

General Science Model Test Questions 24 With Answers [Physics - 9]

1. What does KDM 916 mean?
(A) 9.16% pure gold (B) 90.16% pure gold
(C) 9.16% copper (D) **91.6% pure gold**
2. Fuse wire is a wire of _____ resistance and _____ melting point
(A) Low, high (B) High, high (C) Low, low (D) **High, low**
3. The unit of capacitance is
(A) Coulomb (B) **Farad** (C) Ohm (D) Gram
4. Hydrogen bomb is based on the principle of
(A) Nuclear explosion (B) **Nuclear fusion**
(C) Nuclear fission (D) Slow reaction
5. Positron was discovered by
(A) Rutherford (B) Dirac (C) Madam Curie (D) **Andreson**
6. Fast Breeder Test Reactor is at
(A) Trombay (B) Kaiga (C) Kudankulam (D) **Kalpakkam**
7. The Atomic station which has the highest capacity (MW) is
(A) Kaiga, Karnataka (B) Kota, Rajasthan
(C) **Kudankulam, Tamil Nadu** (D) Tarapur, Maharashtra
8. Viscous force is directly proportional to
(A) **Temperature gradient** (B) Mass gradient
(C) Velocity gradient (D) Charge gradient
9. The ray which does not affect the photographic plate is
(A) Alpha ray (B) Beta ray (C) Gamma ray (D) **None of these**
10. When a ray of light is passed through _____ crystal, double refraction occurs]
(A) **Calcite** (B) Sodium Chloride
(C) Diamond (D) Zinc Sulphide

20. Electro magnetic waves were proposed by
(A) Newton **(B) Maxwell** (C) Huygens (D) Planck
21. One tesla is
(A) Amp – m² (B) Weber (C) Ampere turns – m⁻¹ **(D) weber - m⁻²**
22. The experiment to measure de Broglie wavelength was first carried out by _____
(A) Rutherford (B) Bohr **(C) Davisson - Germer** (D) Albert Einstein
23. The uncertainly principle was proposed by _____
(A) de Broglie (B) Maxwell (C) Thomason **(D) Heisenberg**
24. Venturimeter is used to measure
(A) Fluid velocity (B) Fluid surface tension
(C) Fluid temperature (D) Fluid density
25. Which one of the following is correctly matched?
(A) Dempster's mass spectrograph - Masses of isotopes
(B) Cathode ray oscilloscope - Masses of atom
(C) Coolidge tube - Solar spectrum
(D) Cyclotron - Thermal conductivity
26. Consider the following statements:
Assertion (A): On rainy day small oil film on water show brilliant colours.
Reason (R): This is due to polarization of light.
Now select your answer according to the coding scheme given below:
(A) Both (A) and (R) are individually true and (R) is the correct explanation of (A)
(B) Both (A) and (R) are individually 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
27. A particle motion is given by distance – time curve as shown in the figure. The maximum instantaneous velocity of the particle is around the point
(A) P (B) Q **(C) R** (D) S

28. Gas lighters work on the basic principle of

- (A) Piezo-electric effect (B) Magnetic effect
(C) Thermo-electric effect (D) Electromagnetic induction

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

- | List-I | List-II |
|--------------------|----------------------|
| (a) Raman effect | 1. Magnetic field |
| (b) Zeeman effect | 2. Scattering |
| (c) Stark effect | 3. Relative velocity |
| (d) Doppler effect | 4. Electric field |

Codes:

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

30. If the rods were of lengths l , $2l$ and $3l$ respectively, then the ratio of the respective sound velocities in them would be

- (A) 1 : 1 : 1 (B) 1 : 2 : 3 (C) 3 : 2 : 1 (D) 2 : 2 : 1

31. The dimensions of the ratio of density to the modulus of elasticity are

- (A) L^2T^{-2} (B) $L^{-2}T^2$ (C) LT^{-1} (D) $L^{-1}T$

32. The moments of inertia of the rods A, B and C about their axis of symmetry respectively are in the ratio

- (A) 1 : 2 : 3 (B) 1 : 4 : 9 (C) 1 : 5 : 10 (D) 1 : 1 : 1

33. An enhanced beam of monochromatic and coherent light is called

- (A) MASER (B) LASER (C) TESTER (D) MASTRE

34. Newton's law of cooling is a special case of

- (A) Wien's displacement law (B) Kirchhoff's law
(C) Stefan's law (D) Planck's law

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

- | List-I | List-II |
|--------|---------|
|--------|---------|

- | | |
|------------------------|--|
| (a) Isothermal process | 1. 'V' constant, 'P' and 'T' change |
| (b) Adiabatic process | 2. 'T' constant, 'P' and 'V' change |
| (c) Isobaric process | 3. Heat is neither allowed to enter nor leave the system |
| (d) Isochoric process | 4. 'P' constant, 'T' and 'V' change |

