that of gases

**(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

70. Which one of the following is correctly matched?

- |                   |                      |                   |                       |
|-------------------|----------------------|-------------------|-----------------------|
| (A) Astigmatism   | - Defect in the lens | (B) Cataract      | - Convex lens         |
| (C) Hypermetropia | - Cylindrical lens   | <b>(D) Myopia</b> | <b>- Concave lens</b> |

71. When a metal ring is heated, its inner diameter will

- |              |                     |                    |             |
|--------------|---------------------|--------------------|-------------|
| (A) Increase | <b>(B) Decrease</b> | (C) Show no change | (D) Vibrate |
|--------------|---------------------|--------------------|-------------|

72. When ice melts its volume will

- |                     |              |                 |            |
|---------------------|--------------|-----------------|------------|
| <b>(A) Decrease</b> | (B) Increase | (C) Remain same | (D) Freeze |
|---------------------|--------------|-----------------|------------|

73. An electric fan is switched on inside a classroom. Then the air inside the room will

- |  |                      |
|--|----------------------|
| (A) Heat up                                  | (B) Cool down        |
| <b>(C) Register no change in temperature</b> | (D) Develop pressure |

74. A cork floating in water in a beaker when full, comes to centre due to

- |                                     |               |
|-------------------------------------|---------------|
| <b>(A) Adhesive forces of water</b> | (B) Viscosity |
|-------------------------------------|---------------|

- (C) Bernoulli's principle (D) Archimedes principle
75. Rocket works on the principle of  
(A) Law of conservation of momentum (B) Law of conservation of energy  
(C) Law of conservation of mass (D) Law of gravitation
76. Moment of momentum is called  
(A) Angular momentum (B) Moment of inertia  
(C) Kinetic energy (D) Acceleration
77. Light travels \_\_\_\_\_ times faster than sound  
(A) 1 million (B) 1 lakh (C) 1000 (D) 100
78. Match list-I with list-II correctly and select your answer using the codes given below:
- | List-I        |  | List-II           |  |
|---------------|--|-------------------|--|
| (a) Rocket    |  | 1. Atomic nucleus |  |
| (b) Satellite |  | 2. Lorry          |  |
| (c) Camera    |  | 3. Cargo          |  |
| (d) Sun       |  | 4. Human eye      |  |
- Codes:
- |     | a | b | c | d |
|-----|---|---|---|---|
| (A) | 2 | 3 | 4 | 1 |
| (B) | 2 | 3 | 1 | 4 |
| (C) | 3 | 2 | 4 | 1 |
| (D) | 3 | 4 | 1 | 2 |
79. When a glass plate is introduced between the plates of a condenser, its capacity  
(A) Remains same (B) Increases (C) Decreases (D) (B) and (C)
80. Electric heater works on the principle of  
(A) Faraday's law (B) Joule's law  
(C) Newton's law (D) Gauss theorem
81. Solar cells are made up of  
(A) Silicon (B) Germanium (C) Both Si and Ge (D) Helium

82. Substitute of U-235 as nuclear fuel is
- (A) **Plutonium-239** (B) Radium (C) Titanium (D) TNT

83. One of the following is the function of Ozone layer
- (A) **Act as a selective filter of ultraviolet rays from the sun**

(B) Makes photosynthesis possible

(C) Prevents Infra-red radiation from the earth

(D) Aids in breaking the carbon molecules in the earth's atmosphere

84. The velocity of light in vacuum is

(A)  **$3 \times 10^8 \text{ ms}^{-1}$**

(B)  $3 \times 10^{10} \text{ ms}^{-1}$

(C)  $3 \times 10^9 \text{ ms}^{-1}$

(D)  $3 \times 10^7 \text{ ms}^{-1}$

85. Consider the following statements:

Assertion (A): Eclipses does not occur on all Full moon and New moon days

Reason (R): The moon revolves round the earth in an elliptical orbit

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

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

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

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

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

86. When milk is churned, cream gets separated due to

(A) Centripetal force

(B) **Centrifugal force**

(C) Frictional force

(D) Gravitational force

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

List-I

List-II

(a) 293 k

1. Resistivity

(b) Comparison of emfs

2. potentiometer

(c) Ampere x Sec

3.  $68^\circ\text{F}$

(d) Umbra

4. 100 coulomb

5. shade

Codes:

a

b

c

d

- (A) 3 4 2 5  
(B) 4 3 2 5  
**(C) 3 2 4 5**  
(D) 5 1 4 3

88. Two glass plates having a little water in between cannot be easily separated because of  
(A) Viscosity (B) Friction **(C) Surface tension** (D) Atmospheric pressure
89. Sound waves having which frequency are audible to human beings?  
(A) 5 cycles/sec (B) 27,000 cycles/sec  
**(C) 5,000 cycles/sec** (D) 50,000 cycles/sec
90. We cannot see during a fog because of  
(A) Reflection of light (B) Internal reflection  
(C) Refraction **(D) Scattering of light**
91. Which of the following colour phenomena is not an interference phenomenon?  
(A) Oil spread on the surface water exposed to an extended source shows brilliant colours  
(B) Soap bubbles in sun light shows colour  
**(C) Sky appears blue at noon and red at evening and down**  
(D) Metallic surface when heated shows colour
92. Steam at 100°C is causing more injury than water at 100°C the reason is that  
(A) Steam flows faster than water  
**(B) The latent heat of condensation of steam gives additional heat energy**  
(C) Water denser than steam  
(D) The thermal conductivity of steam is larger
93. Sudden fall in barometer means the approach of a  
**(A) Storm** (B) Fine weather (C) Cold wave (D) Hot wave
94. To use an electric lamp of low voltage on A.C. mains of higher voltage we use  
(A) Transistor (B) Resistor **(C) Transformer** (D) Triode

95. Substances that lose their electrical resistance at very low temperature are  
(A) **Good conductors** (B) Semi conductor  
(C) Super conductor (D) Bad conductor
96. The layer that protects animals from ultraviolet radiation is  
(A) Oxygen (B) Helium (C) **Ozone** (D) Carbon dioxide
97. In which of the following does photoelectric effect help us? It helps in converting:  
(A) Light energy in to sound energy (B) Sound energy into electrical energy  
(C) Electrical energy into light energy (D) **Light energy into electrical energy**
98. Radioactivity is  
(A) Spontaneous activity (B) Self – disruption activity  
(C) Exhibited by all elements under proper condition (D) **Both (A) and (B)**
99. Which of the following do not belong to the solar system?  
(A) Asteroids (B) Comets (C) **Nebulae** (D) Planets
100. When a body is taken from the earth to the moon, its mass  
(A) Increases (B) Decreases (C) **Remains unchanged** (D) Becomes zero