



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

T A N I S H A

ROLL NO:-

1 6

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) ✓

0.5 / 0.5

ANS 2: a) ✓

0.5 / 0.5

ANS 3: b) ✓

0.5 / 0.5

ANS 4: a) ✓

0.5 / 0.5

Section B Very Short Answer (2 × 1 = 2 marks)

Mentions moles per liter; molality equals moles per kilogram solvent

ANS 5:

0.0

It is the number of moles present ~~of~~
~~volume~~ of ~~1L~~ in solution. ~~solute~~ in
~~litres~~ one grams of solution
= No of moles of solute
Volume in ~~litre~~ grams
Mass in grams.

ANS 6:

Missing definition and 1 M concentration; no mention of SHE.

1.0

Standard electrode potential.
When the temp is 25° equal to
298K or 25°C and pressure is
equal to 1atm.

ANS 7:

Idea correct but statement messy; formula incorrect and variables confused

~~At constant temp, the partial pressure~~
~~of gas is directly propotional to~~
~~the~~
At ~~the~~ constant temp, the soubility is
directly ~~both~~ propotional to the
Pressure ~~concentration~~ of gas

~~Soln~~ $P = K_H \cdot x$
Soubility $P = K_H \cdot x$

Marks	0.5
Teacher's feedback	

ANS 8:

$$= \frac{\text{No of moles}}{\text{Mass in kg}}$$

$$= \frac{10}{200 \times 10^{-3}}$$

$$= \frac{10}{0.2}$$

$$= 50$$

$$\text{NaOH} = 10$$

$$\text{H}_2\text{O} = 200$$

$$\frac{10}{28}$$

$$0.2$$

$$= 1.78$$

Marks	0.0
Teacher's feedback	Molar mass of NaOH is 40 g/mol, not 28. Moles = 10/40 = 0.25; solvent mass = 0.200 kg; molality = 0.25/0.200 = 1.25 m. Final value 1.78 is incorrect.

ANS 9:

$$E_{\text{cell}} = E^{\circ}_{\text{cell}} - \frac{0.059}{n} \log \frac{[O]}{[R]}$$

$$E^{\circ}_{\text{cell}} = \text{standard electrode}$$

$$n = \text{no of moles}$$

$$O = \text{Oxidation}$$

$$R = \text{Reduction}$$

$$E_{\text{cell}} = E^{\circ}_{\text{cell}} = \frac{0.2303 RT}{nF} \log \frac{\text{Product}}{\text{Reactant}}$$

$$=$$

$$R = \text{Gas Constant}$$

$$T = \text{Temp}$$

$$F = \text{Faraday}$$

Marks	1.0
Teacher's feedback	Partly correct. Nernst equation form and terms are inconsistent: wrong ratio (Ox/Red), wrong coefficient (0.2303 instead of 2.303), missing minus sign, and n is electrons transferred. E°cell should be standard cell potential.

ANS 10:

Molar Conductivity.	Electrolytic.
It is the conductor present in one molar of electron in λ_{eq}	It is transfer of ions.
It is increase with decreasing temp.	It is increase with increasing temp.

Marks	0.0
Teacher's feedback	

ANS 11:

$\Pi \propto \frac{I}{V}$ $\Pi = S \cdot \frac{I}{V}$ $\Pi V = RT$ $\Pi = n RT$ $\Pi V = \frac{w}{M} RT$ $M = \frac{w}{\Pi} \frac{RT}{V}$	$S = R$$n = \frac{w'}{M}$

Marks	1.0
Teacher's feedback	Answer addresses osmotic pressure, not relative lowering of vapour pressure. You should use Raoult's law: $(p_0 - p)/p_0 = n_B/(n_A + n_B) \approx (w_B/M_B)/(w_A/M_A)$ for dilute solutions.

ANS 13:

Molality = $\frac{\text{No of mole in solute}}{\text{Mass of 1 gram.}}$

= $\frac{5}{20}$

= 0.25.

13(i). Galvanic	Electrolytic.
It converts chemical to electric energy	It converts electric energy to chemical energy.
Salt Bridge is not present.	Salt Bridge is present.

Marks	0.0
Teacher's feedback	Molality = moles of solute per kg of solvent. Moles NaOH = 5/40 = 0.125; solvent mass = 0.250 kg; molality = 0.5 m. Also, you did not answer part (ii): two differences between galvanic and electrolytic cells.

6.5/20.0

Usha Rani 11:00, 20.08.2026