Codes:

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

36. The net resistance of a voltmeter should be large to ensure that

- (A) It does not get overheated
- (B) It does not draw excessive current
- (C) It can measure large potential difference**
- (D) It does not change the potential difference to be measured

37. Soft iron is an ideal material for electromagnets because it

- (A) Exhibits maximum flux density
- (B) Requires small magnetizing field
- (C) Exhibits low hysteresis loop
- (D) All of these**

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

List-I

- (a) Convex lens
- (b) Concave lens
- (c) Prism
- (d) Mirror

List-II

- 1. Dispersion
- 2. Long sight
- 3. Virtual image
- 4. Short sight

Codes:

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

39. Consider the following statements:

Assertion (A): Metals and glass are isotropic in nature.

Reason (R): They have the same properties in all directions.

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

40. The term 'Boson' in Higgs boson has an Indian origin because _____

(A) Of the financial support of Indian Government towards research

(B) Higgs particle was found theoretically by Indian Physicist S.N. Bose

(C) It was the name given to the particles obeying Bose – Einstein statistics

(D) It was coined by Bose

41. The source of solar energy is _____

(A) Fission

(B) Radiation

(C) Fusion

(D) Conduction

42. 'A' is the assertion and 'R' is the reason. Examine these two statements carefully and select the answer using the code given below:

A : We are able to hear the sound behind the walls or obstacles.

R : When the wavelength of a wave is comparable or less than that of an obstacle, diffraction happens.

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

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

43. Consider the following statements:

Assertion (A): Electron microscopes can give better resolution than optical microscopes.

Reason (R): A high energy particle has a short de Broglie wavelength and so can probe the small scale interior structure of other particles.

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

44. The graph showing the velocity V of a steel ball dropped in a tall jar containing glycerine varying with time ' t ' is _____

(A)

45. Match the following:

(a) Moment of linear momentum

(b) Ability of free surface of liquid to minimize its surface area

(c) Work done per unit charge

(d) Upward force experienced by a body when wholly or partially immersed in a liquid

1. Buoyancy

2. Potential

3. Surface tension

4. Angular momentum

Codes:

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

46. Which of the following are primary colours?

(A) Red, green and blue

(B) Red, cyan and blue

(C) Blue, cyan and magenta

(D) Violet, red and green

47. Who is the inventor of steam engine?

(A) Jameswatt

(B) Gopal

(C) R. Bhatt

(D) Sea Cave

48. The unit of radiation exposure is

(A) Candela

(B) Dioptré

(C) Kelvin

(D) Roentgen

49. Newton's third law is applicable to bodies

(A) At rest only

(B) In motion only

(C) Both at rest and in motion

(D) With same mass

50. One Horse Power (H.P.) is equal to

- (B) Neither (I) nor (II) is correct
- (C) Statement (I) is wrong but statement (II) is correct**
- (D) Neither (I) nor (II) is wrong
56. Fuse wire has the property of
- (a) High resistance and low melting point
(b) Low resistance and low melting point
(c) High resistance and high melting point
(d) Low resistance and high melting point
- (A) (a) is correct** (B) (b) is correct
(C) (c) is correct (D) (d) is correct
57. The temperature in Celsius scale at which the temperature in Fahrenheit equals $(\frac{11}{5})^{\text{th}}$ its value (in celsius scale) is
- (A) 0°C (B) 40°C **(C) 80°C** (D) -40°C
58. Mach 9.6', specification about a rocket implies that it
- (A) Produces sound of frequency 9.6 hertz
(B) Produces sound of intensity 9.6 decibels
(C) Travels with the speed of 9.6 kilo metre per second
(D) Travels with the speed 9.6 times the speed of sound
59. Which holds oxygen in the atmosphere and not in space?
- (A) Inter molecular attraction **(B) Gravitational pull of the earth**
(C) Magnetic field of the earth (D) Solar radiations
60. Choose the incorrect statement:
- (A) In elastic collision, the relative velocity of the two bodies has the same magnitude before and after the collision
(B) The reciprocal of bulk modulus is called compressibility
(C) Pressure has the same unit of stress
(D) Moment of inertia is independent of the choice of the axis
61. The property of attraction or repulsion between charged bodies is used in
- (A) A.C Generator **(B) Electrostatic paint spraying**
(C) Potentiometer (D) Meter Bridge

