

# CHEMISTRY (M001)

## (SCIENCE PAPER 2)

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*Maximum Marks: 20*

*Time allowed: 30 minutes*

*Answers to this Paper must be written on the paper provided separately.*

*You will **not** be allowed to write during first 10 minutes.*

*This time is to be spent in reading the question paper.*

*The time given at the head of this Paper is the time allowed for writing the answers*

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*Section A is compulsory. Attempt **any one** questions from Section B.*

*The intended marks for questions or parts of questions are given in brackets [ ]*

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### SECTION A (20 marks)

*(Attempt **all** questions from this Section)*

#### Question 1

Choose the correct answers to the questions from the given options.

[5]

(Do not copy the questions, write the correct answers only.)

(i) Arrange K, Cl, Na, S, Si in increasing order of ionization energy.

(a)  $K < Na < Si < S < Cl$

(c)  $Na < S < Cl < K < Si$

(b)  $K < Na < Si < Cl < S$

(d)  $Si < S < Cl < Na$

(ii) Covalent bond is rigid and directional. It is responsible for \_\_\_\_\_.

(a) rigidity of the molecule

(b) definite shape of the molecule

(c) fluidity of the molecule

(d) None of these

(iii) The salt prepared by the method of direct combination is \_\_\_\_\_.

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|-------------------------|-------------------------|
| (a) Iron (III) Chloride | (c) Iron (III) Sulphide |
| (b) Iron (II) Sulphide  | (d) None of these.      |

(iv) Which of the following is a most reactive element of the group 17.

- |            |               |
|------------|---------------|
| (a) Oxygen | (c) Fluorine  |
| (b) Sodium | (d) Magnesium |

(v) An electrolyte which completely dissociates into ions is:

- |                   |                      |
|-------------------|----------------------|
| (a) Alcohol       | (c) Sucrose          |
| (b) Carbonic acid | (d) Sodium hydroxide |

## Question 2

(i) [5]

- (a) Each \_\_\_\_\_ in the periodic table is comprised of elements having the same number of shells.
- (b) Actinides are the elements from atomic number \_\_\_\_\_ to \_\_\_\_\_ and are radioactive.
- (c) Melting and boiling points of covalent compounds are generally \_\_\_\_\_.  
(high/low)
- (d) Vinegar contains \_\_\_\_\_ acid.
- (e) \_\_\_\_\_ lead bromide does not conduct electricity.

## SECTION B (10 marks)

(Attempt **any one** questions from this **Section**)

### Question 3

- (i) Which is larger  $\text{Na}^+$  or  $\text{K}^+$ ? Why? [2]
- (ii) Explain how a hydronium ion is formed. [2]
- (iii) One word or technical terms: [3]
  - (a) A bond formed by the transfer of electron.
  - (b) Two dibasic acids containing sulphur.
  - (c) Acid used in electrolysis of water.
- (iv) [3]
  - (a) Write the equation for laboratory preparation of Iron (II) sulphate from Iron.
  - (b) Write balanced chemical equation for the reaction of Lead Nitrate and dilute Sulphuric acid.
  - (c) Write equations for reactions taking place at anode and cathode during the electrolysis of acidified nickel sulphate solution with nickel electrode.

### Question 4

- (i) The reducing power of elements decreases from left to right in a period. Why? [2]
- (ii) A cation is smaller than the atom from which it is formed. Why? [2]
- (iii) Give three points of difference between an electrolytic cell and an electrochemical cell. [3]
- (iv) With reference to electroplating answer the following questions: [3]
  - (a) Why are articles electroplated?
  - (b) Why the article to be electroplated is made a cathode?
  - (c) Why is a direct current used?