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**Max. Marks: 100** **Date: 27.11.2022**

# ABHIMANYU BATCH

## PHYSICS : REVISION TEST-4 (SET A)

### Topics: EMI, Oscillation, Sound Waves and Stationary Waves

1. A block resting on the horizontal surface executes SHM in horizontal plane with amplitude A. The frequency of oscillation for which the block just starts to slipis (where, μ = coefficient of friction, g = gravitational acceleration)

(a) $\frac{1}{2\pi}\sqrt{\frac{\mu g}{A}}$ (b) $\frac{1}{4\pi}\sqrt{\frac{\mu g}{A}}$ (c) $2\pi\sqrt{\frac{A}{\mu g}}$ (d) $4\pi\sqrt{\frac{A}{\mu g}}$

2. A particle executes a simple harmonic motion of time period T. Find the time taken by the particle to go directly from its mean position to half the amplitude

(a) T/2 (b) T/4 (c) T/8 (d) T/12

3. Two simple harmonic motions of angular frequency 100 and 1000 rad $s^{-1}$ have the same displacement amplitude. The ratio of their maximum acceleration is

(a) 1 : 10 (b) $1 : 10^2$ (c) $1 : 10^3$ (d) $1 : 10^4$

4. The average acceleration of a particle performing SHM over one complete oscillation is

(a) $\frac{\omega^2 A}{2}$ (b) $\frac{\omega^2 A}{\sqrt{2}}$ (c) zero (d) $A\omega^2$

5. U is the PE of an oscillating particle and F is the force acting on it at a given instant. Which of the following is correct?

(a) $\frac{U}{F} + x = 0$ (b) $\frac{2U}{F} + x = 0$ (c) $\frac{F}{U} + x = 0$ (d) $\frac{F}{2U} + x = 0$

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**Space for Rough Work**

6. If a simple pendulum oscillates with an amplitude of 50 mm and the period of 2s, then its maximum velocity is

(a) $0.10\ ms^{-1}$ (b) $0.15\ ms^{-1}$ (c) $0.8\ ms^{-1}$ (d) $0.26\ ms^{-1}$

7. The periodic time of a particle doing simple harmonic motion is 4s. The time taken by it do go from its mean position to half the maximum displacement (amplitude) is

(a) 2 s (b) 1 s (c) $\frac{2}{3}$ s (d) $\frac{1}{3}$ s

8. The graph between the time period and the length of a simple pendulum is

(a) straight line (b) curve (c) ellipse (d) parabola

9. The potential energy of a simple harmonic oscillator, when the particle is half way to its end point is

(a) $\frac{1}{4}E$ (b) $\frac{1}{2}E$ (c) $\frac{2}{3}E$ (d) $\frac{1}{8}E$

(where, E is the total energy)

10. In SHM restoring force is $F = -kx$, where k is force constant, x is displacement and A is amplitude of motion, then total energy depends upon

(a) k, A and M (b) k, x, M (c) k, A (d) k, x

11. The displacement equation of a simple harmonic oscillatory is given by

$y = A \sin \omega t - B \cos \omega t$

The amplitude of the oscillator will be

(a) A – B (b) A + B (c) $\sqrt{A^2 + B^2}$ (d) $(A^2 + B^2)$

12. Two particles execute SHM of the same amplitude and frequency along the same straight line. If they pass one another when going in opposite directions, each time their displacement is half their amplitude, the phase difference between them is

(a) $\frac{\pi}{3}$ (b) $\frac{\pi}{4}$ (c) $\frac{\pi}{6}$ (d) $\frac{2\pi}{3}$

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13. A simple pendulum of length *l* and mass (bob) m is suspended vertically. The string makes an angle $\theta$ with the vertical. The restoring force acting on the pendulum is

(a) $mg \tan \theta$ (b) $-mg \sin \theta$ (c) $mg \sin \theta$ (d) $-mg \cos \theta$

14. The displacement of a particle performing simple harmonic motion is given by, $x = 8 \sin \omega t + 6 \cos \omega t$, where distance is in cm and time is in second. The amplitude of motion is

(a) 10 cm (b) 2 cm (c) 14 cm (d) 3.5 cm

15. A point mass m is suspended at the end of a massless wire of length L and cross-section area A. If Y is the Young's modulus for the wire, then the frequency of oscillations for the SHM along the vertical line is

