DISTRICT INSTITUTE OF EDUCATION AND TRAINING THIRUVANANTHAPURAM

EVALUATION TOOL FOR CLASS X – 2022 FEBRUARY

CHEMISTRY

ANSWER KEY

PART I

A.1. Zinc 1

2. C_7H_{16} 1

3. 1s 1

4. Zn 1

5. Tetrafluoroethene or $CF_2=CF_2$ 1

6. Mercury 1

B.7. Hydrogen (H_2) 1

8. Rectified spirit 1

9. To reduce the melting point of alumina /
   To increase the electrical conductivity of alumina 1

PART II

A.10. a) The coin moves. When the temperature of a gas is increased volume increases.
   b) Charle's law 1

B.11. a) (i) and (ii) 1

$CH_3-CH_2-O-CH_3$ and $CH_3-\underset{\underset{OH}{|}}{CH}-CH_3$

   b) Functional isomerism 1

12 A – SO_3 1

   B – $H_2S_2O_7$ 1

PART III

A.13. a) Chemical energy is converted into electrical energy 1

   b) $Zn^{2+}+2\bar{e}\rightarrow Zn$ 1

   c) From Mg to Zinc/ From anode to cathode.

14. a) ii) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$ 1

   b) i) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$ 1

   c) iii) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$ 1

15. a) Increases 1

   b) No change. Pressure has no effect on this system. 1

   c) No change 1

16. a) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$ 1

b) Flux - CaO ½

Slag – $CaSiO_3$ ½

c) Pig Iron 1

B.17.a) Ester 1

b) Alcohol – Propanol (Propan - 1 - ol), $CH_3 - CH_2 - CH_2 - OH$ 1

Carboxylic acid – Ethanoic acid, CH_3COOH 1

PART IV

A.18. A – Hydraulic washing (Levigation) 1

B – Froth floatation 1

C – Magnetic separation 1

D – Leaching 1

19 a) NH_4Cl (Ammonium Chloride), $Ca(OH)_2$ (Calcium Hydroxide) 1

b) Removing moisture/drying 1

c) Ammonia is less denser than air 1

d) Liquor ammonia 1

20. a) A – $CH_3 - CH_3$ 1

B – $CH_3 - Cl$ 1

b) i) Addition reaction 1

ii) Substitution reaction 1

B.21. a) Fe (Iron) 1

b) $Cu \rightarrow Cu^{2+} + 2\bar{e}$ 1

c) Copper sulphate ($CuSO_4$) / Any salt solution of copper 1

d) Refining of metal or any relevant application 1

22. a) 22.4L 1

b) 5 mole 1

c) 112L 1

d) 140 g 1

PART V

A.23.a) 5 1

b) Methyl ($-CH_3$) 1

c) 3 1

d) 3 – methyl Pentane 1

e) Pentan – 3 – ol 1

24. a) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5 4s^2$ 1

b) Group = 7 1

Period = 4 1

c) Coloured compound/Shows variable oxidation state /

Any other relevant property 1

d) +7 1