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NEET PRINCIPLES RELATED TO PRACTICAL CHEMISTRY — PYQS

Max. Marks: 116 **Questions:** 29

Section A (MCQ) — 29 questions

Q.1 During Lassaigne's test, the elements present in an organic compound are converted from : [NEET (UG) 2026]

(1) Ionic form to ionic form
(2) Covalent form to ionic form
(3) Ionic form to covalent form
(4) Covalent form to covalent form

Scan or tap for the full solution

Q.2 The functional group that can be identified through phthalein dye test is : [NEET (UG) 2026]

(1) Carboxylic acid (2) Alcohol
(3) Aldehyde (4) Phenolic

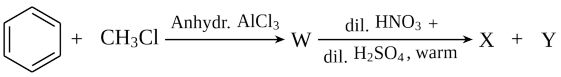
Scan or tap for the full solution

Q.3 Phenolphthalein is used as an indicator for the titration of sodium hydroxide solution against a standard solution of oxalic acid. The colour change that is observed at an alkaline pH close to the equivalence point during this titration is : [NEET (UG) 2026]

(1) pink to colourless (2) pinkish red to yellow
(3) colourless to pink (4) yellow to pinkish red

Scan or tap for the full solution

Q.4 Two products X and Y are formed in the following reaction sequence.



The suitable method that can be used for the separation of products X and Y is : [NEET (UG) 2026]

(1) Continuous extraction
(2) Differential extraction
(3) Sublimation
(4) Fractional distillation

Scan or tap for the full solution

Q.5 In a test tube containing a salt, a few drops of dilute H_2SO_4 was added, which gave colourless vapours having the smell of vinegar. The vapours turned the blue litmus paper red.
Identify the correct anion from the following : [NEET (UG) 2026]

(1) Carbonate, CO_3^{2-} (2) Sulphide, S^{2-}
(3) Acetate, CH_3COO^- (4) Sulphate, SO_4^{2-}

Scan or tap for the full solution

Q.6 In potash alum, the ratio of K^+ and SO_4^{2-} ions is [RE-NEET (UG) 2026]

(1) 3:2 (2) 1:2 (3) 2:1 (4) 2:3

Scan or tap for the full solution

Q.7 Which one of the following reactions does NOT belong to "Lassaigne's test"? [NEET (UG) 2025]

(1) $Na + X \xrightarrow{\Delta} NaX$
(2) $2CuO + C \xrightarrow{\Delta} 2Cu + CO_2$
(3) $Na + C + N \xrightarrow{\Delta} NaCN$
(4) $2Na + S \xrightarrow{\Delta} Na_2S$

Scan or tap for the full solution

Q.8 Match **List-I** with **List-II**

	List-I (Mixture)		List-II (Method of separation)
A.	$CHCl_3 + C_6H_5NH_2$	I.	Distillation under reduced pressure
B.	Crude oil in petroleum industry	II.	Steam distillation
C.	Glycerol from spent-lye	III.	Fractional distillation
D.	Aniline - water	IV.	Simple distillation

Choose the correct answer from the options given below: [NEET (UG) 2025]

(1) A-III, B-IV, C-I, D-II (2) A-III, B-IV, C-II, D-I
(3) A-IV, B-III, C-I, D-II (4) A-IV, B-III, C-II, D-I

Scan or tap for the full solution

Q.9 Match **List-I** with **List-II**

List-I (Ion)		List-II (Group Number in Cation Analysis)	
A.	Co^{2+}	I.	Group-I
B.	Mg^{2+}	II.	Group-III
C.	Pb^{2+}	III.	Group-IV
D.	Al^{3+}	IV.	Group-VI

Choose the correct answer from the options given below : [NEET (UG) 2025]

(1) A-III, B-II, C-IV, D-I (2) A-III, B-II, C-I, D-IV
(3) A-III, B-IV, C-II, D-I (4) A-III, B-IV, C-I, D-II

Scan or tap for the full solution

Q.10 On heating, some solid substances change from solid to vapour state without passing through liquid state. The technique used for the purification of such solid substances based on the above principle is known as [NEET (UG) 2024]

