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Knowledge is Discipline
BJNP
Learning with the Speed of Mumbai and the Tradition of Kota

Max Marks: 100 **Date: 00.00.2022**

ABHIMANYU BATCH
PHYSICS : REVISION TEST-2 (SET B)
Topic: Wave Optics + Rotational Motion + Elasticity

1. If the earth suddenly changes its radius x times the present value, the new period of rotation would be

(a) $6x^2h$ (b) $12x^2h$ (c) $24x^2h$ (d) $48x^2h$

2. A wheel of mass 8 kg and radius 40 cm is rolling on a horizontal road with angular velocity of 15 rad s^{-1}. The moment of inertial of the wheel about its axis is 0.64 kg m^{-2}. Total kinetic energy of wheel is

(a) 288 J (b) 216 J (c) 72 J (d) 144 J

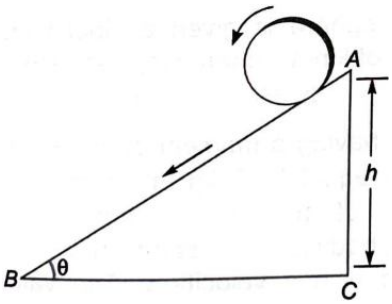
3. A sphere and a hollow cylinder roll without slipping down two separate inclined planes and travel the same distance in the same time. If the angle of the plane down which the sphere rolls is 30º, the angle of the other plane is

(a) 60º (b) 53º (c) 37º (d) 45º

4. A solid cylinder rolls down an inclined plane of height 3 m and reaches the bottom of plane with angular velocity, of $2\sqrt{2}$ rad s^{-1}. The radius of cylinder must be (Given, g = 10 ms^{-2})

(a) 5 cm (b) 0.5 cm (c) $\sqrt{10}$cm (d) $\sqrt{5}$m

5. If a sphere rolling on an inclined plane with velocity v without slipping, the vertical height of the incline in terms of velocity will be



(a) $\frac{7v}{10g}$ (b) $\frac{7v^2}{10g}$ (c) $\frac{2v^2}{5g}$ (d) $\frac{3v}{5g}$

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6. A cylinder is rolling down on an inclined plane of inclination 60°. What is its acceleration?

(a) $g/3$ (b) $g/\sqrt{3}$ (c) $\sqrt{\frac{2g}{3}}$ (d) None of these

7. The speed of a homogenous solid sphere after rolling down an inclined plane of vertical height h from rest without sliding is

(a) $\sqrt{\frac{10}{7}gh}$ (b) $\sqrt{\frac{4}{3}gh}$ (c) $\sqrt{gh}$ (d) $\sqrt{\frac{6}{5}gh}$

8. The following four wires of length L and radius r are made of the same material. Which of these will have the largest extension, when the same tension is applied?

(a) L = 100 cm, r = 0.2 mm (b) L = 200 cm, r = 0.4 mm
(c) L = 300 cm, r = 0.6 mm (d) L = 400 cm, r = 0.8 mm

9. A sphere of radius 3 cm is subjected to a pressure of 100 atm. Its volume decreases by 0.3 cc. What will be its bulk modulus?

(a) $4\pi \times 10^5$ atm (b) $4\pi \times 3 \times 10^3$ atm (c) $4\pi \times 10^6$ atm (d) $4\pi \times 10^8$ atm

10. To break a wire of 1 m length, minimum 40 kg weights is required. Then, the wire of the same material of double radius and 6 m length will require breaking weight

(a) 80 kg-weight (b) 240 kg-weight (c) 200 kg-weight (d) 160 kg-weight

11. When a weight of 10 kg is suspended from a copper wire of length 3 m and diameter 0.4 mm. Its length increases by 2.4 cm. If the diameter of the wire is doubled, then the extension in its length will be

(a) 7.6 cm (b) 4.8 cm (c) 1.2 cm (d) 0.6 cm

12. A force of 6×10^6 Nm^{-2} required for breaking a material. The density ρ of the material is 3×10^3 kg m^{-3}. If the wire is to break under its own weight, then the length of the wire made of that material should be (Given, g = 10 ms^{-2})

(a) 20 m (b) 200 m (c) 100 m (d) 2000 m

13. The length of the wire is increased by 2% by applying a load of 2.5 kg-wt. What is the linear strain produced in the wire?

