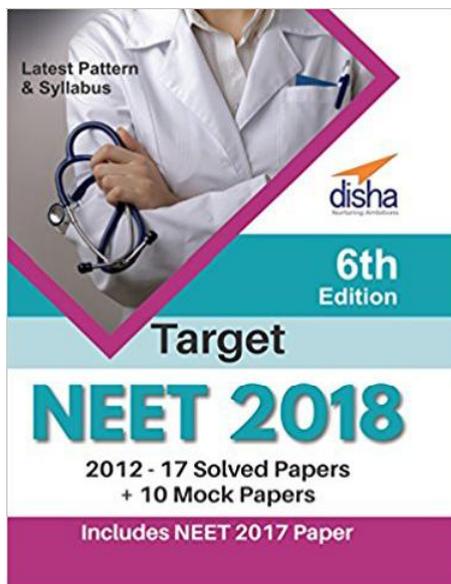




NEET MOCK TEST 2- CHEMISTRY

This Paper "NEET Mock Test 2- Chemistry" is taken from our Book:



ISBN : 9789386629234

Product Name : Target NEET 2018 (2012-17 Solved Papers + 10 Mock Papers)

Product Description : Table of Contents:

NEET 2017 Solved Paper

NEET 2016 Solved Paper

AIPMT 2015 Retest Solved Paper

AIPMT 2015 Solved Paper

AIPMT 2014 Solved Paper

NEET 2013 Solved Paper

NEET Karnataka 2013 Solved Paper

AIPMT 2012 Solved Paper (Screening + Mains) with Solutions

Practice Mock Tests

Full Test - 1 Full Test - 2 Full Test - 3 Full Test - 4 Full Test - 5 Full Test - 6 Full Test - 7

Full Test - 8

Full Test - 9

Full Test - 10

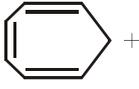
Solutions to Mock Tests 1 to 10

PART B – CHEMISTRY

DIRECTIONS : There are 45 multiple choice questions numbered 46 to 90. Each question has 4 choices (1), (2), (3) and (4), out of which ONLY ONE is correct.

46. 100 ml O₂ and H₂ kept at same temperature and pressure. What is true about their number of molecules
 (1) N_{O₂} > N_{H₂} (2) N_{O₂} < N_{H₂}
 (3) N_{O₂} = N_{H₂} (4) N_{O₂} + N_{H₂} = 1 mole
47. How many joules of heat are absorbed when 70.0 grams of water is completely vaporised at its boiling point?
 (1) 23,352 (2) 7,000
 (3) 15,813 (4) 158,200
48. Faraday's laws of electrolysis will fail when
 (1) temperature is increased
 (2) inert electrodes are used
 (3) a mixture of electrolytes is used
 (4) in none of the above cases
49. The titanium (atomic number = 22) compound that does not exist is
 (1) TiO (2) TiO₂
 (3) K₂TiF₆ (4) K₂TiO₄
50. Iso-butyl bromide may be obtained from iso-butylene and HBr in the presence of
 (1) peroxide (2) hydroquinone
 (3) diphenylamine (4) All of these
51. A sequence of how many nucleotides in messenger RNA makes a codon for an amino acid?
 (1) Three (2) Four
 (3) One (4) Two
52. FeS₂ + O₂ → Fe₂O₃ + SO₂
 In the above equation, the number of electrons lost by one molecule of FeS₂ are –
 (1) 6 (2) 2
 (3) 1 (d) 11
53. The enthalpies of formation of Al₂O₃ and Cr₂O₃ are –1596 kJ and –1134 kJ respectively. ΔH for the reaction
 2Al + Cr₂O₃ → 2Cr + Al₂O₃ is
 (1) –2730 kJ (2) –462 kJ
 (3) –1365 kJ (4) +2730 kJ
54. An electrochemical cell is set up as follows :
 Pt (H₂, 1 atm)/0.1 M HCl/0.1 M acetic acid/(H₂, 1 atm) Pt
 EMF of this cell will not be zero because
 (1) the temperature is constant
 (2) the pH of 0.1 M HCl and 0.1 M acetic acid is not the same
 (3) acids used in the two compartments are different
 (4) EMF of a cell depends on molarities of the acids used
55. Which of the following oxides is amphoteric in character?
 (1) SnO₂ (2) SiO₂
 (3) CO₂ (4) CaO
56. Match List - I (substances) with List - II (processes) employed in the manufacture of the substances and select the correct option.
- | List - I | List - II |
|----------------------|-------------------------|
| Substances | Processes |
| (A) Sulphuric acid | (i) Haber's process |
| (B) Steel | (ii) Bessemer's process |
| (C) Sodium hydroxide | (iii) Leblanc process |
| (D) Ammonia | (iv) Contact process |
- Options:**
 (A) (B) (C) (D)
 (1) (iv) (ii) (iii) (i)
 (2) (i) (iv) (ii) (iii)
 (3) (i) (ii) (iii) (iv)
 (4) (iv) (iii) (ii) (i)
57. The IUPAC name of the compound
 CH₃CH = CHC ≡ CH is