(1) Crystallization (2) Sublimation
(3) Distillation (4) Chromatography

Scan or tap for the full solution

Q.11 During the preparation of Mohr's salt solution (Ferrous ammonium sulphate), which of the following acid is added to prevent hydrolysis of Fe^{2+} ion? [NEET (UG) 2024]

(1) dilute hydrochloric acid
(2) concentrated sulphuric acid
(3) dilute nitric acid
(4) dilute sulphuric acid

Scan or tap for the full solution

Q.12 Given below are certain cations. Using inorganic qualitative analysis, arrange them in increasing group number from 0 to VI.

A. Al^{3+} B. Cu^{2+}
C. Ba^{2+} D. Co^{2+}
E. Mg^{2+}

Choose the correct answer from the options given below. [NEET (UG) 2024]

(1) B, A, D, C, E (2) B, C, A, D, E
(3) E, C, D, B, A (4) E, A, B, C, D

Scan or tap for the full solution

Q.13 Which indicator is used in the titration of sodium hydroxide against oxalic acid and what is the colour change at the end point? [RE-NEET (UG) 2024]

(1) Phenolphthalein, pink to yellow
(2) Alkaline $KMnO_4$, colourless to pink
(3) Phenolphthalein, colourless to pink
(4) Methyl orange, yellow to pinkish red colour

Scan or tap for the full solution

Q.14 A steam volatile organic compound which is immiscible with water has a boiling point of 250°C. During steam distillation, a mixture of this organic compound and water will boil : [RE-NEET (UG) 2024]

(1) above 100°C but below 250°C
(2) above 250°C
(3) at 250°C
(4) close to but below 100°C

Scan or tap for the full solution

Q.15 Match **List-I** with **List-II** :

List - I (Test/reagent)		List - II (Radical identified)	
A.	Lake Test	I.	NO_3^-
B.	Nessler's Reagent	II.	Fe^{3+}
C.	Potassium sulphocyanide	III.	Al^{3+}
D.	Brown Ring Test	IV.	NH_4^+

Choose the correct answer from the options given below : [RE-NEET (UG) 2024]

(1) A-IV, B-II, C-III, D-I (2) A-II, B-IV, C-III, D-I
(3) A-II, B-III, C-IV, D-I (4) A-III, B-IV, C-II, D-I

Scan or tap for the full solution

Q.16 Match **List I** with **List II**:

List-I Solid salt treated with dil. $\mathrm{H_2SO_4}$		List-II Anion detected	
A.	effervescence of colourless gas	I.	NO_2^-
B.	gas with smell of rotten egg	II.	CO_3^{2-}
C.	gas with pungent smell	III.	S^{2-}
D.	brown fumes	IV.	SO_3^{2-}

Choose the correct answer from the options given below: [RE-NEET (UG) 2024]

(1) A-II, B-III, C-IV, D-I (2) A-IV, B-III, C-II, D-I
(3) A-I, B-II, C-III, D-IV (4) A-II, B-III, C-I, D-IV

Scan or tap for the full solution

Q.17 On complete combustion, 0.3 g of an organic compound gave 0.2 g of CO_2 and 0.1 g of H_2O. The percentage composition of carbon and hydrogen in the compound, respectively is:

[RE-NEET (UG) 2024]

(1) 4.07% and 15.02% (2) 18.18% and 3.70%
(3) 15.02% and 4.07% (4) 3.70% and 18.18%

Scan or tap for the full solution

Q.18 In Lassaigne's extract of an organic compound, both nitrogen and sulphur are present, which gives blood red colour with Fe^{3+} due to the formation of-

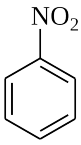
[NEET (UG) 2023]

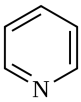
(1) NaSCN (2) $[Fe(CN)_5NOS]^{4-}$
(3) $[Fe(SCN)]^{2+}$ (4) $Fe_4[Fe(CN)_6]_3 \cdot xH_2O$

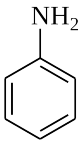
Scan or tap for the full solution

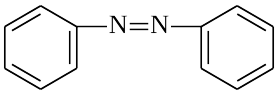
Q.19 The Kjeldahl's method for the estimation of nitrogen can be used to estimate the amount of nitrogen in which one of the following compounds?