(a) $\frac{1}{2\pi}\sqrt{\frac{YA}{mL}}$ (b) $2\pi\sqrt{\frac{mL}{YA}}$ (c) $\frac{1}{\pi}\sqrt{\frac{YA}{mL}}$ (d) $\pi\sqrt{\frac{mL}{YA}}$

16. The minimum phase difference between two simple harmonic oscillations, $y_1 = \frac{1}{2}\sin \omega t + \frac{\sqrt{3}}{2}\cos \omega t$, $y_2 = \sin \omega t + \cos \omega t$ is

(a) $\frac{7\pi}{12}$ (b) $\frac{\pi}{12}$ (c) $-\frac{\pi}{6}$ (d) $\frac{\pi}{6}$

17. An SHM is represented by $x = 5\sqrt{2}(\sin 2\pi t + \cos 2\pi t)$. The amplitude of the SHM is

(a) 10 cm (b) 20 cm (c) $5\sqrt{2}$ cm (d) 50 cm

18. A progressive wave is represented by $y = 12 \sin (5t - 4x)$ cm. On this wave, how far away are the two points having phase difference of 90°?

(a) $\frac{\pi}{2}$ cm (b) $\frac{\pi}{4}$ cm (c) $\frac{\pi}{8}$ cm (d) $\frac{\pi}{16}$ cm

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19. When the observer moves towards the stationary source with velocity, $v_1$ the apparent frequency of emitted note is $f_1$. When the observer moves away from the source with velocity $v_1$, the apparent frequency is $f_2$. If v is the velocity of sound in air and $\frac{f_1}{f_2} = 2$, then $\frac{v}{v_1}$ =?

(a) 2 (b) 3 (c) 4 (d) 5

20. The equation of sound wave is y = 0.0015 sin (62.4x + 316t). Find the wavelength of this wave

(a) 0.2 unit (b) 0.1 unit (c) 0.3 unit (d) None of these

21. The equation of a simple harmonic progressive wave is given by y = A sin (100 $\pi$ t – 3x). Find the distance between 2 particles having a phase difference of $\frac{\pi}{3}$.

(a) $\frac{\pi}{9}$ m (b) $\frac{\pi}{18}$ m (c) $\frac{\pi}{6}$ m (d) $\frac{\pi}{3}$ m

22. The pitch of the whistle of an engine appears to drop to $\left(\frac{5}{6}\right)$th of original value when it passes a stationary observer. If the speed of sound in air is 350 $ms^{-1}$ then the speed of engine is

(a) 35 $ms^{-1}$ (b) 70 $ms^{-1}$ (c) 105 $ms^{-1}$ (d) 140 $ms^{-1}$

23. A wave travelling in the positive X-direction having displacement along Y-direction as 1 m, wavelength $2\pi$, m and frequency of $\frac{1}{\pi}$ Hz is represented by

(a) y = sin (x – 2t) (b) y = sin ($2\pi$ x – $2\pi$ t)

(c) y = sin ($10\pi$ x – $20\pi$ t) (d) y = sin ($2\pi$ x + $2\pi$ t)

24. A source of unknown frequency gives 4 beats $s^{-1}$ when sounded with a sources of known frequency 250 Hz. The second harmonic of the source of unknown frequency gives five beats per second when sounded with a source of frequency 513 Hz. The unknown frequency is

(a) 254 Hz (b) 246 Hz (c) 240 Hz (d) 260 Hz

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25. In sine wave, minimum distance between 2 particles always having same speed is

(a) $\frac{\lambda}{2}$ (b) $\frac{\lambda}{4}$ (c) $\frac{\lambda}{3}$ (d) $\lambda$

26. Two Cu wires of radii $R_1$ and $R_2$ such that ($R_1 > R_2$). Then, which of the following is true?

(a) Transverse wave travels faster in thicker wire (b) Transverse wave travels faster in thinner wire

(c) Travels with the same speed in both the wires (d) Does not travel

27. An observer moves towards a stationary source of sound, with a velocity one-fifth of the velocity of sound. What is the percentage increase in the apparent frequency?