(a) 0.1 (b) 0.01 (c) 0.2 (d) 0.02

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14. A wire is suspended by one end. At the other end, a weight equivalent to 20 N force is applied. If the increase in length is 1 mm, then increase in the energy of the wire will be

(a) 0.01 J (b) 0.02 J (c) 0.04 J (d) 1.00 J

15. Young's modulus of the material of a wire is Y. On pulling the wire by a force F, the increase in its length is x. The potential energy of the stretched wire is

(a) $\frac{1}{2}Fx$ (b) $\frac{1}{2}Yx$ (c) $\frac{1}{2}Fx^2$ (d) None of these

16. A 1 m long steel wire of cross-sectional area 1 mm^2 is extended by 1 mm. If $Y = 2 \times 10^{11}\ Nm^{-2}$, then the work done is

(a) 0.1 J (b) 0.2 J (c) 0.3 J (d) 0.4 J

17. Two wires of same material and same diameter have lengths in the ratio 2 : 5. They are stretched by same force. The ratio of work done in stretching them is

(a) 5 : 2 (b) 2 : 5 (c) 1 : 3 (d) 3 : 1

18. If in a wire of Young's modulus Y, longitudinal strain X is produced, then the value of potential energy stored in its unit volume will be

(a) $0.5\ YX^2$ (b) $0.5\ Y^2X$ (c) $2YX^2$ (d) YX^2

19. A wire suspended vertically from one of its ends is stretched by attaching a weight of 200 N to the lower end. The weight stretched the wire by 1 mm. Then, the elastic energy in the wire is

(a) 0.2 J (b) 10 J (c) 20 J (d) 0.1 J

20. A rigid bar of mass M is suspended symmetrically by three wires each of length l. Those at each end are of copper and the middle one is of iron. What is the ratio of their diameters $\left(\frac{D_{copper}}{D_{iron}}\right)$ if each wire is to have the same tension?

(a) $\frac{Y_{copper}}{Y_{iron}}$ (b) $\sqrt{\frac{Y_{iron}}{Y_{copper}}}$ (c) $\frac{Y^2_{iron}}{Y^2_{copper}}$ (d) $\frac{Y_{iron}}{Y_{copper}}$

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21. A wavefront is
    (a) A surface imagined parallel and coplanar with light rays
    (b) A surface around a source such that each point of it is at a constant distance from the source
    (c) A surface which contains the plane of oscillations of electric field of light
    (d) A surface which is created by medium particles oscillating in same phase

22. Which of the following statement(s) is/are correct?
    I. A point source emitting waves uniformly in all directions.
    II. In spherical wave, the locus of point which have the same amplitude and vibrate in same phase are spheres
    III. At a small distance from the source, a small portion of sphere can be considered as plane wave.
    (a) Only I (b) Both I and II (c) Only III (d) All of these

23. The idea of secondary wavelets for the propagation of wave was first given by
    (a) Newton (b) Huygens (c) Maxwell (d) Fresnel

24. A shortcoming of Huygens' model could not
    (a) Explaining the absence of the backware
    (b) Determine the shape of the wavefront for a plane wave
    (c) Explain the point source emitting waves uniformly in all directions
    (d) All of the above

25. Ray diverging from a point source from a wavefront that is
    (a) cylindrical (b) spherical (c) plane (d) cubical

26. Wavefront is the locus of all point, where the particles of the medium vibrate with the same
    (a) phase (b) amplitude (c) frequency (d) period

27. Light waves travel in vacuum along the y-axis. Which of the following may represent the wavefront?
    (a) y = constant (b) x = constant
    (c) z = constant (d) x + y + z = constant

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28. A light wave travels through a medium carrying energy in three dimensional space. Energy spread is described by
(a) Rays originating from the source
(b) Beam of light originating from source consisting of a branch of rays
(c) Wavefronts originating from source travelling in medium with speed of light
(d) Imagining light consisting of particles moving through medium with speed of light

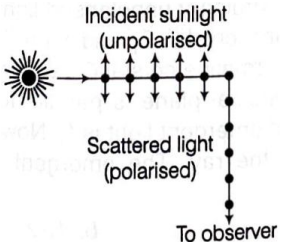
29. Sound wave in air cannot be polarized because
(a) their speed is small (b) they require medium
(c) these are longitudinal (d) their speed is temperature dependent

