National Officers Academy

Mock Exams for CSS-2023

December 2022 (Final Mock)

CHEMISTRY, PAPER-I

TIME ALLOWED: THREE HOURS	**PART-I (MCQS) MAXIMUM MARKS = 20**
PART-I(MCQS): MAXIMUM 30 MINUTES	**PART-II MAXIMUM MARKS = 80**

NOTE:

i. **Part-II** is to be attempted on the separate **Answer Book**.
ii. Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
iii. Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
iv. Use of Calculator is allowed.

SUBJECTIVE PART — PART-II

Q.2. a) Calculate Bohr's atomic radius for Helium ion. (10)

b) What are main features of a well-behaved function? (4)

c) Discuss conductometric titrations. (6)

Q.3. What is Hess's law. Discuss it with suitable example (12)

b) Relate activity with concentration (8)

Q.4. a) Apply MOT on N_2, F_2 and HF. (12)

b) Discuss main features of VSEPR theory (8)

Q.5. a) Discuss acid-base theories in detail (10)

b) Discuss stereoisomerism in coordination compounds. (10)

Q.6. a) Discuss transition state theory and collision theory in detail. Why transition state theory is better than collision theory (15)

c) Discuss in detail the principal of corrosion inhibition. (05)

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Best of Luck for CSS-2023