62. The time period of two simple pendulums are in the ratio 2 : 1. The corresponding ratio of their lengths is
(A) 4 : 1 (B) 1 : 4 (C) 1 : 1 (D) 1 : 2
63. Arrange the Remote Sensing Satellites as per year of launching _____ in ascending order.
I. IRS II. SPOT III. TRIOS IV. LANDSAT
(B) III, IV, II, I
(A) I, II, IV, III
(C) I, II, III, IV (D) IV, III, I, II
64. A bullet of mass 150 gm. strikes a target at 600 m/s. velocity which is reduced to 150 m/s. The loss of energy is
(B) 8437 J (A) 3000 J (C) 18400 J (D) 5400 J
65. The acceleration due to gravity at the centre of the earth is
(A) Equal to zero (B) Less than 9.8 m/s^2
(C) Equal to 9.8 m/s^2 (D) Greater than 9.8 m/s^2
66. Magnetic effect of current was discovered by
(C) Oersted (A) Faraday (B) Fleming (D) Ampere
67. The isomer of BHC which has insecticidal property is
(C) γ -isomer (A) α -isomer (B) β -isomer (D) δ -isomer
68. Consider the following statements and select your answer:
I. Reciprocal of Young's modulus is compressibility
II. Reciprocal of viscosity is fluidity
(B) I false but II correct
(A) Both I and II are correct
(C) I correct but II false (D) Both I and II incorrect
69. The colour of a star is an indication of its
(D) Temperature (A) Distance from the sun (B) Luminosity
(C) Distance from the earth
70. Match list-I with list-II correctly and select your answer using the codes given below:
- | List-I | List-II |
|-------------------|---|
| (a) Seismograph | 1. Instrument for recording thunder and lightning |
| (b) Lactometer | 2. Inside the brain record electrical activity of neurons |
| (c) Encephalogram | 3. Measure the intensity of earthquake |
| (d) Ceraunograph | 4. Measure purity of milk |

Codes:

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

71. The graph which represents the variation of total energy E with time t during one cycle in a simple harmonic motion is
- (A)
72. Which one of the following is used in the working of speedometers in automobiles?
- (A) Direct current (B) Eddy current
(C) Wattless current (D) Thermoelectric current
73. The pressure on a swimmer 10 m below the surface of the lake
- a) increases b) decreases c) does not change
- (A) (a) alone is correct (B) (b) alone is correct
(C) Both (a) and (c) are correct (D) Both (b) and (c) are correct
74. Choose which is incorrectly matched
- (A) Surface tension – Nm^{-1} (B) Linear density – kg m^{-3}
(C) Angular Velocity - rads^{-1} (D) Pressure - Nm^{-2}
75. Choose the correct answer.
- “The time taken by light to come from the sun”
- (A) 8 minutes 20 sec (B) 8 minutes 20 sec
(C) 20 sec (D) 8 sec
76. Assertion (A): A cricket player while catching a ball lowers his hands in the direction of the ball.
Reason (R): To increase the time of contact between the ball and the hand.
- Now select your answer according to the coding scheme given below:
- (A) (A) and (R) are correct
(B) (A) is correct (R) is wrong
(C) (A) is wrong (R) is correct

(D) (A) is correct and but (R) is the wrong explanation of (A)

77. Match the theory with its propounder.

List-I	List-II
(a) Nebular theory	1. Lyttleton
(b) Tidal theory	2. Laplace
(c) Binary theory	3. Banerjee
(d) Cepheid theory	4. Jeans and Jeffrey's

Codes:

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

78. Which of the following are the members of the solar system besides sun?

- (A) Planets, Satellites, Asteroids & Stars
- (B) Planets, Satellites, Asteroids & Comets**
- (C) Planets, Asteroids, Comets & Stars
- (D) Planets, Satellites, Meteors & Stars

79. In Integrated Circuit (IC) the following compound cannot be fabricated:

- (A) Capacitors
- (B) Diodes
- (C) Transistors
- (D) Inductors**

80. Food is cooked faster in a pressure cooker because

- (A) Heat can't escape from it which maintains constant temperature inside
- (B) Water starts boiling at a lower temperature
- (C) The boiling point of water is raised**
- (D) The latent of vaporization of water is increased

81. a) Earth has a radiation belt known as Van Allen belt and magnetic field.
 b) moon has no magnetic field of its own and no radiation belt.

