General Instructions:

Read the following instructions very carefully and strictly follow them:

- (i) This question paper comprises **39** questions. **All** questions are compulsory.
- (ii) This question paper is divided into **five** sections -A, B, C, D and E.
- (iii) Section A Questions No. 1 to 20 are multiple choice questions. Each question carries 1 mark.
- (iv) **Section B** Questions No. **21** to **26** are very short answer type questions. Each question carries **2** marks. Answer to these questions should be in the range of 30 to 50 words.
- (v) **Section C** Questions No. **27** to **33** are short answer type questions. Each question carries **3** marks. Answer to these questions should in the range of 50 to 80 words.
- (vi) **Section D** Questions No. **34** to **36** are long answer type questions. Each question carries **5** marks. Answer to these questions should be in the range of 80 to 120 words.
- (vii) **Section E** Questions No. **37** to **39** are of 3 source-based/case-based units of assessment carrying **4** marks each with sub-parts.
- (viii) There is no overall choice. However, an internal choice has been provided in some sections. Only one of the alternatives has to be attempted in such questions.

SECTION A

Select and write the most appropriate option out of the four options given for each of the questions no. 1 to 20. $20 \times 1=20$

1. To balance the following chemical equation, the values of the coefficients x, y and z must be respectively:

$$x \operatorname{Zn}(NO_3)_2 \xrightarrow{\Delta} y \operatorname{ZnO} + z \operatorname{NO}_2 + \operatorname{O}_2$$

(A) 4, 2, 2

(B) 4, 4, 2

(C) 2, 2, 4

(D) 2, 4, 2

15-31/5/1 3 P.T.O.