

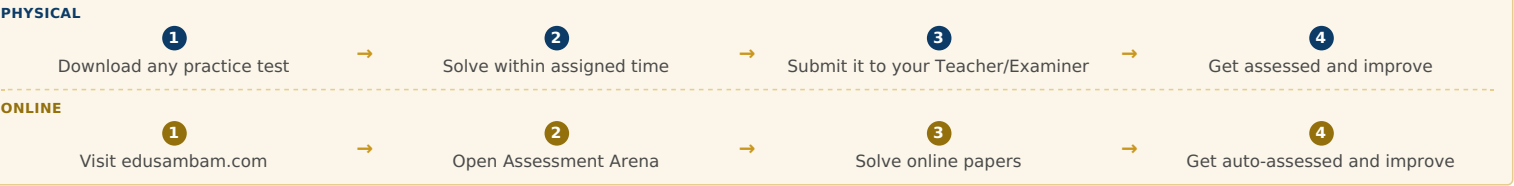
EDUSAMBAM ASSESSMENT SERIES

Chemistry Comprehensive Practice Test 4

PRINTABLE PRACTICE WORKSHEET

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YOUR PHYSICAL & ONLINE SELF-ASSESSMENT ROADMAP



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

Subject	Chemistry	Topic	Chemistry Comprehensive Practice Test 4	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. One mole contains approximately:

A. 6.02×10^{23} particles

B. 9.81×10^2 particles

C. 3.00×10^8 particles

D. 1.60×10^{-19} particles

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

2. Oxidation at an electrode occurs at the:

A. Cathode

B. Anode

C. Salt bridge only

D. Electrolyte surface only

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

3. Which property is typical of metals?

A. Poor electrical conductivity

B. Brittleness in all forms

C. Malleability

D. Lack of lustre

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

4. Which functional group identifies an alcohol?

A. -COOH

B. -OH

C. -CHO

D. -CO-

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

5. At constant pressure, heating a liquid generally causes its particles to:

A. Lose all motion

B. Gain kinetic energy

C. Become neutrons

D. Stop colliding

Answer: ☐A ☐B ☐C ☐D

Intermediate • 2 pts

6. If 2 mol of H₂ react completely with O₂ according to 2H₂ + O₂ → 2H₂O, how many moles of H₂O form?

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

Answer: ☐A ☐B ☐C ☐D

Intermediate • 2 pts

7. Which statement best explains why catalysts speed many reactions?

- 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

Intermediate • 2 pts

8. In a galvanic cell, chemical energy is primarily converted into:

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

Answer: ☐A ☐B ☐C ☐D

Intermediate • 2 pts

9. Which pair is most likely to form a covalent molecular compound?

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

Answer: ☐A ☐B ☐C ☐D

Intermediate • 2 pts

10. Which indicator is commonly used to distinguish acidic and alkaline solutions by colour?

- A.** Universal indicator
B. Copper wire
C. Sodium chloride
D. Sand

Answer: ☐A ☐B ☐C ☐D

Intermediate • 2 pts

11. Why are noble gases generally unreactive?

- A.** They have no electrons
B. Their outer electron shells are relatively complete
C. They contain no protons
D. They are all metals

Answer: ☐A ☐B ☐C ☐D

Intermediate • 2 pts

12. Which substance is a giant covalent structure?

- A.** Diamond
B. Sodium chloride
C. Copper
D. Water

Answer: ☐A ☐B ☐C ☐D

Advanced • 2 pts

13. What is the purpose of a coefficient in a chemical equation?

- A.** To change an element's identity
B. To balance the number of atoms
C. To remove products
D. To change atomic number

Answer: ☐A ☐B ☐C ☐D

Advanced • 2 pts

14. Which process can obtain a solvent from a solution while leaving dissolved solid behind?

- A.** Evaporation
B. Filtration
C. Magnetic separation
D. Decantation only

Answer: ☐A ☐B ☐C ☐D

Advanced • 2 pts

15. Which statement about a dynamic equilibrium is correct?

- A.** The reaction stops completely
B. Forward and reverse reaction rates are equal
C. All reactants disappear
D. Only products are present

