



Govt. College Women University, Sialkot
Entry Test - MS Chemistry (Sample Paper)

Time allowed: 100 min

Marks: 100

Student's Name:

Father's Name:

Instructions about Shading / Filling of correct option on bubble sheet.

- Shading / filling of two answers against single question is wrong. It will be marked ZERO.
 - Over writing and cutting near answer or anywhere on answer sheet will distract the readability and may be marked ZERO in the specific answer square.
 - Only use Blue or Black Ball pen to shade / fill the squares.
 - Do not write anything on question booklet except your NAME and Serial Number on the front title of question booklet before attempting the questions.
 - The questions booklet will be taken back after the test is over, so do not attempt to tear or remove any page from question booklet. No one is allowed to keep any part of it.
-

Marks Distribution:

Chemistry: 70%

Analytical Reasoning: 15%

English: 15%

Chemistry Sample Questions

1. Which reaction converts an alkene into an alcohol using water in the presence of an acid catalyst?

- | | |
|------------------|--------------|
| a. Hydrogenation | b. Hydration |
| c. Halogenation | d. Oxidation |

2. A meso compound is:

- | | |
|----------------------------|---|
| a. Always optically active | b. Achiral despite having stereocenters |
| c. Always an enantiomer | d. A racemic mixture |

3. The Nernst equation predicts that electrode potential depends upon:

- | | |
|---|---------------------------|
| a. Temperature only | b. Pressure only |
| c. Concentration (activity) of reacting species | d. Electrode surface area |

4. Calculate ΔG if $\Delta H = -100 \text{ kJ/mol}$ and $\Delta S = -200 \text{ J/mol}\cdot\text{K}$ at 300 K.

- | | |
|--------------------------|--------------------------|
| a. -40 kJ/mol | b. -160 kJ/mol |
| c. -100 kJ/mol | d. -40 J/mol |

5. The oxidation state of chromium in $K_2Cr_2O_7$ is:

- a. +3
- b. +4
- c. +6
- d. +7

6. The geometry of $[Ni(CN)_4]^{2-}$ is generally:

- a. Tetrahedral
- b. Square planar
- c. Linear
- d. Octahedral

7. The maximum electrons accommodated by a sub-shell with $n = 6$, $l = 2$ is

- a. 12
- b. 10
- c. 36
- d. 72

8. Which technique is particularly suitable for separating volatile compounds?

- a. Gas chromatography
- b. Paper chromatography
- c. Gravimetry
- d. Potentiometry

9. NMR spectroscopy is primarily based on the interaction of nuclei with:

- a. Electric fields only
- b. Magnetic fields
- c. Sound waves
- d. X-rays

10. The Contact process is used for the manufacture of:

- a. H_2SO_4
- b. NH_3
- c. Na_2CO_3
- d. HCl

Analytical Reasoning Questions

Questions 11-12

Five cartoon videos A, B, C, D, E are to be played to kids in a sequence meeting the condition given below:

- A must be played earlier than C
- B must be played earlier than D
- E must be the fifth video played

11. Choose the correct sequence of videos played to kid

- a) A, E, D, C, B
- b) A, C, B, D, E
- c) B, D, C, A, E
- d) B, D, C, A, E

12. If C is played earlier than B, then which of the following will be true?

- a) A is the second video played
- b) C is the third video played
- c) D is the fourth video played
- d) B is the second video played

13. 10 identical taps can fill a tank in 4 hours. Calculate the time taken for 8 such taps to fill the same tank

- a) 4 hours
- b) 5 hours
- c) 6 hours
- d) 7 hours

English Sample Questions

14. Select the pair of words from the given options that best expresses a similar relationship to that in capital pair of words.

71. HOPE: ASPIRE

- | | |
|-------------------|-------------------|
| a. Love: Elevates | b. Film: Flam |
| c. Fib: Lie | d. Fake: Ordinary |

15. Choose the word most similar in meaning to the capitalized one.

PROBITY

- | | |
|----------------|-----------------|
| a. Probability | b. Honest |
| c. Peaceful | d. Carelessness |

16. Complete the following sentence with the correct options given below:

Michael is falling _____ the horse?

- | | | | |
|---------|-------|--------|----------|
| a. from | b. of | c. off | d. above |
|---------|-------|--------|----------|