EDUSAMBAM ASSESSMENT SERIES

# Chemistry Comprehensive Practice Test 5

PRINTABLE PRACTICE WORKSHEET



**YOUR PHYSICAL & ONLINE SELF-ASSESSMENT ROADMAP**

**PHYSICAL**

1. Download any practice test → 2. Solve within assigned time → 3. Submit it to your Teacher/Examiner → 4. Get assessed and improve

**ONLINE**

1. Visit edusambam.com → 2. Open Assessment Arena → 3. Solve online papers → 4. Get auto-assessed and improve

| | | | |
|---|---|---|---|
| **Candidate Name:** | | **Roll No.:** | |
| **Class / Grade:** | | **Date:** | |
| **School / Institution:** | | **Test Centre:** | |

| | | | | | |
|---|---|---|---|---|---|
| **Subject** | Chemistry | **Topic** | Chemistry Comprehensive Practice Test 5 | **Total Marks** | 100 |
| **Total Questions** | 45 | **Time Allowed** | 1 Hour (60 minutes) | **Version** | A |

**GENERAL INSTRUCTIONS**

1. Read each question carefully before answering.
2. For Section A and Section B, mark one answer only.
3. For Sections C and E, write your answer clearly in the space provided.
4. For Section D, write the correct letter from Column B against each item in Column A.
5. Do not use correction fluid. Keep all answers clear and legible.
6. This worksheet is prepared from the EDUSAMBAM practice assessment supplied for this paper.

**PAPER PATTERN**

| Section | Questions | Marks Each | Total |
|---|---|---|---|
| Section A — Multiple Choice | 15 | 2 | 30 |
| Section B — True / False | 10 | 2 | 20 |
| Section C — Fill in the Blank | 10 | 2 | 20 |
| Section D — Matching | 5 pairs | 2 | 10 |
| Section E — Short Answer | 5 | 4 | 20 |
| **Total** | **45** | **—** | **100** |

## Section A — Multiple Choice — 30 marks

1. Which property is typical of metals? — Basic · 2 pts

**A.** Poor electrical conductivity
**B.** Brittleness in all forms
**C.** Malleability
**D.** Lack of lustre

**Answer:** ☐ A ☐ B ☐ C ☐ D

2. Which functional group identifies an alcohol? — Basic · 2 pts

**A.** –COOH
**B.** –OH
**C.** –CHO
**D.** –CO–

**Answer:** ☐ A ☐ B ☐ C ☐ D

3. At constant pressure, heating a liquid generally causes its particles to: — Basic · 2 pts

**A.** Lose all motion
**B.** Gain kinetic energy
**C.** Become neutrons
**D.** Stop colliding

**Answer:** ☐ A ☐ B ☐ C ☐ D

4. If 2 mol of $H_2$ react completely with $O_2$ according to $2H_2 + O_2 \rightarrow 2H_2O$, how many moles of $H_2O$ form? — Basic · 2 pts

**A.** 1
**B.** 2
**C.** 3
**D.** 4

**Answer:** ☐ A ☐ B ☐ C ☐ D

5. Which statement best explains why catalysts speed many reactions? — Intermediate · 2 pts

**A.** They permanently increase product energy
**B.** They provide an alternative pathway with lower activation energy
**C.** They change the equilibrium constant in every reaction
**D.** They are consumed as reactants

**Answer:** ☐ A ☐ B ☐ C ☐ D

6. In a galvanic cell, chemical energy is primarily converted into: **Intermediate · 2 pts**

**A.** Electrical energy **B.** Sound energy
**C.** Nuclear energy **D.** Gravitational energy

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

7. Which pair is most likely to form a covalent molecular compound? **Intermediate · 2 pts**

**A.** Sodium and chlorine **B.** Magnesium and oxygen
**C.** Carbon and oxygen **D.** Potassium and bromine

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

8. Which particle has a positive charge? **Intermediate · 2 pts**

**A.** Electron **B.** Proton
**C.** Neutron **D.** Photon

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

9. The atomic number of an element equals the number of: **Intermediate · 2 pts**

**A.** Neutrons only **B.** Protons only
**C.** Protons plus neutrons **D.** Electrons plus neutrons

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

10. Which gas is a major product of complete combustion of a hydrocarbon? **Intermediate · 2 pts**

**A.** Carbon dioxide **B.** Sodium chloride
**C.** Hydrogen chloride **D.** Nitrogen metal

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

11. Which subatomic particle has approximately one atomic mass unit and no charge? **Intermediate · 2 pts**

**A.** Electron **B.** Proton
**C.** Neutron **D.** Positron

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

12. Which bond is typical between atoms of a metal lattice? **Advanced · 2 pts**

**A.** Metallic **B.** Ionic only
**C.** Covalent only **D.** Hydrogen

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

13. What does concentration describe in a solution? **Advanced · 2 pts**

**A.** Amount of solute relative to a specified amount of solution or solvent **B.** Colour only
**C.** Temperature only **D.** Density of the container

