APPLIED SCIENCES HSSC–I

SECTION – A (Marks 10)

Time allowed: 10 Minutes

NOTE: Section–A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 10 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

(i) Fishing rod is an example of which type of class lever?

    A.   1st class lever   B.   2nd class lever

    C.   3rd class lever   D.   Both 1st and 2nd class lever

(ii) Which one of the following decimal will correspond to the exponent 5×10^{-4}?

    A.   0.05   B.   0.005

    C.   0.0050   D.   0.0005

(iii) Which one of the following temperature is called thermodynamic scale?

    A.   Celsius scale   B.   Fahrenheit scale

    C.   Kelvin scale   D.   Clinical scale

(iv) Which one of the following law refers to $P \propto T$ at constant volume?

    A.   Boyle's law   B.   Gay-Lussac's law

    C.   Charles's law   D.   Avagadro's law

(v) Which one is the condition, where the function of thyroid gland is diminished?

    A.   Hydroemia   B.   Myxoedema

    C.   Polycythamia   D.   Exophthalmia

(vi) Which one of the following is correct about the formation of "Ferrous ion"?

    A.   When iron gains three electrons   B.   When iron losses two electrons

    C.   When iron losses three electrons   D.   When iron gains two electrons

(vii) Which one of the following ions affect the contraction and relaxation of cardiac heart muscle?

    A. Na^+ and Ca^+ B. Na^+ and K^+

    C. Mg^+ and K^+ D. Na^+ and Mg^+

(viii) Which one of the following chemist proposed the "pH scale"?

    A.   British chemist   B.   Denish chemist

    C.   Swedish chemist   D.   Greek chemist

(ix) Which one of the following is called "Dalin's solution"?

    A. $MgOCl$ solution   B. $KOCl$ solution

    C. $CaOCl$ solution   D. $NaOCl$ solution

(x) Which one is the formula of Silica?

    A. SiO_2 B. SiO_3

    C. Si_2O_3 D. Si_2O_2

For Examiner's use only:

Total Marks: **10**

Marks Obtained:

APPLIED SCIENCES   HSSC–I

Time allowed: 2:20 Hours   **Total Marks Sections B and C: 40**

NOTE: Answer any thirteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

SECTION – B (Marks 26)

Q. 2   **Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines.**   **(13 x 2= 26)**

(i)   Write two factors of formation of Oedema in a patient.

(ii)   Define Gay-Lussac's law with mathematical expression.

(iii)   Write the difference between conductors and insulators with example.

(iv)   Write three properties by which the expansion of a substance can be determined?

(v)   Write two effects of heat produced in a matter.

(vi)   Define biomechanics and equilibrium.

(vii)   How the polarity of a magnet is determined?

(viii)   Write two uses of pumps in hospital.

(ix)   Define molar solution with one example.

(x)   Define acid and base, giving one example of each.

(xi)   Define normal solution with one example.

(xii)   Write three properties of an acid.

(xiii)   Write two importance of salt in a body.

(xiv)   Write the names of three methods of measuring pH of a solution.

(xv)   Define buffer solution.

(xvi)   Define electrolyte and electrolysis?

(xvii)   Write two important function of calcium in a body.

SECTION – C (Marks 14)

Note: **Attempt any TWO questions. All questions carry equal marks.**   **(2 x 7 = 14)**

Q. 3   Define X-Rays and how X-rays are produced? Draw neat diagram.

Q. 4   Write the difference between ionic and covalent compound.

Q. 5   Write all clinical applications of gravity.

—— 1HS 1649 ——