	rogen electrode is dipped in a solution vinload from overview on the Dead	86. Volume of 0.1 M K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> required to oxidize								
(a) 0.17 (c) -0.1 77. Specific (a) incre (b) decr (c) rema (d) depo 78. 1 mol of The heat (a) 57.3 (b) 2 × 5 (c) 57.3	conductivity of a solution : eases with dilution reases with dilution ains unchanged with dilution ends on mass of electrolyte H <sub>2</sub> SO <sub>4</sub> is mixed with 2 moles of NaOH. t evolved will be : kJ 57.3 kJ	(a) $29.2 \text{ mL}$ (b) $17.5 \text{ mL}$ (c) $175 \text{ mL}$ (d) $145 \text{ mL}$ 87. $100 \text{ cc}$ of $0.6 \text{ N H}_2\text{SO}_4$ and $200 \text{ cc}$ of $0.3 \text{ N HCl}$ were mixed together. The normality of the solution will be:  (a) $0.2 \text{ N}$ (b) $0.4 \text{ N}$ (c) $0.8 \text{ N}$ (d) $0.6 \text{ N}$ 88. The rate of diffusion of a gas is proportional to:  (a) $\frac{P}{\sqrt{d}}$ (b) $\sqrt{\frac{P}{d}}$ (c) $\frac{P}{d}$ (d) $\frac{\sqrt{P}}{d}$ 89. Molar volume of CO <sub>2</sub> is maximum at:								
79. In a revise: (a) > 0	ersible process, $\Delta S_{\text{system}} + \Delta S_{\text{surrounding}}$ (b) < 0 (d) = 0	(a) NTP (b) 0°C and 2.0 atm (c) 127°C and 1 atm (d) 273°C and 2.0 atm								
80. For the r	eaction, $N_2 + 3H_2 \rightleftharpoons 2NH_3$ ; $\Delta H = ?$	90. Number of atoms of oxygen present in 10.6 g of								

(a)  $\Delta E + 2RT$ 

(c)  $\Delta E + RT$ 

entropy is:

(b)  $\Delta E - 2RT$ 

(d)  $\Delta E - RT$ 

(b) 0.1 M BaCl<sub>2</sub>

(b) naphthalene

(b) 22.2% HCl

(d) water

(d) 20.2% HCl

(d) 0.1 M urea

81. One mole of a perfect gas expands isothermally to ten times its original volume. The change in

82. Which of the following solutions will have the

(a) 0.1 R (b) 2.303 R

84. Azeotropic mixture of HCl and water has:

85. Vapour pressure of dilute aqueous solution of

glucose is 750 mm of mercury at 373 K. The

(c) 10.0 R (d) 100.0 R

83. Maximum freezing point falls in:

mole fraction of solute is:

highest boiling point? (a) 0.1 M FeCl<sub>3</sub>

(c) 0.1 M NaCl

(a) camphor

(a) 48% HCl

(c) 36% HCl

(c) benzene

(a)  $6.02 \times 10^{23}$  (b)  $12.04 \times 10^{22}$ (c)  $1.806 \times 10^{23}$  (d)  $31.80 \times 10^{28}$ 91. The equilibrium  $P_4(s) + 6Cl_2(g) \Longrightarrow 4PCl_3(g)$  is attained by mixing equal moles of P4 and Cl2 in an

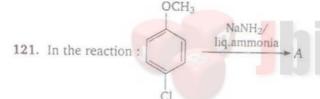
Na<sub>2</sub>CO<sub>2</sub> will be:

- evacuated vessel. Then at equilibrium is: (a)  $[Cl_2] > [PCl_3]$  (b)  $[Cl_2] > [P_4]$ (c)  $[P_4] > [Cl_2]$  (d)  $[PCl_3] > [P_4]$ 92. The activation energy for most of the reactions is approximately 50 kJ mol-1. The value of temperature coefficient for such reactions is: (b) > 3(a) > 2
- (c) <1 (d) > 493. If the mass defect of  ${}_{4}^{9}X$  is 0.090 amu, then binding energy per nucleon is: (1 amu = 931.5 MeV)
- (a) 9.315 MeV (b) 931.5 MeV (c) 83.0 MeV (d) 8.38 MeV 94. 50 mL of 0.1 M HCl and 50 mL of 0.2 M NaOH are mixed. The pH of the resulting solution is: (a) 1.30 (b) 4.2 (c) 12.70 (d) 11.70