Of these statements:

- (A) (a) is true and (b) is false
- (B) (a) is false and (b) is true

- (C) Both (a) and (b) are false **(D) Both (a) and (b) are true**
82. Where is the space antenna which sends commands to Chandrayan – 1 located?
(A) Byalalu – Bangalum (B) Kalpauk
(C) Tuticorin (D) Mumbai
83. Assertion (A): A freely falling rain drops are spherical.
Reason (R): A sphere has a smaller surface area for its volume than any other shape.
Now select your answer according to the coding scheme given below:
(A) (A) is true, but (R) is false
(B) (A) is false, but (R) is true
(C) Both (A) and (R) are true and (R) is not the correct explanation of (A)
(D) Both (A) and (R) are true and (R) is the correct explanation of (A)
84. The basic principle of working of automatic operating street lights is
(A) Stark effect (B) Compton effect
(C) Thermo electric effect **(D) Photo electric effect**
85. COSMIC Rays are
(A) Highly penetrating radiations entering earth's surface in all directions from outer space
(B) Changeless particles entering earth's atmosphere
(C) Only neutrons generated on the earth's surface
(D) Only electrons entering earth's atmosphere in a given direction
86. GSLV stands for
(A) Geological Satellite Launch Vehicle
(B) Geo-Synchronous Satellite Launch Vehicle
(C) Global Satellite Launch Vehicle
(D) Generalized Satellite Launch Vehicle
87. Refractive index of a diamond is 2.42. Its meaning with respect to velocity of light is
I. Velocity of light in diamond is more than the velocity of light in air.
II. Velocity of light in diamond is less than the velocity of light in air.
III. Velocity of light in diamond and air is one and the same.

IV. Velocity of light in air is more than the velocity of light in diamond

(A) I and IV is correct (B) III alone is correct

(C) II and IV is correct (D) I alone is correct

88. Consider the following statements with reference to the surface tension.

i) Falling rain drops are spherical due to surface tension.

ii) Oil has greater tension than water

iii) To prevent breeding of mosquitoes, oil is sprayed on the surface of water in pools.

Which of the statements given above is/are correct?

(A) (i) and (iii) only (B) (ii) only

(C) (i), (ii) and (iii) (D) (i) only

89. The transmitting device that blocks signals between a cell phone and the base station is a

(A) Cell phone diverter (B) Cell phone shield

(C) Cell phone jammer (D) Cell phone masks

90. Consider the following statements:

Assertion (A): Force cannot be added to pressure

Reason (R): Their dimensions are different

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

(A) (A) is correct, but (R) is wrong

(B) (A) is wrong, but (R) is correct

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

(D) (A) and (R) are correct and (R) is the correct explanation of (A)

91. Sky appears blue due to phenomena of

(A) Interference of light rays (B) Dispersion of light rays

(C) Polarisation of light rays **(D) Scattering of light by air molecules**

92. A carnot engine works between the temperatures 30 K and 300 K. What is its efficiency?

(A) 50 % (B) 47 % **(C) 90 %** (D) 10 %

93. Match list-I with list-II correctly and select the correct choice:

List-I

List-II

- | | |
|----------------|----------------|
| (a) Diode | 1. Amplifier |
| (b) Transistor | 2. Display |
| (c) Solar Cell | 3. Rectifier |
| (d) LED | 4. Electricity |

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

94. A magnet is allowed to fall through a metal ring. During the fall
- (A) Its acceleration is equal to 'g'
 (B) Its acceleration is greater than 'g'
(C) Its acceleration is less than 'g'
 (D) Its acceleration is equal to the product of 'g' and the radius of the ring
95. The Boolean expression of the output Y in terms of the inputs A and B for the circuit shown in the following figure is:
- (A) $Y = (A+B) (A+B)$ (B) $Y = (A + B) (A + B)$
 (C) $Y = AB + AB$ **(D) $Y = AB + AB$**
96. Consider the following pairs:
- I. X rays – Rutherford II. Atomic Nucleus – Roentgen
 III. Artificial radioactivity – Curie and Juliot
- Which of the pair given above is/are correct?
- (A) I only (B) II and III only (C) I and II only **(D) III only**
97. Consider the following statements and select the correct answer.
- I. The path of a projectile is a parabola.
 II. The acceleration due to gravity at the centre of the earth is zero
 III. The gravitational constant does not have unit and dimensions.
- (A) Both I and II are correct but III is false**
 (B) Both I and III are correct but II is false
 (C) I, II, III all are correct
 (D) Both II and III are correct but I is false

98. What is relation between the voltage 'V' across the ends of a resistor 'R' and the current 'I' which flows through it?
- (A) $V = \frac{I^2}{R}$ (B) $I = VR$ (C) $I = \frac{V}{R}$ (D) $V = I^2 R$
99. The expansion of e-PPS is
- (A) **Electronic Project Proposal System** (B) Electronic Population Prediction system
- (C) Electronic Polymer Purchasing System (D) Electronic Petrol Purchasing System
100. In 1905, Albert Einstein discovered
- (A) Photoelectric effect and Brownian motion
- (B) Brownian motion and special theory of relativity
- (C) **Special theory of relativity and photoelectric effect**
- (D) Photoelectric effect, special theory relativity and Brownian motion