30. In case of linearly polarized light, the magnitude of the electric field vector
(a) does not change with time (b) varies periodically with time
(c) increases and decreases linearly with time (d) is parallel to the direction of propagation

31. Which of the following statement(s) is/are correct?
I. A polaroid consists of long chain molecules aligned in a particular direction.
II. Electric vectors along the direction of the aligned molecule in a polaroid gets absorbed.
III. An unpolarised light wave is incident on polaroid then it will get linearly polarized.
(a) Only I (b) Both II and III (c) Only III (d) All of the above

32. Polaroids are used in
(a) photographic cameras (b) 3D movies cameras
(c) Both (a) and (b) (d) Neither (a) nor (b)

33. Figure shows the process of



(a) polarization by scattering (b) polarization of reflection
(c) diffraction (d) None of the above

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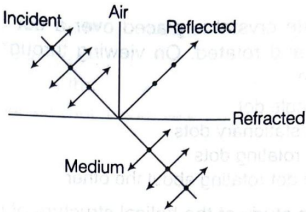
34. Which of the following statement(s) is/are correct with reference to the figure given below?

I. Dots and arrows indicate that both polarisations are present in the incident and refracted waves.

II. The reflected light is not linearly polarized.

III. Transmitted intensity will be zero when the axis of the analyser is in the plane of the figure i.e. the plane of incidence.



(a) Only I (b) Only II (c) Both I and III (d) Both I and II

35. The Brewster angle for the glass-air interface is 54.74°. If a ray of light going from air to glass strikes at an angle of incidence 45°, then the angle of refraction is (Given, tan 54.74° = $\sqrt{2}$)

(a) 60° (b) 30° (c) 25° (d) 54.74°

36. Which of the following phenomenon is not common to sound and light waves?

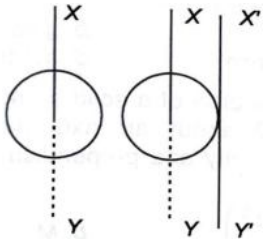
(a) Interference (b) Diffraction (c) Polarisation (d) Reflection

37. In case of linearly polarized light, the magnitude of the electric field vector

(a) does not change with time (b) varies periodically with time

(c) increases and decreases linearly with time (d) is parallel to the direction of propagations

38. The moment of inertial of a circular disc of radius 2 m and mass 1 kg about an axis passing through the centre of mass but perpendicular to the plane of the disc is 2 kg-m^2. Its moment of inertia about an axis parallel to this axis but passing through the edge of the disc is (see the given figure).



(a) 8 kg-m^2 (b) 4 kg-m^2 (c) 10 kg-m^2 (d) 6 kg-m^2

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39. The moment of inertia of a circular disc about one of its dimeters is I. What will be its moment of inertia about a tangent parallel to the diameter?

(a) 4l (b) 4l (c) $\frac{5l}{2}$ (d) 5l

40. The moment of inertia of a sphere of mass M and radius R about an axis passing through its centre is $\frac{2}{5}MR^2$. The radius of gyration of the sphere about a parallel axis to the above and tangent to the sphere is

(a) $\frac{7}{5}R$ (b) $\frac{3}{5}R$ (c) $\left(\sqrt{\frac{7}{5}}\right)R$ (d) $\left(\sqrt{\frac{3}{5}}\right)R$

41. Moment of inertia of ring about its diameter is I. Then, moment of inertial about an axis passing through centre perpendicular to its plane is

(a) 2I (b) $\frac{I}{2}$ (c) $\frac{3}{2}I$ (d) I

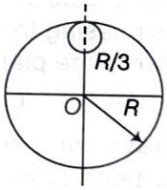
42. The ratio of the radii of gyration of a circular disc and a circular ring of the same radii about a tangential axis perpendicular to plane of disc or ring is

(a) 1 : 2 (b) $\sqrt{5}:\sqrt{6}$ (c) 2 : 3 (d) $\sqrt{3}:2$

43. The ratio of the radii of gyration of a circular disc to that of a circular ring, each of same mass and radius, around their respective axes is

(a) $\sqrt{3}:\sqrt{2}$ (b) $1:\sqrt{2}$ (c) $\sqrt{2}:1$ (d) $\sqrt{2}:\sqrt{3}$