(a) Zero (b) 0.5% (c) 5% (d) 20%

28. The angle between particle velocity and wave velocity in a transverse wave is

(a) zero (b) $\pi / 4$ (c) $\pi / 2$ (d) $\pi$

29. If a source emitting waves of frequency f moves towards an observer with a velocity $\frac{v}{4}$ and the observer moves away from the source with a velocity v/6, the apparent frequency as heard by the observer will be (where, v = velocity of sound)

(a) $\frac{14}{15}f$ (b) $\frac{14}{9}f$ (c) $\frac{10}{9}f$ (d) $\frac{2}{3}f$

30. Magnetic flux passing through a coil is initially $4 \times 10^{-4}$ Wb. It reduces to 10% of its original value in t second. If the emf induced is 0.72 mV then t in second is

(a) 0.3 (b) 0.4 (c) 0.5 (d) 0.6

31. Alternating current of peak value $\left(\frac{2}{\pi}\right)$ ampere flows through the primary coil of the transformer. The coefficient of mutual inductance between primary and secondary coil is 1 H. The peak emf induced in secondary coil is (Frequency of AC = 50 Hz)

(a) 100 V (b) 200 V (c) 300 V (d) 400 V

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32. Some current is flowing in two AC circuits. First contains only inductance and second contains only capacitance. If frequency of AC is increased for both, the current will

(a) increase in first circuit and decrease in second (b) increase in both circuits

(c) decreases in both circuits (d) decrease in first circuit and increase in second

33. Two coils A and B have metal inductance $2 \times 10^{-2}$ henry. If the current in the primary is $i = 5 \sin (10 \pi t)$ then the maximum value of emf induced in coil B is

(a) $\pi$ volt (b) $\frac{\pi}{2}$ volt (c) $\frac{\pi}{3}$ volt (d) $\frac{\pi}{4}$ volt

34. In L-C-R series circuit, an alternating emf e and current i are given by the equations $e = 100 \sin (100 t)$ volt,

$i = 100 \sin \left(100t + \frac{\pi}{3}\right)$ mA

The average power dissipated in the circuit will be

(a) 100 W (b) 10 W (c) 5 W (d) 2.5 W

35. AC measuring instruments measures

(a) peak value (b) rms value (c) any value (d) average value

36. The rms value of current $I_{rms}$ is

(a) $\frac{l_0}{2\pi}$ (b) $\frac{I_0}{\sqrt{2}}$ (c) $\frac{2I_0}{\pi}$ (d) $\sqrt{2}I_0$

(Where, $I_0$ is the value of peak current)

37. If the conductance and capacitance are both doubled in L-C-R circuit, the resonant frequency of the circuit will

(a) decrease to one-half the original value (b) decrease to one-fourth the original value

(c) increase two twice the original value (d) decrease to twice the original value

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38. Two different coils of self-inductance $L_1$ and $L_2$ are placed close to each other, so that effective flux in one coil is completely linked with other. If M is the mutual inductance between them, then

(a) $M = L_1/L_2$ (b) $M = L_1L_2$ (c) $M = \sqrt{L_1L_2}$ (d) $M = (L_1L_2)^2$

39. What will be the self-inductance of a coil of 100 turns if a current of 5 A produces a magnetic flux $5 \times 10^{-5}$ Wb?

(a) 1 mH (b) 10 mH (c) 1 µH (d) 10 µH

40. In L-C-R circuit power factor at resonance is

(a) less than one (b) greater than one (c) unity (d) Can't predicted

41. In a L-R circuit of 3 mH inductance and 4 Ω resistance, emf E = 4 cos 1000t V is applied. The amplitude of current is

(a) 0.8 A (b) $\frac{4}{7}$ A (c) 1 A (d) $\frac{4}{\sqrt{7}}$ A

42. Average power is the L-C-R circuit depends upon

(a) current (b) phase difference only

(c) emf (d) current, emf and phase difference

43. When a current of 2 A is passed through a coil of 100 turns, flux associated with it is $5 \times 10^{-5}$ Wb. Find the self-inductance of the coil.

(a) $4 \times 10^{-3}$ H (b) $4 \times 10^{-2}$ H (c) $2.5 \times 10^{-3}$ H (d) $10^{-3}$ H

44. When a rod of length $l$ is rotated with angular velocity of ω in a perpendicular field of induction B, about one end, the emf across its ends is

(a) $Bl^2\omega$ (b) $\frac{Bl^2\omega}{2}$ (c) $Bl\omega$ (d) $\frac{Bl\omega}{2}$

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45. Same current is flowing in two alternating circuits. The first circuit contains only inductance and the other contains only a capacitor. If the frequency of the emf of AC is increased, the effect on the value of the current will be

(a) increases in the first circuit and decreases in the other

(b) increases in both the circuits

(c) decreases in both the circuits

(d) decreases in the first circuit and increases in the other

46. In an AC circuit, the instantaneous values of emf and current are e = 200 sin 314 tV and I = sin $\left(314t + \frac{\pi}{3}\right)$ A. The average power consumed (in W) is

(a) 200 (b) 100 (c) 50 (d) 25

47. An alternating voltage E = $200\sqrt{2}$ sin (100 t) is connected to 1 µF capacitor through AC ammeter. The reading of ammeter shall be

(a) 10 mA (b) 20 mA (c) 40 mA (d) 80 mA

48. What is the value of inductance L for which the current is a maximum in a series LCR circuit with C = 10 µF and $\omega = 1000\ s^{-1}$?