SPACE FOR ROUGH WORK

- (1) Pent-1-yn-3-ene (2) Pent-4-yn-2-ene
(3) Pent-3-en-1-yne (4) Pent-2-en-4-yne
58. Butter of tin is
(1) $\text{SnCl}_4 \cdot 6\text{H}_2\text{O}$ (2) $\text{SnCl}_4 \cdot 4\text{H}_2\text{O}$
(3) $\text{SnCl}_4 \cdot 5\text{H}_2\text{O}$ (4) $\text{SnCl}_4 \cdot 2\text{H}_2\text{O}$
59. In lime kiln, the reversible reaction
 $\text{CaCO}_3(\text{s}) \rightleftharpoons \text{CaO}(\text{s}) + \text{CO}_2(\text{g})$
proceeds to completion because
(1) of high temperature (2) CO_2 escaped out
(3) CaO is removed (4) of low temperature
60. Rate of a reaction can be expressed by following rate expression
 $\text{Rate} = k[\text{Average}]^2 [\text{B}]$, if concentration of A is increased by 3 times, and concentration of B is increased by 2 times, how many times rate of reaction increases?
(1) 9 times (2) 27 times
(3) 18 times (4) 8 times
61. In nucleophilic substitution reaction, order of halogens as incoming (attacking) nucleophile is:
 $\text{I}^- < \text{Br}^- < \text{Cl}^-$
The order of halogens as departing nucleophile should be :
(1) $\text{Br}^- > \text{I}^- > \text{Cl}^-$ (2) $\text{I}^- > \text{Br}^- > \text{Cl}^-$
(3) $\text{Cl}^- > \text{Br}^- > \text{I}^-$ (4) $\text{Cl}^- > \text{I}^- > \text{Br}^-$
62. Glycerol on heating with oxalic acid at 110°C gives
(1) ethanol (2) ethanal
(3) ether (4) formic acid
63. Electrolytic reduction of nitrobenzene in weakly acidic medium gives
(1) N-Phenylhydroxylamine
(2) Nitrosobenzene
(3) Aniline
(4) *p*-Hydroxyaniline
64. In the presence of cobalt chloride (CoCl_2), bleaching powder decomposes to form
(1) CaCO_3 and O_3 (2) ClO_2 and CaO
(3) Cl_2O and CaO (4) CaCl_2 and O_2
65. $\bar{\text{C}}\text{H}_2 - \underset{\text{O}}{\parallel}{\text{C}} - \text{CH}_3$ and $\text{CH}_2 = \underset{\text{:}\ddot{\text{O}}:}{\text{C}} - \text{CH}_3$ are
(1) resonating structures (2) tautomers
(3) geometrical isomers (4) optical isomers
66. The reaction $\text{L} \longrightarrow \text{M}$ is started with 10.0 g of L. After 30 and 90 minutes 5.0 g and 1.25 g of L respectively are left. The order of the reaction is
(1) 0 (2) 1
(3) 2 (4) 3
67. The outer orbitals of C in ethene molecule can be considered to be hybridized to give three equivalent sp^2 orbitals. The total number of sigma (σ) and pi (π) bonds in ethene molecule is
(1) 1 sigma (σ) and 2 pi (π) bonds
(2) 3 sigma (σ) and 2 pi (π) bonds
(3) 4 sigma (σ) and 1 pi (π) bonds
(4) 5 sigma (σ) and 1 pi (π) bonds
68. **Statement-1** : Tropylium cation is aromatic in nature
 +
Statement-2 : The only property that determines its aromatic behaviour is its planar structure.
(1) Statement-1 is True, Statement-2 is True, Statement-2 is a correct explanation for Statement-1
(2) Statement-1 is True, Statement-2 is True ; Statement-2 is NOT a correct explanation for Statement-1
(3) Statement-1 is True, Statement-2 is False
(4) Statement-1 is False, Statement-2 is True
69. The reaction of $\text{C}_6\text{H}_5\text{CH}=\text{CHCHO}$ with NaBH_4 gives
(1) $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ (2) $\text{C}_6\text{H}_5\text{CH}=\text{CHCH}_2\text{OH}$
(3) $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{CHO}$ (4) $\text{C}_6\text{H}_5\text{CH}_2\text{CHOHCH}_3$