44. From a circular disc of radius R and mass 9 M, a small disc of radius R/3 is removed from the disc (as shown in figure) the moment of inertial of the remaining disc about an axis perpendicular to the plane of the disc and passing through O is



(a) 4 MR^2 (b) $\frac{40}{9}MR^2$ (c) 10 MR^2 (d) $\frac{37}{9}MR^2$

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45. The moment of inertial of two equal masses each of mass m at separation L connected by a rod of mass M, about an axis passing through centre and perpendicular to length of rod is

(a) $\frac{(M+3m)L^2}{12}$ (b) $\frac{(M+6m)L^2}{12}$ (c) $\frac{ML^2}{4}$ (d) $\frac{ML^2}{12}$

46. What is the torque of the force $F=(2\hat{i}-3\hat{j}+4\hat{k})N$ acting at the point $r=(3\hat{i}+2\hat{j}+3\hat{k})m$ about the origin?

(a) $-17\hat{i}+6\hat{j}+13\hat{k}$ (b) $-6\hat{i}+6\hat{j}-12\hat{k}$ (c) $17\hat{i}-6\hat{j}-13\hat{k}$ (d) $6\hat{i}+6\hat{j}+12\hat{k}$

47. A thin rod of mass m and length 2l is made to rotate about an axis passing through its centre and perpendicular to it. If its angular velocity changes from 0 to ω in time t, the torque acting on it is

(a) $\frac{ml^2\omega}{12t}$ (b) $\frac{ml^2\omega}{3t}$ (c) $\frac{ml^2\omega}{t}$ (d) $\frac{4ml^2\omega}{3t}$

48. The instantaneous angular position of a point on a rotating wheel is given by the equation
$Q(t) = 2t^3 - 6t^2$
The torque on the wheel becomes zero at

(a) t = 0.5 s (b) t = 0.25 s (c) t = 2 s (d) t = 1 s

49. If r denotes the distance between the sun and the earth, then the angular momentum of the earth around the sun is proportional to

(a) $r^{3/2}$ (b) r (c) $\sqrt{r}$ (d) r^2

50. A ballet dancer spins with 2.8 rps with her arms out stretched. When the moment of inertia about the same axis becomes 0.7 I, the new rate of spin is

(a) 3.2 rps (b) 4.0 rps (c) 4.8 rps (d) 5.6 rps

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Date: 13.11.2022

ABHIMANYU BATCH
CHEMISTRY : REVISION TEST 2 (SET B)
Topics: Atomic Structure, Gaseous States and Chemical Equilibrium

51. Brackett series are produced when the electrons from the outer orbits jump to

(a) 2nd orbit (b) 3rd orbit (c) 4th orbit (d) 5th orbit

52. The maximum number of atomic orbitals associated with a principal quantum number 5 is

(a) 9 (b) 12 (c) 16 (d) 25

53. Which of the following species is isoelectronic with CO?

(a) HF (b) N_2 (c) N_2^+ (d) O_2^-

54. Few electrons have following quantum numbers,

(i) n = 4, l = 1 (ii) n = 4, l = 0 (iii) n = 3, l = 2 (iv) n = 3, l = 1

Arrange them in the order of increasing energy from lowest to highest.

(a) (iv) < (ii) < (iii) < (i) (b) (ii) < (iv) < (i) < (iii)

(c) (i) < (iii) < (ii) < (iv) (d) (iii) < (i) < (iv) < (ii)

55. Be^{2+} is isoelectronic with which of the following ions?

(a) H^+ (b) Li^+ (c) Na^+ (d) Mg^{2+}

56. Kinetic energy of molecules is highest in

(a) Gases (b) Solids (c) Liquids (d) Solutions

57. What is the dominant intermolecular force or bond that must be overcome in converting liquid CH_3OH to gas?

(a) Dipole-dipole interaction (b) Covalent bonds

(c) London dispersion forces (d) Hydrogen bonding

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58. Which of the following exhibits the weakest intermolecular forces?