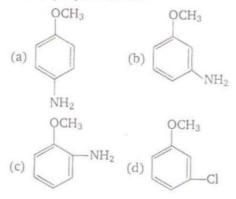
95.	A substance A, B, crystal cubi Download fro	mtwww.ubigDeal.	105. Out of the following metals that cannot be com obtained by electrons to Dec aqueous solution of their salts are:  (a) Ag (b) Cr (c) Cu (d) Mg  106. KI and CuSO <sub>4</sub> solution when mixed gives:  (a) Cul <sub>2</sub> + K <sub>2</sub> SO <sub>4</sub> (b) Cu <sub>2</sub> I <sub>2</sub> + K <sub>2</sub> SO <sub>4</sub> (c) K <sub>2</sub> SO <sub>4</sub> + Cu <sub>2</sub> I <sub>2</sub> + I <sub>2</sub>									
	of each face of the cube composition of the substate (a) $AB_3$ (b) $A_4B_3$ (c) $A_3B$ (d) composition cannot be	. Identify the correct ance $A_x B_y$ :										
96.	In coagulating the colloi which has the maximum (a) NaCl (b) I (c) BaCl <sub>2</sub> (d)	coagulating value? (Cl	107.	(d) K <sub>2</sub> SO <sub>4</sub> + CuI <sub>2</sub> + I <sub>2</sub> The strongest reducing agent among the following is:								
	Which of the following oxidising agent?  (a) HOCl (b) II (c) HClO <sub>3</sub> (d) II		108.	(a) F (b) Cl (c) Br (d) I  XeF <sub>6</sub> on complete hydrolysis gives:  (a) Xe (b) XeO <sub>2</sub> (c) XeO <sub>3</sub> (d) XeO <sub>4</sub>								
98.	In the equation $4M + 8CN^- + 2H_2O + O_2$	$4[M(CN)_2]^- + 4OH^-$	109.	The correct name of the compound [Cu(NH <sub>3</sub> ) <sub>4</sub> ] (NO <sub>3</sub> ) <sub>2</sub> , according to IUPAC system is:								
	Identify the metal <i>M</i> . It is  (a) copper (b) is  (c) silver (d)	ron zinc		(a) cuprammonium nitrate (b) tetrammine copper(II) dinitrate (c) tetrammine copper(II) nitrate (d) tetrammine copper(II) dinitrite								
99.	The formula of azurite is (a) CuCO <sub>3</sub> ·Cu(OH) <sub>2</sub> (b) 2CuCO <sub>3</sub> ·Cu(OH) <sub>2</sub> (c) CuCO <sub>3</sub> ·2Cu(OH) <sub>2</sub> (d) CuSO <sub>4</sub> ·Cu(OH) <sub>2</sub>		110.	Which of the following complex species does not involve inner orbital hybridisation?  (a) $[CoF_6]^{3-}$ (b) $[Co(NH_3)_6]^{3+}$ (c) $[Fe(CN)_6]^{3-}$ (d) $[Cr(NH_3)_6]^{3+}$								
100.	The decreasing order of to (a) $NO_2 > NO_2^+ > NO_2$ (b) $NO_2^- > NO_2 > NO_2^+$ (c) $NO_2^+ > NO_2 > NO_2^-$ (d) $NO_2^+ > NO_2^- > NO_2^-$	pond angle is :	111. ${}_{27}\text{Co}^{60}$ is radioactive because:  (a) its atomic number is high  (b) it has high $\frac{p}{n}$ ratio									
101.	The fresh precipitate ca colloidal state by : (a) peptization (b) of	n be transformed in coagulation none of these	(c) it has high $\frac{n}{p}$ ratio  (d) none of the above  112. The correct order of solubility of the sul									
	Milk is: (a) fat dispersed in wate (b) fat dispersed in milk (c) fat dispersed in fat	r (6)		of alkaline earth metals in water is:  (a) Be > Ca > Mg > Ba > Sr  (b) Mg > Be > Ba > Ca > Sr  (c) Be > Mg > Ca > Sr > Ba  (d) Mg > Ca > Ba > Be > Sr								
103.		pig iron	113.	Correct order of radii is : (a) $N < Be < B$ (b) $F^- < O^{2-} < N^{3-}$ (c) $Na < Li < K$ (d) $Fe^{3+} < Fe^{2+} < Fe^{4+}$								
104.	Most unstable hydride is (a) NH <sub>3</sub> (b) I (c) AsH <sub>3</sub> (d) I	PH <sub>3</sub>	114.	4. A sudden large jump between the values of firs and second ionisation energies of elements would be associated with which of the following electronic configurations?								

