



St. Mary's Convent School Gulaothi, U.P. (2026 – 27)
Set - B

Test PAPER
Class 12
chemistry

T.sign _____
Time: 45 min.
Max Marks:20

NAME:-

Write name in
capital letter

K R I S H N A

ROLL NO:-

0 7 - - -

General instructions

- 1.All question are compulsory.
- 2.Write neatly and clearly in given space.
- 3.Do not cut or fill the circle given on upper and bottom of paper.
- 4.Write the answer of each question in the space provided

Write the option in capital letters only)

Section A : Write down the correct option for the given questions.

ANS 1: (B) ✓ ~~OSM~~ OSMOTIC PRESSURE 0.5/0.5

ANS 2: (A) ✓ INCREASE WITH DILUTION 0.5/0.5

ANS 3: (B) ✓ Zn IS EASILY OXIDISED 0.5/0.5

ANS 4: (A) ✓ IDEAL SOLUTION 0.5/0.5

Section B Very Short Answer ($2 \times 1 = 2$ marks)

No definition provided; answer missing the molality description and units.

ANS 5: 0.0

ANS 6:

Missing standard conditions and reference to the standard hydrogen electrode.

1.0

^{Potential}
~~The Energy of a electrode~~
~~to convert electrical energy~~
~~into chemical Energy.~~

The potential of of a
electrode to transfer the

ANS 7:

Means 'gas in a liquid' and 'partial pressure'; formula missing.

At constant temperature solubility
of a ~~liquid~~ gas is directly
proportional to its liquid
pressure.

Marks	0.5
Teacher's feedback	

ANS 8:

Solution = 200 g
Solute = 10 g

Molality = $\frac{\text{No. of moles}}{\text{Mass of solvent}}$

Molality = $\frac{\text{No. of moles}}{210}$

Marks	1.0
Teacher's feedback	You misidentified masses: solvent is 200 g, solution is 210 g. Molality uses moles of solute per kg of solvent. Use 10 g/40 g mol ⁻¹ = 0.25 mol; 0.25/0.200 = 1.25 m.

ANS 9:

$\Rightarrow E_{\text{cell}} = E^{\circ}_{\text{cell}} - \frac{0.059}{n} \log Q$

Marks	0.0
Teacher's feedback	Equation incomplete: missing log(Q)/reaction quotient term. No explanation of terms. Correct: $E = E^{\circ} - (0.0591/n) \log Q$ at 25°C, or $E = E^{\circ} - (RT/nF) \ln Q$; define E, E°, n, Q, R, T, F.

ANS 10:

Electrolytic conductivity
∴ It is the conductivity of
a electrode to pass ions &
Electrons

Marks	0.0
Teacher's feedback	

ANS 11:

Marks	0.0
Teacher's feedback	No student solution detected; cannot evaluate. Please provide the derivation to assess.

ANS 12:

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Marks	0.0
Teacher's feedback	No derivation provided; response contains meta-instructions, not chemistry. Use $\Delta G = -nFE$ and $\Delta G = \Delta G^\circ + RT \ln Q$ to derive $E = E^\circ - (RT/nF) \ln Q$.

ANS 13:

ii) Nernst Equation / cell reaction
 $E_{cell} = E^{\circ}_{cell} - \frac{0.059}{n} \log Q$

i) $\frac{5}{250} \times \frac{20}{100}$
 $\frac{5}{50}$

molality = 20

ii) Galvanic cell :- It converts chemical energy into electrical energy.

electrolytic cell :- It converts electrical energy into chemical energy.

Marks	0.0
Teacher's feedback	Used Nernst equation irrelevantly; computed mass percent instead of molality; wrong arithmetic; did not differentiate between galvanic and electrolytic cells. Correct molality is 0.5 m.

4.5/20.0

Usha Rani 11:10, 20.08.2026