70. Fractional distillation of coal-tar produces the following fractions. Phenol is the main component of which fraction?
 (1) Light oil (2) Middle oil
 (3) Heavy oil (4) Green oil
71. If one end of a piece of a metal is heated the other end becomes hot after some time. This is due to
 (1) Energised electrons moving to the other part of the metal
 (2) resistance of the metal
 (3) mobility of atoms, in the metal
 (4) minor perturbation in the energy of atoms.
72. Which inert gas show abnormal behaviour on liquefaction
 (1) Xe (2) He (3) Ar (4) Kr
73. An organometallic compound amongst the following is
 (1) Ferrocene
 (2) Diethyl zinc
 (3) Tetraethyl lead (TEL)
 (4) All of these
74. Which of the following cannot be formed ?
 (1) He^{2+} (2) He^+ (3) He (4) He_2
75. Which of the following is not a characteristic of interstitial compounds of transition elements?
 (1) The formulae of these compounds do not correspond to any normal oxidation state
 (2) They have melting points higher than those of pure elements
 (3) They are very hard and some compounds approach diamond in hardness
 (4) They are insulators in contrast to the transition metals
76. **Statement-1** : The drugs which act on the central nervous system and help in reducing anxiety are called antibiotics.
Statement-2 : Penicillin is an antibiotic.
 (1) Statement-1 is true, Statement-2 is true, Statement-2 is a correct explanation for Statement-1
 (2) Statement-1 is true, Statement-2 is true ; Statement-2 is NOT a correct explanation for Statement-1
 (3) Statement-1 is true, Statement-2 is false
 (4) Statement-1 is false, Statement-2 is true
77. Which observation(s) reflect(s) colligative properties?
 (i) a 0.5 m NaBr solution has a higher vapour pressure than a 0.5 m BaCl_2 solution at the same temperature
 (ii) pure water freezes at the higher temperature than pure methanol
 (iii) a 0.1 m NaOH solution freezes at a lower temperature than pure water
 Choose the correct answer from the codes given below
 (1) (i), (ii) and (iii) (2) (i) and (ii)
 (3) (ii) and (iii) (4) (i) and (iii)
78. In the commercial electrochemical process for aluminium extraction the electrolyte used is
 (1) $\text{Al}(\text{OH})_3$ in NaOH solution
 (2) An aqueous solution of $\text{Al}_2(\text{SO}_4)_3$
 (3) A molten mixture of Al_2O_3 and Na_3AlF_6
 (4) A molten mixture of Al_2O_3 and $\text{Al}(\text{OH})_3$
79. Aryl halides do not undergo nucleophilic substitution reactions under ordinary conditions because
 1. approach of nucleophile is retarded
 2. carbon carrying halogen atom is sp^3 hybridised
 3. the substrate molecule is destabilised due to resonance
 4. partial double bond character between carbon and halogen
 (1) 2 and 4 only (2) 1 and 4 only
 (3) 2 and 3 only (4) 2, 3 and 4 only
80. According to kinetic theory of gases, for a diatomic molecule
 (1) the pressure exerted by the gas is proportional to mean velocity of the molecule