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- (b)  $1s^2 2s^2 2p^6 3s^2 3p^1$
- (c)  $1s^2 2s^2 2p^6 3s^1 3p^2$
- (d)  $1s^2 2s^2 2p^6 3s^2$
- 115. Which one shows most pronounced inert pair effect?
  - (a) Si
- (b) Sn
- (c) Pb
- (d) C
- 116. Which of the following will form a colourless complex?
  - (a) Ni2+
- (b) Cu-
- (c) Ti2+
- (d) Fe<sup>3+</sup>
- 117. Silver containing lead as impurity is purified by :
  - (a) poling
- (b) cupellation
- (c) lavigation
- (d) distillation
- 118. The metal extracted by cyanide process is:
  - (a) silver
- (b) copper
- (c) iron
- (d) sodium
- 119. On the extraction of iron, the slag produced is:
  - (a) CO
- (b) FeSiO3
- (c) MgSiO<sub>3</sub>
- (d) CaSiO<sub>3</sub>
- 120. Complex forming tendency is more for :
  - (a) Na\*
- (b) K\*
- (c) Li+
- (d) Rb+



The major product A is:



122. The IUPAC name of the following compound is:

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- (a) propionic annydride
- (b) dipropanoic anhydride
- (c) ethoxy propanoic acid
- (d) propanoic anhydride
- 123. Which of the following compounds is not aromatic?





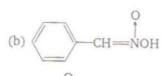
- (d) N
- 124. Which of the following is the most stable cation?
  - (a) F<sub>3</sub>C—CH<sub>2</sub>
- (b) (CH<sub>3</sub>)<sub>2</sub>CH<sup>⊕</sup>

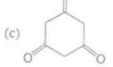
(d) CF3

- (c) CH<sub>3</sub><sup>⊕</sup>
- 125. The product A is:

OH  $CH_2OH$   $CH_2OH$   $CH_2OCH_3$   $CH_2OCH_3$   $CH_2OCH_3$   $CH_2OCH_3$   $CH_2OCH_3$   $CH_2OCH_3$   $CH_2OCH_3$ 

126. Tautomerism is not exhibited by :







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127. In the compound OH-

configuration at C2 and C3 atoms are:

- (a) S, S
- (b) R. S
- (c) S, R
- (d) R, R

128. 
$$\bigcirc O - C - \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc A$$

The product A is:

(a) 
$$O-C$$
  $NO_2$   $NO_2$  (b)  $O-C$   $NO_2$ 

NO2

- 129. Hinsberg reagent is:
  - (a) C<sub>6</sub>H<sub>5</sub>SO<sub>3</sub>H
- (b) C6H5NO
- (c) C6H5SO2Cl
- (d) C<sub>6</sub>H<sub>5</sub>N<sub>2</sub>Cl
- 130. Acetaldehyde cannot show:
  - (a) iodoform test
  - (b) Lucas test
  - (c) Benedict's test
  - (d) Tollen's test
- 131. Ethylbenzene with bromine in presence of FeBr3, predominantly gives:

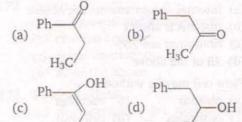
(a) 
$$\longrightarrow$$
  $CH_2CH_3$ 
(b)  $\longrightarrow$   $CH_2CH_3$ 

