

#### Max. Marks: 100

Date: 27.11.2022

# ABHIMANYU BATCH

## **PHYSICS : REVISION TEST-4 (SET B)**

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

- 1. The rms value of current  $I_{rms}$  is
  - (a)  $\frac{l_0}{2\pi}$  (b)  $\frac{l_0}{\sqrt{2}}$  (c)  $\frac{2I_0}{\pi}$  (d)  $\sqrt{2}I_0$

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

## 2. 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
- 3. 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)  $M = (L_1L_2)^2$

## 4. 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)  $1 \mu \text{H}$  (d)  $10 \mu \text{H}$
- 5. In L-C-R circuit power factor at resonance is
  - (a) less than one (b) greater than one (c) unity (d) Can't predicted



- 6. In a L-R circuit of 3 mH inductance and 4  $\Omega$  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
- 7. Average power is the L-C-R circuit depends upon
  - (a) current (b) phase difference only
  - (c) emf (d) current, emf and phase difference
- 8. 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
- 9. When a rod of length l is rotated with angular velocity of  $\omega$  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)  $\frac{Bl\omega}{2}$
- 10. 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



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)  $E_0 I_0$ 



16. 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,  $\mu$  = 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)  $4\pi\sqrt{\frac{A}{\mu g}}$ 

- 17. 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
- 18. Two simple harmonic motions of angular frequency 100 and 1000 rad s<sup>-1</sup> have the same displacement amplitude. The ratio of their maximum acceleration is
  - (a) 1:10 (b)  $1:10^2$  (c)  $1:10^3$  (d)  $1:10^4$
- 19. 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)  $A\omega^2$
- 20. 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)  $\frac{F}{2U} + x = 0$
- 21. If a simple pendulum oscillates with an amplitude of 50 mm and the period of 2s, then its maximum velocity is
  - (a)  $0.10 \text{ ms}^{-1}$  (b)  $0.15 \text{ ms}^{-1}$  (c)  $0.8 \text{ ms}^{-1}$  (d)  $0.26 \text{ ms}^{-1}$
- 22. 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
- 23. The graph between the time period and the length of a simple pendulum is





30. 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)  $\pi\sqrt{\frac{mL}{YA}}$ 

31. 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)  $\frac{\pi}{6}$ 

32. 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
- 33. A progressive wave is represented by  $y = 12 \sin (5t 4x) \text{ cm}$ . 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

34. 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
- 35. 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



36. 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  $\frac{\pi}{2}$ .



- 37. 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<sup>-1</sup> then the speed of engine is (a) 35 ms<sup>-1</sup> (b) 70 ms<sup>-1</sup> (c) 105 ms<sup>-1</sup> (d) 140 ms<sup>-1</sup>
- 38. 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)  $y = \sin (2 \pi x + 2 \pi t)$

39. A source of unknown frequency gives 4 beats s<sup>-1</sup> 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
- 40. 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)  $\lambda$ 

41. 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



42. 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%
- 43. The angle between particle velocity and wave velocity in a transverse wave is
  - (a) zero (b)  $\pi / 4$  (c)  $\pi / 2$  (d)  $\pi$
- 44. 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)  $\frac{2}{3}f$
- 45. 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
- 46. 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
- 47. 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



- 48. 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

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

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

The average power dissipated in the circuit will be

- (a) 100 W (b) 10 W (c) 5 W (d) 2.5 W
- 50. AC measuring instruments measures
  - (a) peak value (b) rms value (c) any value (d) average value