(a) NH_3 (b) HCl (c) He (d) H_2O

59. The temperature at which Celsius and Fahrenheit scales give the same reading is

(a) 0° C (b) 32° F (c) – 40° C (d) 40° C

60. When gases are heated from 20° to 40° C at constant pressure, their volumes

(a) increase by the same magnitude (b) become double

(c) increase in the ratio of their molecular masses (d) increase but to different extent

61. Maximum number of electrons present in N shell is

(a) 18 (b) 32 (c) 2 (d) 8

62. Neon (Z = 10) consists of

(a) 9 Electrons (b) 12 Electrons (c) 5 Electrons (d) 10 Electrons

63. In potassium the order of energy level is

(a) 3s, 3d (b) 3p, 4s (c) 4s, 4p (d) 4s, 3d

64. The Heisenberg uncertainty principle can be applied to

(a) Protons only (b) Electrons only

(c) Neutrons only (d) All material objects in motion

65. Electronic configuration of H^- is

(a) $1s^0$ (b) $1s^1$ (c) $1s^2$ (d) $1s^1, 2s^1$

66. The correct ground state electronic configuration of Cr atom is

(a) $[Ar]3d^5 4s^1$ (b) $3d^4 4s^2$ (c) $3d^6 4s^0$ (d) $4d^5 5s^1$

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67. The element with Z = 20 is

(a) an alkali metal (b) an alkaline earth metal

(c) a halogen (d) an inert gas

68. The number of electrons shared by each atom of nitrogen in nitrogen molecule is

(a) 2 (b) 6 (c) 3 (d) 4

69. The total number of electrons present in 8 g of methane is

(a) 4.02×10^{18} (b) 3.01×10^{24} (c) 3.01×10^{22} (d) 2.51×10^{24}

70. One of the basic assumptions of Bohr's theory is

(a) linear momentum is quantized

(b) angular momentum is quantized

(c) electrons do not feel nuclear attractions in stationary orbits

(d) stationary orbits have no position momentum uncertainty

71. Which of the following expression at constant pressure represents Charle's law.

(a) $V \propto \frac{1}{T}$ (b) $V \propto \frac{1}{T^2}$ (c) $V \propto T$ (d) $V \propto d$

72. 4.4 g of a gas at STP occupies a volume of 2.24 L, the gas can be

(a) O_2 (b) CO (c) NO_2 (d) CO_2

73. Real gases show deviations from ideal behaviour when

(a) temperature is low and pressure is high (b) temperature is high and pressure is low

(c) both temperature and pressure are low (d) both temperature and pressure are high

74. Containers A and B have same gases. Pressure, volume and temperature of A are all twice as that B, then the ratio of number of molecules A and B are

(a) 1 : 2 (b) 2 : 1 (c) 1 : 4 (d) 4 : 1

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75. The rate at which a substance reacts, depends on its:

(a) active mass (b) molecular mass (c) equivalent mass (d) total volume

76. Equilibrium constant for the reaction, $2NO_{(g)} + Cl_{2(g)} \rightleftharpoons 2NOCl_{(g)}$, is correctly given by the expression:

(a) $K = \frac{[NOCl]^2}{[NO]^2[Cl_2]}$ (b) $K = \frac{[2NOCl]}{[2NO][Cl_2]}$ (c) $K = \frac{[NO]^2 + [Cl_2]}{[NOCl]}$ (d) $K = \frac{[NO]^2[Cl_2]}{[NOCl]^2}$

77. The equilibrium constants of the reactions,

$SO_{2(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons SO_{3(g)}$

and $2SO_{2(g)} + O_{2(g)} \rightleftharpoons 2SO_{3(g)}$

are K_1 and K_2 respectively. The relationship between K_1 and K_2 is:

(a) $K_1 = K_2$ (b) $K_2^2 = K_1$ (c) $K_1^2 = K_2$ (d) $K_2 = \sqrt{K_1}$

78. Consider the following equilibrium

$SO_{2(g)} + \frac{1}{2}O_{2(g)} \overset{K_1}{\rightleftharpoons} SO_{3(g)}$; $2SO_{3(g)} \overset{K_2}{\rightleftharpoons} 2SO_{2(g)} + O_{2(g)}$

What is the relation between K_1 and K_2?

