

NAME:		ROLL NO:		TIME:	25: MIN
SUB:	Chemistry	Date:		CLASS:	1 st Year
SYLLABUS	Chp. 16 (Lab Safety and Practical Skills)	T. MARKS	22	OBT. M	

Q. 1 Choose the Correct Answer. Cutting, Erasing, Double Selection is Strictly Prohibited. (1x22=22)

- While taking a reading with a burette, why it is always advisable to read the lower meniscus for the colourless liquids and the upper meniscus for the coloured liquids?
 - Because it is more convenient
 - Because colourless liquids have more surface tension than coloured liquids
 - Because lower meniscus does not exist for coloured liquids
 - Because of the parallax effect
- Why phenolphthalein indicator is more appropriate to use during the titration which involve a strong acid and a strong base?
 - Because it is itself weakly acidic.
 - Because the pH at the equivalence point as well as the pH over where the colour of phenolphthalein changes match each-other.
 - Because the solution at the end o titration is acidic.
 - Because the solution at the end of titration in basic.
- Which cation gives a white gelatinous precipitate upon the addition of aqueous ammonia?
 - Cr^{3+}
 - Cr^{2+}
 - Zn^{2+}
 - Al^{3+}
- Addition of NH_4OH to an aqueous solution of a cation gives a green precipitate which turns brown upon standing. Which basic radical is indicated?
 - Cu^{2+}
 - Cr^{3+}
 - Fe^{2+}
 - Fe^{3+}
- On dry heating test for salt analysis, the evolution of a colourless, odorless gas that turns limewater milky suggests the presence of:
 - Chloride ion (Cl^-)
 - Sulfate ion (SO_4^{2-})
 - Carbonate ion (CO_3^{2-})
 - Nitrate ion (NO_3^-)
- The chromyl chloride test is a specific confirmatory test for:
 - Bromide ions (Br^-)
 - Iodide ions (I^-)
 - Chloride ions (Cl^-)
 - Sulfate ions (SO_4^{2-})
- The brown ring test is a confirmatory test for which acid radical?
 - Chloride (Cl^-)
 - Nitrate ion (NO_3^-)
 - Sulfate (SO_4^{2-})
 - Carbonate ion (CO_3^{2-})
- Which of the following is used as an indicator in the titration of a strong acid and a weak base?
 - Methyl orange
 - Phenolphthalein
 - Thymol blue
 - Fluorescein
- The ideal indicator for the titration of strong acid and weak base should have a pH range between _____.
 - 3-5
 - 4-6
 - 6-8
 - 7-9
- Find the concentration of HCl, if 10cm^3 of $0.5\text{ M Ca}(\text{OH})_2$ is required to titrate 50cm^3 of HCl.

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- (A) 1/10 M (B) 1/5 M (C) 5 M (D) 10 M
11. What is the concentration of the sulphuric acid solution, if 100 cm³ of the solution is neutralized by 50 cm³ of 0.5 M Ba (OH)₂ solution?
- (A) 0.25 M (B) 0.5 M (C) 25 M (D) 50 M
12. Which of the following is a buffer solution?
- (A) CH₃COOH + CH₃COONH₄ (B) H₂SO₄ + CuSO₄
(C) CH₃COONa + CH₃COOH (D) NaCl + NaOH
13. Which of the following is used as an indicator in the titration of a weak acid and a strong base?
- (A) Methyl orange (3 to 4.6) (B) Bromothymol blur (6 to 7.5)
(C) Phenolphthalein (8 to 9.6) (D) Methyl red (5 to 6.9)
14. What is the molarity of the solution of barium hydroxide, if 35 cm³ of 0.1 M HCl is used in the titration of 25 cm³ of the barium hydroxide solution?
- (A) 0.28 (B) 0.21 (C) 0.14 (D) 0.07
15. A difference between strong and weak acid is ____.
- (A) Proton donation and electron acceptance (B) Complete and partial ionization
(C) Negative and positive PH (D) Presence and absence of halogen ions
16. Which of the following titrations will have the equivalence point at a pH more than 8?
- (A) CH₃COOH and NaOH (B) HCl and NaOH
(C) CH₃COOH and NH₃ (D) HCl and NH₃
17. What is the primary purpose of adding silver nitrate in the identification of non-metal anions
- (A) To produce a gas (B) To form precipitates
(C) To induce a colour change (D) To neutralize acidity
18. Which reagent is commonly used to test for the presence of chloride ions in as solution?
- (A) Iodine solution (B) Silver nitrate
(C) Hydrochloric acid (D) Sodium hydroxides
19. What observation indicates the presence of sulphite ions in a solution during the identification of non-metal anions with BaCl₂ solution?
- (A) Formation of a white precipitate (B) Evolution of a gas smelling like ammonia
(C) Formation of a yellow precipitate (D) Absence of any visible change
20. Which non-metal anion is typically identified through a starch-iodine reaction?
- (A) Chloride (B) Bromide (C) Iodide (D) Sulphite
21. What safety measure is crucial when working with reagents during the identification of non-metal anion?
- (A) Wearing safety goggles (B) Using a fume hood
(C) Wearing gloves (D) All of these
22. Which cation gives a white gelatinous precipitate upon the addition of aqueous ammonia?
- (A) Cr³⁺ (B) Cr²⁺ (C) Zn²⁺ (D) Al³⁺



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1st Year Chemistry Solved MCQs

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Answer Key

1	D	2	B	3	D	4	C
5	C	6	C	7	D	8	A
9	B	10	B	11	A	12	C
13	C	14	D	15	A	16	A
17	B	18	B	19	A	20	C
21	D	22	C				