Date: 27.11.2022

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

51.	The general electronic configuration of the outermost and penultimate shell for a d-block element is given by										
	$(n-1) s^2 p^6 d^x n s^y$										
	For a o	divalent cation of ar	n elemen	t with $n = 4$ , $x = 6$ and	d y = 2,	number of protons is					
	(a)	24	(b)	25	(c)	26	(d)	27			
52.	The or	uter electron configu	uration c	of Gd (Atomic No. 64	) is						
	(a)	$4f^35d^56s^2$	(b)	$4f^8 5d^0 6s^2$	(c)	$4f^4 5d^4 6s^2$	(d)	$4f^75d^16s^2$			
53.	Which	n of the following is	the mos	t electropositive elen	nent?						
	(a)	Aluminium	(b)	Phosphorus	(c)	Magnesium	(d)	Sulphur			
54.	If the	atomic number of a	n elemer	nt is 33, it will be plac	ced in th	e periodic table in the	e				
	(a)	first group	(b)	fourth group	(c)	fifth group	(d)	seventh group			
55.	In the	isoelectronic specie	es the ior	nic radii (Å) of N <sup>3–</sup> , O	<sup>2–</sup> and F	<sup>-</sup> are respectively giv	en 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			
56.	Which	n of the following is	correct	?							
	(a)	All carbonates are	e soluble	e in water							
	(b)	Carbonates of Na	, K and I	NH4 are soluble in wa	ater						
	(c)	Carbonates of Ca	, Sr, Ba	are soluble in water							
	(d)	All carbonates are insoluble									



Learning with the Speed of Mumbai and the Tradition of Kota

57.	In Ca	stner-Kellner cell	for produc	ction of sodiu	m hydroxide,							
	(a)	brine is electrol	yzed usin	g graphite ele	ctrodes							
	(b)	molten sodium	chloride i	s electrolyzed	l							
	(c)	sodium amalga	m is form	ed at mercury	cathode							
	(d)	brine is electrol	yzed with	Pt electrodes								
58.	The p	air of compound h	naving me	tals in their hi	ighest oxidation	state is						
	(a)	MnO <sub>2</sub> , FeCl <sub>3</sub>			(b)	[MnO <sub>4</sub> ] <sup>-</sup> , Cr	$O_2Cl_2$					
	(c)	$[Fe(CN)_6]^{3-}, [C$	o(CN) <sub>3</sub> ]		(d)	[NiCl <sub>4</sub> ] <sup>2–</sup> , [C	oCl <sub>4</sub> ] <sup>-</sup>					
59.	Zinc-	copper couple that	t can be us	sed as a reduc	ing agent is obt	ained by						
	(a)	mixing of zinc	dust and c	opper gauge	(b)	zinc coated v	with copper					
(c) copper coated with zinc (d)						zinc and cop	per wires weld	led together				
60.	Whic	Which of the following statements is correct?										
	(a)	Iron belongs to	third tran	sition series o	f the periodic ta	able						
	(b)	Iron belongs to	f-block of	f the periodic	table							
	(c)	Iron belongs to	first trans	ition series								
	(d)	Iron belongs to	group VI	II of the perio	dic table							
61.	Varia	ble valency is gen	erally sho	wn by								
	(a)	s-block elemen	ts		(b)	p-block elem	ients					
	(c)	Transition elem	ents		(d)	All elements	in periodic ta	ble				
62.	The c	common oxidation	states of g	gold are								
	(a)	1, 2 and 3	(b)	1,3	(c)	2 and 3	(d)	3,4				
63.	In wh	nich of the followin	ng transiti	on metal ions	d-d transition is	s possible?						
	(a)	$Cu^+$	(b)	$Zn^{+2}$	(c)	Ti <sup>+3</sup>	(d)	Sc <sup>+3</sup>				



Learning with the Speed of Mumbai and the Tradition of Kota 64. Which of the following has the highest ionic radii?  $Cr^{+3}$  $Mn^{+3}$  $Co^{+3}$ (a) (b) (c) Fe<sup>+3</sup> (d) 65. The coinage metals are Iron, Cobalt, Nickel Copper and Zinc (a) (b) Gold and Platinum (c) Copper, Silver and Gold (d) 66. In first transition series, the melting point of Mn is low because Due to d<sup>10</sup> configuration, metallic bonds are strong (a) (b) Due to d<sup>7</sup> configuration, metallic bonds are weak (c) Due to d<sup>5</sup> configuration, metallic bonds are weak (d) None of these In which of the following is not an element? 67. Graphite (b) Diamond 22-carat gold (d) Rhombic, sulphur (a) (c) 68. Which of the following statement is incorrect? (a) NO is heavier than O<sub>2</sub>. (b) The formula of heavy water in D<sub>2</sub>O. (c) Nitrogen diffuses faster than oxygen through an orifice. (d) NH<sub>3</sub> can be used as a refrigerant. 69. The bonds present in N<sub>2</sub>O<sub>5</sub> are only ionic (a) (b) covalent and coordinate (c) only covalent (d) covalent and ionic 70. Among the trihalides of nitrogen, which is the least basic? (a)  $NF_3$ (b) NCl<sub>3</sub> (c) NBr<sub>3</sub> (d) Ni<sub>3</sub> 71. Which of the following is the strongest base? AsH<sub>3</sub> (b) NH<sub>3</sub>  $PH_3$ (d)  $SbH_3$ (a) (c) **Space for Rough Work** 