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

14. Which compound contains the –COOH functional group? **Advanced · 2 pts**

**A.** Alkane **B.** Alcohol
**C.** Carboxylic acid **D.** Alkene

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

15. If a reaction releases heat to its surroundings, the reaction is: **Advanced · 2 pts**

**A.** Endothermic **B.** Exothermic
**C.** Neutral only **D.** Catalytic by definition

**Answer:** ☐ **A** ☐ **B** ☐ **C** ☐ **D**

## Section B — True / False **20 marks**

16. Acids can react with some metals to release hydrogen gas. **Basic · 2 pts**

**A.** True ☐ **B.** False ☐

17. The nucleus contains protons and neutrons. **Basic · 2 pts**

**A.** True ☐ **B.** False ☐

18. Metallic bonding involves attraction between positive metal ions and delocalized electrons. **Basic · 2 pts**

**A.** True ☐ **B.** False ☐

19. A mixture always has a fixed chemical formula. **Basic · 2 pts**

**A.** True ☐ **B.** False ☐

20. Distillation can separate liquids using differences in boiling points. **Intermediate · 2 pts**

**A.** True ☐ **B.** False ☐

21. Oxidation means gain of electrons in every accepted redox definition. **Intermediate · 2 pts**

**A.** True ☐ **B.** False ☐

22. Alcohols contain a hydroxyl functional group. **Intermediate · 2 pts**

**A.** True ☐ **B.** False ☐

23. Changing the amount of a reactant can never affect reaction rate. **Intermediate · 2 pts**

**A.** True ☐ **B.** False ☐

24. At equilibrium, reactant and product concentrations must be equal. **Intermediate · 2 pts**

**A.** True ☐ **B.** False ☐

25. Corrosion is generally an electrochemical oxidation process. **Intermediate · 2 pts**

**A.** True ☐ **B.** False ☐

## Section C — Fill in the Blank — 20 marks

26. The smallest unit of an element that retains its chemical identity is an _____. **Basic · 2 pts**

Answer: _____

27. The horizontal arrangement of elements by increasing atomic number is the periodic _____. **Basic · 2 pts**

Answer: _____

28. A substance with a pH above 7 is generally _____. **Basic · 2 pts**

Answer: _____

29. The change from solid to liquid is called _____. **Basic · 2 pts**

Answer: _____

30. The material present in the larger amount in a solution is usually the _____. **Intermediate · 2 pts**

Answer: _____

31. A reaction in which one compound breaks into simpler substances is a _____ reaction. **Intermediate · 2 pts**

Answer: _____

32. A metal that loses electrons in a redox process is _____. **Intermediate · 2 pts**

Answer: _____

33. The number of particles in one mole is Avogadro's _____. **Intermediate · 2 pts**

Answer: _____

34. Compounds with the same molecular formula but different arrangements can be _____. **Intermediate · 2 pts**

Answer: _____

35. A material that conducts electricity because of mobile ions is an _____. **Intermediate · 2 pts**

Answer: _____

## Section D — Matching — 10 marks

**36. Match each term to its correct definition.**

| Column A | Answer | Column B |
|---|---|---|
| Nucleus | ____ | **A.** Metallic bonding |
| Chromatography | ____ | **B.** Carboxylic acid |
| Metallic bonding | ____ | **C.** Electrolyte |
| Carboxylic acid | ____ | **D.** Nucleus |
| Electrolyte | ____ | **E.** Chromatography |

## Section E — Short Answer — 20 marks

41. What is a hydrocarbon? Advanced · 4 pts

42. Why are noble gases relatively unreactive? Advanced · 4 pts

43. How can chromatography help identify components of a mixture? Advanced · 4 pts

44. Explain the role of a salt bridge in a galvanic cell. Advanced · 4 pts

45. Why can different structural arrangements produce different organic compounds with the same molecular formula? Advanced · 4 pts

**Candidate Signature:** _____ **Invigilator Signature:** _____

**FOR OFFICE USE ONLY**

Marks Obtained: _____ / 100 Checked By: _____

Result / Grade: _____ Date Checked: _____

EDUSAMBAM ASSESSMENT SERIES

# Chemistry Comprehensive Practice Test 5 — Answer Key

*Teacher reference: equivalent grammatically correct wording is acceptable for open-ended items when the meaning is preserved.*

## Section A — Multiple Choice

1. C
2. B
3. B
4. B
5. B
6. A
7. C
8. B
9. B
10. A
11. C
12. A
13. A
14. C
15. B

## Section B — True / False

16. False
17. False
18. False
19. True
20. False
21. True
22. False
23. True
24. True
25. False

## Section C — Fill in the Blank

26. atom
27. table
28. basic
29. melting
30. solvent
31. decomposition
32. oxidized
33. number
34. isomers
35. electrolyte

## Section D — Matching

36. Nucleus — D
37. Chromatography — E
38. Metallic bonding — A
39. Carboxylic acid — B
40. Electrolyte — C

## Section E — Short Answer (Model Answers)

**41.** compound containing only carbon and hydrogen

**42.** outer electron shell relatively complete; little tendency to gain or lose electrons

**43.** different substances move different distances/rates; compare spots/bands with standards

**44.** maintains electrical neutrality; allows ion migration; completes internal circuit

**45.** different connectivity of atoms; isomers can have different properties