132. Which of the following will be most readily dehydrated under acidic conditions?

(c) OH

- 133. Which of the following cannot reduce Fehling solution?
  - (a) HCOOH
- (b) H<sub>3</sub>CCOOH
- (c) HCHO
- (d) H<sub>2</sub>CCHO
- 134. Absolute alcohol is prepared by:
  - (a) vacuum distillation
  - (b) azeotropic distillation
  - (c) steam distillation
  - (d) none of the above
- 135. Which of the following compounds is resistant to nucleophilic attack by hydroxyl ion?
  - (a) Methylacetate (b) Acetonitrile
- - (c) Acetamide
- (d) Diethylether
- 136. Hydrogenation of benzoyl chloride in presence of Pd on BaSO a gives :
  - (a) benzyl alcohol
  - (b) benzaldehyde
  - (c) benzoic acid
  - (d) phenol

The product A is:



- 138. Ethylamine reacts with nitrous acid to form:
  - (a) C2H5OH
- (b) C2H5OH, N2, H2O
- (c) C2H5N2Cl
- (d) C2H5NHOH, NH3

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- (c) glycine
- (d) leucine
- 140. Mutarotation does not occur in:
  - (a) sucrose
- (b) D-glucose
- (c) L-glucose
- (d) none of these
- 141. Aldehyde which is formed during photo synthesis of plants is:
  - (a) methanal
  - (b) acetaldehyde
  - (c) propanal
    - (d) phenylmethanal
- 142. Coupling of diazonium salts of following takes place in the order:

- (a) IV < II < III < I
- I > II > III < VI (d)
- (c) II < IV < I < III
- (d) I < II < III < IV

- 143. Which is decreasing order of strength of bases? OH-NH2, HC =C and CH3CH2
  - (a)  $H_3CCH_2^- > NH_2^- > HC = C^- > OH^-$
- (b) HC = C<sup>-</sup> > CH<sub>3</sub>CH<sub>2</sub> > NH<sub>2</sub> > OH
  - (c) OH > NH2 > CH = C > H2CCH2
  - (d)  $NH_2 > HC \equiv C^- > OH^- > H_2CCH_2$

- form methyl hydroxylamine is:
- (a) Zn/HCl (b) Zn/NH<sub>4</sub>Cl
- (c) Zn/NaOH (d) Sn/HCl
- 145. Which is most basic?
  - (a) C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub>
- (b) (C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>NH
- (c) CH<sub>3</sub>NH<sub>2</sub> (d) (CH<sub>3</sub>)<sub>2</sub>NH
- 146. For d-electron, the orbital angular momentum is:
  - (a)

- 147. Two nodal planes are present in:
  - (a)  $\pi * 2p_x$
- (b) σ 2p.
- (c) \pi 2p\_
- (d) π 2p,
- 148. One gram mole of a gas at NTP occupies 22.4 L. This fact was derived from:
  - (a) law of gaseous volumes
  - (b) Avogadro's hypothesis
  - (c) Berzelius hypothesis
  - (d) Dalton's atomic theory
- 149. At 90°C, pure water has  $[H_3O^+] = 10^{-6}$  mol/L. The value of K, at 90°C is:
  - (a) 10<sup>-6</sup>
- (b) 10<sup>-8</sup>
- (c) 10<sup>-12</sup>
- (d) 10<sup>-14</sup>
- 150. The pH of a buffer solution of 0.1 M NH<sub>4</sub>OH  $[pK_b = 5.0]$  and 0.01 M NH<sub>a</sub>Cl is :
  - (a) 1
- (b) 4
- (c) 10
- (d) 13

#### Answer - Key

76.	С	77.	b	78.	b	79.	d	80.	b	81.	b	82.	а	83.	а	84.	d	85.	a
86.	a	87.	b	88.	a	89.	С	90.	С	91.	С	92.	a	93.	a	94.	С	95.	a
96.	d	97.	d	98.	С	99.	b	100.	С	101.	a	102.	a	103.	С	104.	d	105.	d
106.	С	107.	d	108.	С	109.	С	110.	a	111.	С	112.	С	113.	b	114.	a	115.	С
116.	b	117.	b	118.	a	119.	d	120.	С	121.	а	122.	d	123.	С	124.	b	125.	b
126.	a	127.	d	128.	С	129.	С	130.	b	131.	d	132.	a	133.	b	134.	b	135.	d
136.	b	137.	а	138.	b	139.	a	140.	a	141.	a	142.	а	143.	a	144.	b	145.	d
146.	a	147.	а	148.	b	149.	С	150.	С							-			