Learning with the Speed of Mumbai and the Tradition of Kota

72.	The number of P – O – P bonds in cyclic metasphoric acid is											
	(a)	zero	(b)	two	(c)	three	(d)	four				
73.	Which	of the most thermo	dynamic	cally stable allotropic	form of	phosphorus?						
	(a)	red	(b)	white	(c)	black	(d)	yellow				
74.	What n	nay be expected wh	en phos	phine gas is mixed wi	th chlori	ine gas?						
	(a)	PCl <sub>5</sub> and HCl are f	formed a	and mixture cools dov	vn							
	(b)	PH <sub>3</sub> . Cl <sub>2</sub> is formed with warming up										
	(c)	The mixture only cools down										
	(d)	PCl <sub>3</sub> and HCl are f	formed a	and the mixture warm	s up							
75.	Regula	r use of which of th	e follow	ving fertilizer increase	s the aci	dity of soil?						
	(a)	Potassium nitrate			(b)	Urea						
	(c)	Superphosphate of	flime		(d)	Ammonium sulphat	e					
76.	In P <sub>4</sub> O	$_{6}$ and P <sub>4</sub> O <sub>10</sub> , the num	nber of o	oxygen atoms bonded	to each	phosphorus atoms are	e respect	ively				
	(a)	3 and 3	(b)	4 and 4	(c)	3 and 4	(d)	4 and 3				
77.	The nu	mber of unpaired el	ectrons	present in the species	[Fe(H <sub>2</sub> C	D) <sub>5</sub> NO] <sup>2+</sup> which is for	med dui	ring 'brown ring' test				
	is											
	(a)	2	(b)	3	(c)	4	(d)	1				
78.	The co	njugate acid and ba	se differ	with respect to each	other by							
	(a)	water	(b)	hydroxide ion	(c)	hydronium ion	(d)	proton				
79.	Which	of the following CA	ANNOT	act both as Bronsted	acid and	as Bronsted base?						
	(a)	$\mathrm{HSO}_{4}^{-}$	(b)	$HCO_3^-$	(c)	NH <sub>3</sub>	(d)	HCl				
80.	In the r	reaction $B(OH)_3 + 2$	$H_2O \rightarrow$	$[B(OH)_4]^- + H_3O^+ B($	(OH)3 fu	nction as	_•					
	(a)	Bronsted acid	(b)	Lewis acid	(c)	Protonic acid	(d)	Lewis base				



Learning wit	h the Speed	l of Mun	ibai and t	the Trad	ition of Kota
--------------	-------------	----------	------------	----------	---------------