- (2) the pressure exerted by the gas is proportional to the root mean velocity of the molecule
- (3) the root mean square velocity of the molecule is inversely proportional to the temperature
- (4) the mean translational kinetic energy of the molecule is proportional to the absolute temperature.
- 81.** The absolute enthalpy of neutralisation of the reaction: $\text{MgO}(s) + 2\text{HCl}(aq) \longrightarrow \text{MgCl}_2(aq) + \text{H}_2\text{O}(l)$ will be:
- (1) $-57.33 \text{ kJ mol}^{-1}$
- (2) greater than $-57.33 \text{ kJ mol}^{-1}$
- (3) less than $-57.33 \text{ kJ mol}^{-1}$
- (4) $57.33 \text{ kJ mol}^{-1}$
- 82.** Which of the following electrolytes is least effective in coagulating ferric hydroxide solution?
- (1) KBr (2) K_2SO_4
- (3) K_2CrO_4 (4) $\text{K}_4[\text{Fe}(\text{CN})_6]$
- 83.** Estimation of calcium and magnesium is done by
- (1) EDTA (2) oxalate
- (3) Phosphate (4) none of these
- 84.** Which of the following is colourless in water?
- (1) Ti^{3+} (2) V^{3+}
- (3) Cu^{3+} (4) Sc^{3+}
- 85.** Which is a polymer of three different monomers ?
- (1) ABS (2) SBR
- (3) NBR (4) Nylon-26
- 86.** Which of the following element is extracted commercially by the electrolysis of an aqueous solution of its compound?
- (1) Chlorine (2) Bromine
- (3) Sodium (4) Aluminium
- 87.** Correct order of stability is :
- (1) cis -2- butene > 1-butene > trans -2-butene
- (2) trans-2-butene > cis-2-butene > 1-butene
- (3) 1-butene > cis-2-butene > trans-2-butene
- (4) cis-2-butene > trans-2-butene > 1-butene
- 88.** Which of the following is the incorrect statement?
- (1) NaCl has 6 : 6 coordination and CsCl has 8 : 8 coordination.
- (2) In Na_2O each oxide ion is coordinated by 8Na^+ ions and each Na^+ ion by 4 oxide ions
- (3) NaCl structure transform to CsCl structure on heating
- (4) In CaF_2 structure each F^- ion is coordinated by 4 Ca^{2+} and vice-versa.
- 89.** The property which distinguishes formic acid from acetic acid is
- (1) only ammonium salt of formic acid on heating gives amide
- (2) when heated with alcohol/ H_2SO_4 only acetic acid forms ester
- (3) only acetic acid forms salts with alkali
- (4) only formic acid reduces Fehling's solution
- 90.** Phenol on reaction with Br_2 in non-polar aprotic solvent furnishes
- (1) 2, 4, 6-Tribromophenol (2) *p*-Bromophenol
- (3) *o*- and *p*-Bromophenol (4) *m*-Bromophenol

Hints and Solutions

PART B – CHEMISTRY

46. (3) This is Avogadro's hypothesis.
According to this, equal volume of all gases contain equal no. of molecules under similar condition of temperature and pressure.