(a) 100 mH (b) 1 mH

(c) Cannot be calculated unless R is known (d) 10 mH

49. A transformer is used to light a 100 W and 110 V lamp from a 220 V mains. If the main current is 0.5 A, the efficiency of the transformer is approximately

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(a) 30% (b) 50% (c) 90% (d) 10%

50. In an AC circuit the emf (e) and the current (i) at any instant are given respectively by

$e = E_0 \sin \omega t$

$i = I_0 \sin (\omega t - \phi)$

The average power in the circuit over one cycle of AC is

(a) $\frac{E_0 I_0}{2}$ (b) $\frac{E_0 I_0}{2} \sin \phi$ (c) $\frac{E_0 I_0}{2} \cos \phi$ (d) $E_0 I_0$

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# ABHIMANYU BATCH
# CHEMISTRY : REVISION TEST-4 (SET A)
## Topic: Ionic Equilibrium + Chemical Bonding + p-block + d & f block

51. Variable valency is generally shown by
    (a) s-block elements (b) p-block elements
    (c) Transition elements (d) All elements in periodic table

52. The common oxidation states of gold are
    (a) 1, 2 and 3 (b) 1, 3 (c) 2 and 3 (d) 3, 4

53. In which of the following transition metal ions d-d transition is possible?
    (a) $Cu^{+}$ (b) $Zn^{+2}$ (c) $Ti^{+3}$ (d) $Sc^{+3}$

54. Which of the following has the highest ionic radii?
    (a) $Cr^{+3}$ (b) $Mn^{+3}$ (c) $Fe^{+3}$ (d) $Co^{+3}$

55. The coinage metals are
    (a) Iron, Cobalt, Nickel (b) Copper and Zinc
    (c) Copper, Silver and Gold (d) Gold and Platinum

56. In first transition series, the melting point of Mn is low because
    (a) Due to $d^{10}$ configuration, metallic bonds are strong
    (b) Due to $d^{7}$ configuration, metallic bonds are weak
    (c) Due to $d^{5}$ configuration, metallic bonds are weak
    (d) None of these

57. In which of the following is not an element?
    (a) Graphite (b) Diamond (c) 22-carat gold (d) Rhombic, sulphur

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58. Which of the following statement is incorrect?
(a) NO is heavier than $O_2$.
(b) The formula of heavy water in $D_2O$.
(c) Nitrogen diffuses faster than oxygen through an orifice.
(d) $NH_3$ can be used as a refrigerant.

59. The bonds present in $N_2O_5$ are
(a) only ionic (b) covalent and coordinate
(c) only covalent (d) covalent and ionic

60. Among the trihalides of nitrogen, which is the least basic?
(a) $NF_3$ (b) $NCl_3$ (c) $NBr_3$ (d) $Ni_3$

61. The general electronic configuration of the outermost and penultimate shell for a d-block element is given by $(n-1)\,s^2p^6d^xns^y$
For a divalent cation of an element with n = 4, x = 6 and y = 2, number of protons is
(a) 24 (b) 25 (c) 26 (d) 27

62. The outer electron configuration of Gd (Atomic No. 64) is
(a) $4f^3\,5d^5\,6s^2$ (b) $4f^8\,5d^0\,6s^2$ (c) $4f^4\,5d^4\,6s^2$ (d) $4f^7\,5d^1\,6s^2$

63. Which of the following is the most electropositive element?
(a) Aluminium (b) Phosphorus (c) Magnesium (d) Sulphur

64. If the atomic number of an element is 33, it will be placed in the periodic table in the
(a) first group (b) fourth group (c) fifth group (d) seventh group

65. In the isoelectronic species the ionic radii (Å) of $N^{3-}$, $O^{2-}$ and $F^-$ are respectively given by
(a) 1.71, 1.40, 1.36 (b) 1.71, 1.36, 1.40 (c) 1.36, 1.40, 1.71 (d) 1.36, 1.71, 1.40