Answer: ☐A ☐B ☐C ☐D

Advanced • 2 pts

Section B — True / False

20 marks

16. Noble gases have relatively complete outer electron shells.

- A.** True ☐ **B.** False ☐

Basic • 2 pts

17. All metals are liquids at room temperature.

- A.** True ☐ **B.** False ☐

Basic • 2 pts

18. A catalyst lowers the activation energy of an alternative reaction pathway.

- A.** True ☐ **B.** False ☐

Basic • 2 pts

19. Chromatography can help separate and identify components of a mixture.

- A.** True ☐ **B.** False ☐

Basic • 2 pts

20. The mole concept connects microscopic particles with measurable amounts.

- A.** True ☐ **B.** False ☐

Intermediate • 2 pts

21. Water is an element.

- A.** True ☐ **B.** False ☐

Intermediate • 2 pts

22. An exothermic reaction transfers heat to the surroundings.

Intermediate · 2 pts

A. True ☐ B. False ☐
23. A saturated solution contains more dissolved solute than it can hold at that temperature.

Intermediate · 2 pts

A. True ☐ B. False ☐
24. Hydrocarbons contain only carbon and hydrogen.

Intermediate · 2 pts

A. True ☐ B. False ☐
25. Electrolysis requires electrical energy to drive a non-spontaneous chemical change.

Intermediate · 2 pts

A. True ☐ B. False ☐

Section C — Fill in the Blank

20 marks

26. The positively charged subatomic particle is the ____.

Basic · 2 pts

Answer: _____
27. A particle with the same number of protons but a different number of electrons is an ____.

Basic · 2 pts

Answer: _____
28. The attraction between oppositely charged ions is characteristic of ____ bonding.

Basic · 2 pts

Answer: _____
29. When a substance burns completely in oxygen, the process is called ____.

Basic · 2 pts

Answer: _____
30. The separation technique based on different boiling points is ____.

Intermediate · 2 pts

Answer: _____
31. The quantity of solute per specified quantity of solution is called ____.

Intermediate · 2 pts

Answer: _____
32. The loss of electrons is called ____.

Intermediate · 2 pts

Answer: _____
33. The gain of electrons is called ____.

Intermediate · 2 pts

Answer: _____
34. The simplest alkene is ____.

Intermediate · 2 pts

Answer: _____
35. A reaction that releases heat is called ____.

Intermediate · 2 pts

Answer: _____

Section D — Matching

10 marks

36. Match each term to its correct definition.

Column A	Answer	Column B
Ionic bond	_____	A. Reduction
Distillation	_____	B. Hydrocarbon
Reduction	_____	C. Equilibrium
Hydrocarbon	_____	D. Ionic bond
Equilibrium	_____	E. Distillation

Section E — Short Answer

20 marks

41. What is a catalyst?

Advanced · 4 pts

42. Explain the difference between physical and chemical change.

Advanced · 4 pts

43. Why do metals conduct electricity well?

Advanced · 4 pts

44. Describe what happens at the anode and cathode in a redox cell.

Advanced · 4 pts

45. Explain what dynamic equilibrium means in a reversible reaction.

Advanced · 4 pts

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

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Marks Obtained: _____ / 100

Checked By: _____

Result / Grade: _____

Date Checked: _____

EDUSAMBAM ASSESSMENT SERIES

Chemistry Comprehensive Practice Test 4 — Answer Key

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

Section A — Multiple Choice

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

Section B — True / False

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

Section C — Fill in the Blank

- | | |
|------------------|-------------------|
| 26. proton | 31. concentration |
| 27. ion | 32. oxidation |
| 28. ionic | 33. reduction |
| 29. combustion | 34. ethene |
| 30. distillation | 35. exothermic |

Section D — Matching

- | | |
|----------------------|---------------------|
| 36. Ionic bond — D | 39. Hydrocarbon — B |
| 37. Distillation — E | 40. Equilibrium — C |
| 38. Reduction — A | |

Section E — Short Answer (Model Answers)

- 41.** substance that speeds reaction; alternative pathway with lower activation energy; not permanently consumed
- 42.** physical change does not create new substance; chemical change produces new substances
- 43.** mobile/delocalized electrons carry charge
- 44.** oxidation at anode; reduction at cathode
- 45.** forward and reverse reactions continue; rates become equal; concentrations remain constant if conditions stay constant