[NEET (UG) 2022]

(1) 

(2) 

(3) 

(4) 

Scan or tap for the full solution

Q.20 Paper chromatography is an example of :

[NEET (UG) 2020]

(1) Partition chromatography
(2) Thin layer chromatography
(3) Column chromatography
(4) Adsorption chromatography

Scan or tap for the full solution

Q.21 The most suitable method of separation of 1 : 1 mixture of ortho and para-nitrophenols is

[NEET 2017]

(1) chromatography (2) crystallisation
(3) steam distillation (4) sublimation.

Scan or tap for the full solution

Q.22 In Dumas method for estimation of nitrogen, 0.25 g of an organic compound gave 40 mL of nitrogen collected at 300 K temperature and 725 mm pressure. If the aqueous tension at 300 K is 25 mm, the percentage of nitrogen in the compound is

[AIPMT 2015 (Cancelled)]

(1) 16.75 (2) 15.76 (3) 17.36 (4) 18.20

Scan or tap for the full solution

Q.23 In the Kjeldahl's method for estimation of nitrogen present in a soil sample, ammonia evolved from 0.75 g of sample neutralized 10 mL of 1 M H_2SO_4. The percentage of nitrogen in the soil is

[AIPMT 2014]

(1) 37.33 (2) 45.33 (3) 35.33 (4) 43.33

Scan or tap for the full solution

Q.24 Nitrogen detection in an organic compound is carried out by Lassaigne's test. The blue colour formed corresponds to which of the following formulae? [NEET 2013 (Karnataka)]

(1) $Fe_3[Fe(CN)_6]_2$ (2) $Fe_4[Fe(CN)_6]_3$
(3) $Fe_4[Fe(CN)_6]_2$ (4) $Fe_3[Fe(CN)_6]_3$

Scan or tap for the full solution

Q.25 The Lassaigne's extract is boiled with conc. HNO_3 while testing for halogens. By doing so it

[AIPMT 2011 (Prelims)]

(1) decomposes Na_2S and NaCN, formed
(2) helps in the precipitation of AgCl
(3) increases the solubility product of AgCl
(4) increases the concentration of NO_3^- ions

Scan or tap for the full solution

Q.26 In Dumas method of estimation of nitrogen, 0.35 g of an organic compound gave 55 mL of nitrogen collected at 300 K temperature and 715 mm pressure. The percentage composition of nitrogen in the compound would be (aqueous tension at 300 K = 15 mm). [AIPMT 2011 (Prelims)]

(1) 15.45 (2) 16.45 (3) 17.45 (4) 14.45

Scan or tap for the full solution

Q.27 The best method for the separation of naphthalene and benzoic acid from their mixture is

[AIPMT 2005]

(1) distillation (2) sublimation
(3) chromatography (4) crystallisation.

Scan or tap for the full solution

Q.28 Which of the following is incorrect? [AIPMT 2001]

(1) $FeCl_3$ is used in detection of phenol.

(2) Fehling's solution is used in detection of glucose.

(3) Tollens' reagent is used in detection of unsaturation.

(4) $NaHSO_3$ is used in detection of carbonyl compound.

Scan or tap for the full solution

Q.29 In steam distillation of toluene, the pressure of toluene in vapour is [AIPMT 2001]

(1) equal to pressure of barometer

(2) less than pressure of barometer

(3) equal to vapour pressure of toluene in simple distillation

(4) more than vapour pressure of toluene in simple distillation.

Scan or tap for the full solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**2**	**4**	**3**	**4**	**3**	**2**	**2**	**3**	**4**	**2**	**4**
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	**1**	**3**	**4**	**4**	**1**	**2**	**3**	**3**	**1**	**3**	**1**
Ques.	23	24	25	26	27	28	29				
Ans.	**1**	**2**	**1**	**2**	**2**	**3**	**2**				