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66. Which of the following is correct?
(a) All carbonates are soluble in water
(b) Carbonates of Na, K and $NH_4$ are soluble in water
(c) Carbonates of Ca, Sr, Ba are soluble in water
(d) All carbonates are insoluble

67. In Castner-Kellner cell for production of sodium hydroxide,
(a) brine is electrolyzed using graphite electrodes
(b) molten sodium chloride is electrolyzed
(c) sodium amalgam is formed at mercury cathode
(d) brine is electrolyzed with Pt electrodes

68. The pair of compound having metals in their highest oxidation state is
(a) $MnO_2$, $FeCl_3$ (b) $[MnO_4]^-$, $CrO_2Cl_2$
(c) $[Fe(CN)_6]^{3-}$, $[Co(CN)_3]$ (d) $[NiCl_4]^{2-}$, $[CoCl_4]^-$

69. Zinc-copper couple that can be used as a reducing agent is obtained by
(a) mixing of zinc dust and copper gauge (b) zinc coated with copper
(c) copper coated with zinc (d) zinc and copper wires welded together

70. Which of the following statements is correct?
(a) Iron belongs to third transition series of the periodic table
(b) Iron belongs to f-block of the periodic table
(c) Iron belongs to first transition series
(d) Iron belongs to group VIII of the periodic table

71. Isostructural species are those, which have the same shape and hybridization. Among the given species, identify the isostructural pairs.
(a) $NF_3$ and $BF_3$ (b) $BF_4^-$ and $NH_4^+$ (c) $BCl_3$ and $BrCl_3$ (d) $NH_3$ and $NO_3^-$

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72. Which of the following is paramagnetic?

(a) $NO^-$ (b) $O_2^{2-}$ (c) $CN^-$ (d) CO

73. Which of the following statements is correct regarding $BeCl_2$ molecule?

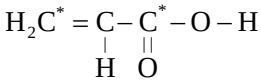
(a) It violates octet rule and has $sp^2$ hybridisation (b) It has sp hybridization and follows octet rule

(c) It violates octet rule and has linear structure (d) All of the above are true

74. In $NO_3^-$ ion, the number of bond pairs and lone pairs of electrons on nitrogen atom are

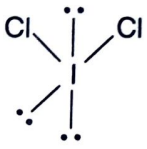
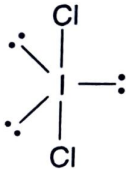
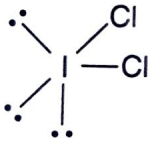
(a) 2, 2 (b) 3, 1 (c) 1, 3 (d) 4, 0

75. What is the type of hybridization of carbon atoms marked with star?



(a) $sp^2$, sp (b) $sp^2$, $sp^2$ (c) sp, $sp^2$ (d) None of these

76. Which of the following show correct structure of $ICI_2$?

(a)  (b)  (c)  (d) None of these

77. Among the following molecules, which one have trigonal planar structure?

$XeO_3$, $SO_3$, $BF_3$, $NH_3$

(a) $XeO_3$ and $BF_3$ (b) $BF_3$ and $SO_3$ (c) $NH_3$ and $SO_3$ (d) All of these

78. Which of the following set possess $sp^3$-hybridisation?

(a) $IO_4^-, ICI_4^-, IF_4^+$ (b) $XeO_3, XeO_4, XeF_4$ (c) $SO_3^{2-}, SO_4^{2-}, SO_5^{2-}$ (d) $PCI_4^+, BF_4^-, ICI_4^-$

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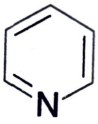
79. Hybridisation of the nitrogen atom and electronic geometry around nitrogen atom in pyridine is



(a) $sp^3$, pyramidal (b) $sp^2$, trigonal planar (c) $sp^2$, linear (d) $sp^3$, tetrahedral

80. Match the type of bond (given in Column I) with method of formation (given in Column II) and choose the correct option from the codes given below.

| | Column I | | Column II |
|---|---|---|---|
| A. | σ-bond | 1. | Lateral overlapping |
| B. | Covalent bond | 2. | Sharing of electrons |
| C. | Ionic bond | 3. | Transfer of electrons |
| D. | π-bond | 4. | Donating an electron |
| | | 5. | Accepting an electron |
| | | 6. | Axial overlapping |

**Codes**

| | A | B | C | D | | A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|
| (a) | 6 | 2 | 3 | 1 | (b) | 3 | 2 | 6 | 1 |
| (c) | 1 | 2 | 3 | 4 | (d) | 2 | 4 | 5 | 6 |