(a) $K_1 = \frac{1}{K_2}$ (b) $K_1 = \frac{1}{\sqrt{K_2}}$ (c) $K_1 = K_2$ (d) $K_1 = \frac{1}{K_2^2}$

79. For a system, $A + 2B \rightleftharpoons C$, the equilibrium concentrations are [A] = 0.06, [B] = 0.12 and [C] = 0.216. The K_C for the relation is:

(a) 125 (b) 415 (c) 4×10^{-3} (d) 250

80. A reversible reaction is one which

(a) proceeds in one direction (b) proceeds in both directions

(c) proceeds spontaneously (d) all the statements are wrong

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81. An example of reversible reaction is:

(a) $Pb(NO_3)_2 + 2NaI = PbI_2 + 2NaNO_3$ (b) $AgNO_3 + HCl = AgCl + HNO_3$

(c) $2Na + 2H_2O = 2NaOH + H_2$ (d) $KNO_3 + NaCl = KCl + NaNO_3$

82. Which one of the following is not a reversible reaction?

(a) $2HI_{(g)} = H_{2(g)} + I_{2(g)}$ (b) $PCl_{5(g)} = PCl_{3(g)} + Cl_{2(g)}$

(c) $2KClO_{3(s)} = 2KCl_{(s)} + 3O_{2(g)}$ (d) $CaCO_{3(s)} = CaO_{(s)} + CO_{2(g)}$

83. Active mass is defined as:

(a) number of g equivalent per unit volume (b) number of g mol per litre

(c) amount of substance in gram per unit volume (d) number of g mole in 100 litre

84. 8.50 g of NH_3 is present in 250 mL volume. Its active mass is :

(a) 1.0 ML^{-1} (b) 0.5 ML^{-1} (c) 1.5 ML^{-1} (d) 2.0 ML^{-1}

85. A chemical reaction, $A \rightleftharpoons B$, is said to be in equilibrium when:

(a) rate of forward reaction is equal to rate of backward reaction

(b) conversion of A to B is only 50% complete

(c) complete conversion of A to B has taken place

(d) only 25% conversion of A to B has taken place

86. The reaction between barium chloride and sodium sulphate goes to completion because

(a) barium sulphate is almost insoluble (b) the solubility of barium chloride decreases

(c) lattice energy of barium sulphate is very high (d) the reaction is irreversible in nature

87. For the reaction, $A + 2B \rightleftharpoons C$, the expression for equilibrium constant is:

(a) $\frac{[A][B]^2}{[C]}$ (b) $\frac{[A][B]}{[C]}$ (c) $\frac{[C]}{[A][B]^2}$ (d) $\frac{[C]}{[2B][A]}$

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88. Equilibrium constant for the reaction, $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$, is correctly given by the expression:

(a) $K_C = \frac{[H_2][I_2]}{[HI]}$ (b) $K_C = \frac{[HI]^2}{[H_2][I_2]}$ (c) $K_C = \frac{[HI]}{[H_2][I_2]}$ (d) $K_C = \frac{[2HI]}{[H_2][I_2]}$

89. For the system, $3A + 2B \rightleftharpoons C$ the expression for equilibrium constant is:

(a) $\frac{[A]^3[B]^2}{[C]}$ (b) $\frac{[C]}{[A]^2[B]^2}$ (c) $\frac{[A]^2[B]^3}{[C]}$ (d) $\frac{[C]}{[A][B]}$

90. For the reaction, $2NO_{2(g)} \rightleftharpoons 2NO_{(g)} + O_{2(g)}$, $K_C = 1.8 \times 10^{-6}$ at 185° C, the value of lK_C for the reaction, $NO_{(g)} \rightleftharpoons NO_{(g)} + 1/2O_{2(g)}$, at the same temperature is

(a) 1.34×10^{-3} (b) 1.8×10^{-6} (c) 0.9×10^{-3} (d) 1.8×10^{6}

91. Dalton's law of partial pressures will not hold good for which of the following?

(a) $H_2 + O_2 + CO_2$ (b) $N_2 + HBr + Cl_2$ (c) $Cl_2 + NH_3 + HBr$ (d) $NH_3 + O_2 + Cl_2$

92. Which of the following gas will have highest rate of diffusion?

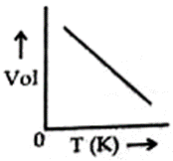
(a) NH_3 (b) N_2 (c) CO_2 (d) O_2

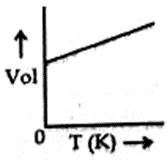
93. Graph between P and V at constant temperature is