47. (4) $Q = m \times L$
where, $L =$ latent heat of vapourisation of water
 $= 2260 \text{ kJ/kg}$
 $= 2260 \times 10^3 \text{ J/kg}$
 $Q = 70 \times 10^{-3} \times 2260 \times 10^3 = 1,58,200 \text{ Joule}$

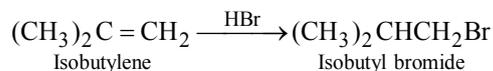
48. (4)

49. (4) Oxidation state of Ti in the given compounds. as follows:

TiO	-	+2
TiO ₂	-	+4
K ₂ TiF ₆	-	+4
K ₂ TiO ₄	-	+6

The oxidation states exhibited by Ti is +2, +3, +4. So K₂TiO₄ does not exist.

50. (1)



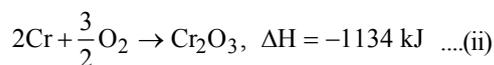
Note that, here HBr is added in anti-Markownikoff's manner, so reaction should take place in presence of peroxide. Hydroquinone and diphenylamine are not free-radical producing substances but scavengers.

51. (1) The sequence of bases in mRNA are read in a serial order in groups of three at a time. Each triplet of nucleotides (having a specific sequence of bases) is known as codon. Each codon specifies one amino acid. Further since, there are four bases, therefore, $4^3 = 64$ triplets or codons are possible.

52. (4) In FeS₂, Fe²⁺ is converting into Fe³⁺ and sulphur is changing from -1 oxidation state to +4 oxidation state.

There are two S⁻ and one Fe²⁺ in FeS₂. Thus total no. of electrons lost in the given reaction are 11.

53. (2) $2\text{Al} + \frac{3}{2}\text{O}_2 \rightarrow \text{Al}_2\text{O}_3, \Delta H = -1596 \text{ kJ} \dots(\text{i})$



By (i) - (ii)



54. (2) It is an example of concentration cell, E_{cell} cannot be zero since $[\text{H}^+]$ are different (HCl is strong and CH₃COOH weak acid).

55. (1) CaO is basic as it form strong base Ca(OH)₂ on reaction with water.

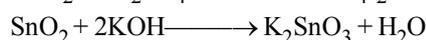


CO₂ is acidic as it dissolve in water forming unstable carbonic acid.



Silica (SiO₂) is insoluble in water and acts as a very weak acid.

SnO₂ is amphoteric as it reacts with both acid and base.



56. (1)

- | | |
|----------------------|-------------------------|
| (A) Sulphuric acid | (iv) Contact process |
| (B) Steel | (ii) Bessemer's process |
| (C) Sodium hydroxide | (iii) Leblanc process |
| (D) Ammonia | (i) Haber's process |

57. (4) When both double and triple bonds are present, then double bond is considered as the principal group.

58. (3) Butter of tin is SnCl₄.5H₂O.

59. (2) Forward reaction is favoured by removal of products.

60. (3) Reaction rate = $k[\text{A}]^2[\text{B}]$

Now increase conc. of A by three times and conc. of B by two times. Then new rate

$$R_2 = k[3\text{A}]^2[2\text{B}]$$

$$\frac{R_1}{R_2} = \frac{k[\text{A}]^2[\text{B}]}{k[3\text{A}]^2[2\text{B}]} = \frac{1}{3^2} \times \frac{1}{2} = \frac{1}{18}$$

$$R_2 = 18 \times R_1$$

Hence rate increases by 18 times.

61. (2) Since the leaving group breaks away as a base, it is easier to displace weaker bases as compared to stronger bases. Thus less basic the substituent, the more easily it is displaced.

Since the basic strength of the given groups is in order.



Thus the order of halogen leaving groups is



62. (4)

63. (3) Electrolytic reduction of nitrobenzene in weakly acidic medium gives aniline, whereas in strongly acidic medium it gives *p*-hydroxyaniline

64. (4) $2\text{CaOCl}_2 \xrightarrow{\text{CoCl}_2} 2\text{CaCl}_2 + \text{O}_2$

65. (1) 