Q1. 22 January Shift 1

A ' p '-block element (E) and hydrogen form a binary cation $(EH_x)^+$, while EH_3 on treatment with K_2HgI_4 in alkaline medium gives a precipitate of basic mercury(II)amido-iodine. Given below are first ionisation enthalpy values $(kJmol^{-1})$ for first element each from group 13, 14, 15 and 16. Identify the correct first ionisation enthalpy value for element E.

(1) 1312 (2) 1402 (3) 1086 (4) 801

Q2. 28 January Shift 1

Regarding the hydrides of group 15 elements $EH_3(E = N, P, As, Sb)$, select the correct statement from the following:

A. The stability of hydrides decreases down the group.

B. The basicity of hydrides decreases down the group.

C. The reducing character increases down the group.

D. The boiling point increases down the group.

Choose the correct answer from the options given below:

(1) B & C only (2) A, B, C & D

(3) A & D only (4) A, B & C only

Q3. 28 January Shift 2

Given below are two statements :

Statement I : The increasing order of boiling point of hydrogen halides is $HCl < HBr < HI < HF$.

Statement II : The increasing order of melting point of hydrogen halides is $HCl < HBr < HF < HI$.

In the light of the above statements, choose the correct answer from the options given below :

(1) Statement I is true but Statement II is false (2) Both Statement I and Statement II are true

(3) Both Statement I and Statement II are false (4) Statement I is false but Statement II is true

ANSWER KEYS

1. (2) **2.** (4) **3.** (2)