81.	pH + p	OH is equal to	·					
	(a)	0	(b)	7	(c)	14	(d)	10
82.	The pH	I of 0.01 M NaOH <sub>(a</sub>	<sub>q)</sub> solutio	on will be				
	(a)	9	(b)	7.01	(c)	2	(d)	12
83.	What is	s the pH of millimo	lar soluti	ion of ammonium hyc	lroxide v	which is 20% dissocia	ited/	
	(a)	3.699	(b)	10.301	(c)	4.691	(d)	9.301
84.	The dis	ssociation constant	(K <sub>a</sub> ) and	percent of degree of	dissocia	tion ( $\alpha$ ) of a weak me	onobasic	acid solution of 0.1
	M with	a pH = 5, are respe	ectively_	·				
	(a)	10 <sup>-9</sup> , 1	(b)	10 <sup>-9</sup> , 10 <sup>-4</sup>	(c)	10 <sup>-9</sup> , 10 <sup>-2</sup>	(d)	10 <sup>-5</sup> , 10 <sup>-2</sup>
85.	Which	of the following sal	lts will g	ive the highest pH in	water?			
	(a)	KCl	(b)	NaCl	(c)	Na <sub>2</sub> CO <sub>3</sub>	(d)	CuSO <sub>4</sub>
86.	What is	s the solubility prod	luct (K <sub>sp</sub> )	) of calcium phosphat	e in pure	e water? [S = molar so	olubility	]
	(a)	108 S <sup>5</sup>	(b)	72 $S^3$	(c)	6 S <sup>5</sup>	(d)	121 S <sup>2</sup>
87.	If the s	olubility product Ks	<sub>sp</sub> of a sp	paringly soluble salt M	$1X_2$ at 25	5°C is $1.0 \times 10^{-11}$ , the	solubili	ty of the salt in mole
	litre <sup>-1</sup> a	t this temperature w	vill be	·				
	(a)	$2.46\times10^{14}$	(b)	$1.36\times10^{-4}$	(c)	$2.60  imes 10^{-7}$	(d)	$1.20\times10^{-10}$
88.	Which	of the following is	correct r	egarding bond energi	es of NC	), NO <sup>+</sup> and NO <sup>-</sup> ?		
	(a)	$NO^- > NO > NO^+$	(b)	$NO^+ > NO^- > NO$	(c)	$NO > NO^- > NO^+$	(d)	$NO^+ > NO > NO^-$
89.	Which	of following require	es maxir	num energy to underg	go decon	nposition?		
	(a)	O <sub>2</sub>	(b)	$C_2$	(c)	$O_2^+$	(d)	$N_2$
90.	What is	s the structure of Xe	$F_6?$					
	(a)	Tetrahedral	(b)	Distorted octahedral	(c)	Octahedral	(d)	None of these



91. Isostructural species are those, which have the same shape and hybridization. Among the given species, identify the isostructural pairs. NF<sub>3</sub> and BF<sub>3</sub> BF<sub>4</sub><sup>-</sup> and NH<sub>4</sub><sup>+</sup> BCl<sub>3</sub> and BrCl<sub>3</sub> (d) NH<sub>3</sub> and NO<sub>3</sub><sup>-</sup> (a) (b) (c) 92. Which of the following is paramagnetic?  $O_2^{2-}$ NO<sup>-</sup> (a) (b) (c) CN-(d) CO 93. Which of the following statements is correct regarding BeCl<sub>2</sub> molecule? It violates octet rule and has sp<sup>2</sup> hybridisation (a) (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 94. In NO<sub>3</sub><sup>-</sup> ion, the number of bond pairs and lone pairs of electrons on nitrogen atom are 2, 2 (a) (b) 3,1 (c) 1,3 (d) 4,0 95. What is the type of hybridization of carbon atoms marked with star?  $H_{2}C^{*} = C - C^{*} - O - H$ ΗÖ sp<sup>2</sup>, sp  $sp^2$ ,  $sp^2$ (a) (b) (c)  $sp, sp^2$ (d) None of these 96. Which of the following show correct structure of ICI<sub>2</sub>? (b) (d) CI (c) None of these (a) 97. Among the following molecules, which one have trigonal planar structure? XeO<sub>3</sub>, SO<sub>3</sub>, BF<sub>3</sub>, NH<sub>3</sub> XeO<sub>3</sub> and BF<sub>3</sub> BF3 and SO3 NH<sub>3</sub> and SO<sub>3</sub> (a) (b) (c) (d) All of these



98. Which of the following set possess sp<sup>3</sup>-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)  $PCI_4^+, BF_4^-, ICI_4^-$ 

99. 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

100. 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
В.	Covalent bond	2.	Sharing of electrons
C.	Ionic bond	3.	Transfer of electrons
D.	$\pi$ -bond	4.	Donating an electron
		5.	Accepting an electron
		6.	Axial overlapping

Codes

	Α	В	С	D		Α	В	С	D
(a)	6	2	3	1	(b)	3	2	6	1
(c)	1	2	3	4	(d)	2	4	5	6





#### Max. Marks: 100

Date: 27.11.2022

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

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

Date: 27.11.2022

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

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