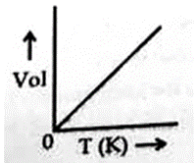
(a) straight (b) curved increasing

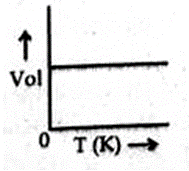
(c) straight line with slope (d) parabolic curve decreasing

94. The correct representation of Charles's law is given

(a) 

(b) 

(c) 

(d) 

Space for Rough Work

95. Which of the following shows explicitly the relationship between Boyle's law and Charles's law?

(a) $\frac{P_1}{P_2} = \frac{T_1}{T_2}$ (b) $PV = K$ (c) $\frac{P_2}{P_1} = \frac{V_1}{V_2}$ (d) $\frac{V_2}{V_1} = \frac{P_1}{P_2} \times \frac{T_2}{T_1}$

96. If the absolute temperature of gas is doubled and the pressure is reduced to one-half, the volume of the gas will

(a) Remain unchanged (b) Be doubled

(c) Increase four-fold (d) Be reduced to $1/4^{th}$

97. There is 10 litre of a gas at STP. Which of the following new conditions keep the volume constant?

(a) 273 K and 2 atm pressure (b) 273° C and 2 atm pressure

(c) 546° C and 0.5 atm pressure (d) 0° C and 0.0 atm pressure

98. 16 g oxygen and 3 g of hydrogen are mixed and kept at 760 mm pressure and 0° C. The total volume occupied by the mixture will be nearly

(a) 22.4 L (b) 33.6 L (c) 448 L (d) 44800 mL

99. At constant temperature, for a given mass of an ideal gas

(a) The ratio of pressure and volume always remains constant

(b) Volume always remains constant

(c) Pressure always remains constant

(d) The product of pressure and volume always remains constant

100. At constant pressure, the volume of fixed mass of an ideal gas is directly proportional toa

(a) Absolute temperature (b) Degree centigrade

(c) Degree Fahrenheit (d) None

Space for Rough Work

विद्या ददाति विनयम्
Knowledge is Discipline

BJNP

Learning with the Speed of Mumbai and the Tradition of Kota

Max Marks: 100 **Date: 13.11.2022**

ABHIMANYU BATCH
PHYSICS : REVISION TEST-2 (SET B) ANSWER KEY
Topic: Wave Optics + Rotational Motion + Elasticity

1.	(c)	2.	(b)	3.	(d)	4.	(d)	5.	(b)
6.	(b)	7.	(a)	8.	(a)	9.	(b)	10.	(d)
11.	(d)	12.	(b)	13.	(d)	14.	(a)	15.	(a)
16.	(a)	17.	(b)	18.	(a)	19.	(d)	20.	(b)
21.	(d)	22.	(b)	23.	(b)	24.	(a)	25.	(b)
26.	(a)	27.	(a)	28.	(c)	29.	(c)	30.	(b)
31.	(d)	32.	(c)	33.	(a)	34.	(c)	35.	(b)
36.	(c)	37.	(b)	38.	(d)	39.	(d)	40.	(c)
41.	(a)	42.	(d)	43.	(b)	44.	(a)	45.	(b)
46.	(c)	47.	(b)	48.	(d)	49.	(c)	50.	(b)

CHEMISTRY : REVISION TEST 2 (SET B) ANSWER KEY
Topics: Atomic Structure, Gaseous States and Chemical Equilibrium

51.	(c)	52.	(d)	53.	(b)	54.	(a)	55.	(b)
56.	(a)	57.	(d)	58.	(c)	59.	(c)	60.	(d)
61.	(b)	62.	(d)	63.	(d)	64.	(d)	65.	(b)
66.	(a)	67.	(b)	68.	(b)	69.	(d)	70.	(b)
71.	(c)	72.	(d)	73.	(a)	74.	(a)	75.	(a)
76.	(a)	77.	(c)	78.	(b)	79.	(d)	80.	(b)
81.	(d)	82.	(c)	83.	(b)	84.	(d)	85.	(a)
86.	(d)	87.	(c)	88.	(b)	89.	(b)	90.	(a)
91.	(c)	92.	(a)	93.	(d)	94.	(b)	95.	(d)
96.	(c)	97.	(b)	98.	(d)	99.	(d)	100.	(a)