81. Which of the following is the strongest base?

(a) $AsH_3$ (b) $NH_3$ (c) $PH_3$ (d) $SbH_3$

82. The number of P – O – P bonds in cyclic metasphoric acid is

(a) zero (b) two (c) three (d) four

83. Which of the most thermodynamically stable allotropic form of phosphorus?

(a) red (b) white (c) black (d) yellow

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84. What may be expected when phosphine gas is mixed with chlorine gas?
(a) $PCl_5$ and HCl are formed and mixture cools down
(b) $PH_3$. $Cl_2$ is formed with warming up
(c) The mixture only cools down
(d) $PCl_3$ and HCl are formed and the mixture warms up

85. Regular use of which of the following fertilizer increases the acidity of soil?
(a) Potassium nitrate (b) Urea
(c) Superphosphate of lime (d) Ammonium sulphate

86. In $P_4O_6$ and $P_4O_{10}$, the number of oxygen atoms bonded to each phosphorus atoms are respectively
(a) 3 and 3 (b) 4 and 4 (c) 3 and 4 (d) 4 and 3

87. The number of unpaired electrons present in the species $[Fe(H_2O)_5NO]^{2+}$ which is formed during 'brown ring' test is
(a) 2 (b) 3 (c) 4 (d) 1

88. The conjugate acid and base differ with respect to each other by _____.
(a) water (b) hydroxide ion (c) hydronium ion (d) proton

89. Which of the following CANNOT act both as Bronsted acid and as Bronsted base?
(a) $HSO^-_4$ (b) $HCO_3^-$ (c) $NH_3$ (d) HCl

90. In the reaction $B(OH)_3 + 2H_2O \rightarrow [B(OH)_4]^- + H_3O^+$ $B(OH)_3$ function as _____.
(a) Bronsted acid (b) Lewis acid (c) Protonic acid (d) Lewis base

91. pH + pOH is equal to _____.
(a) 0 (b) 7 (c) 14 (d) 10

92. The pH of 0.01 M $NaOH_{(aq)}$ solution will be _____.
(a) 9 (b) 7.01 (c) 2 (d) 12

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93. What is the pH of millimolar solution of ammonium hydroxide which is 20% dissociated/

(a) 3.699 (b) 10.301 (c) 4.691 (d) 9.301

94. The dissociation constant ($K_a$) and percent of degree of dissociation ($\alpha$) of a weak monobasic acid solution of 0.1 M with a pH = 5, are respectively _____.

(a) $10^{-9}$, 1 (b) $10^{-9}$, $10^{-4}$ (c) $10^{-9}$, $10^{-2}$ (d) $10^{-5}$, $10^{-2}$

95. Which of the following salts will give the highest pH in water?

(a) KCl (b) NaCl (c) $Na_2CO_3$ (d) $CuSO_4$

96. What is the solubility product ($K_{sp}$) of calcium phosphate in pure water? [S = molar solubility]

(a) 108 $S^5$ (b) 72 $S^3$ (c) 6 $S^5$ (d) 121 $S^2$

97. If the solubility product $K_{sp}$ of a sparingly soluble salt $MX_2$ at 25°C is $1.0 \times 10^{-11}$, the solubility of the salt in mole $litre^{-1}$ at this temperature will be _____.

(a) $2.46 \times 10^{14}$ (b) $1.36 \times 10^{-4}$ (c) $2.60 \times 10^{-7}$ (d) $1.20 \times 10^{-10}$

98. Which of the following is correct regarding bond energies of NO, $NO^+$ and $NO^-$?

(a) $NO^- > NO > NO^+$ (b) $NO^+ > NO^- > NO$ (c) $NO > NO^- > NO^+$ (d) $NO^+ > NO > NO^-$

99. Which of following requires maximum energy to undergo decomposition?

(a) $O_2$ (b) $C_2$ (c) $O_2^+$ (d) $N_2$

100. What is the structure of $XeF_6$?

(a) Tetrahedral (b) Distorted octahedral (c) Octahedral (d) None of these

**Space for Rough Work**

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

**Max. Marks: 100** **Date: 27.11.2022**

## ABHIMANYU BATCH
## PHYSICS : REVISION TEST-4 (SET A) ANSWER KEY
## Topics: EMI, Oscillation, Sound Waves and Stationary Waves

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

**Date: 27.11.2022**

## ABHIMANYU BATCH
## CHEMISTRY : REVISION TEST-4 (SET A) ANSWER KEY
## Topic: Ionic Equilibrium + Chemical Bonding + p-block + d & f block

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