

CITY COLLEGE
CHEMISTRY- HONOURS

B.SC Semester 1 Internal Assessment (online), under CU 2020-21

Paper: CC-1-1

(Inorganic Chemistry-1)

Full Marks – 10

Attempt all the questions.

1) The oxidation state of each S in $\text{Na}_2\text{S}_2\text{O}_3$ is

- (a) 0, +4 (b) +1, +6 (c) -2, +6 (d) -1, -6

2) Which of the following represents a redox reaction?

- (a) $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$
(b) $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + 2\text{HCl}$
(c) $\text{CuSO}_4 + 2\text{H}_2\text{O} \rightarrow \text{Cu}(\text{OH})_2 + \text{H}_2\text{SO}_3$
(d) $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$

3) Stronger the oxidizing agent, greater is the

- (a) Reactivity, (b) reduction potential
(b) oxidation potential, (d) ionic behaviour

4) $E^\circ(\text{Ag}^+/\text{Ag}) = +0.80 \text{ V}$. What is the value of E (at 298 K) when the concentration of the Ag^+ ions is $0.0150 \text{ mol dm}^{-3}$?

- (a) +0.85 V, (b) +0.75 V
(c) +0.91 V (d) +0.69 V

5) The solubility product expression for tin(II) hydroxide, $\text{Sn}(\text{OH})_2$, is

- (a) $[\text{Sn}^{2+}][\text{OH}^-]$
(b) $[\text{Sn}^{2+}]^2[\text{OH}^-]$
(c) $[\text{Sn}^{2+}][\text{OH}^-]^2$
(d) $[\text{Sn}^{2+}]^3[\text{OH}^-]$
(e) $[\text{Sn}^{2+}][\text{OH}^-]^3$

- 6) Which of the following is not a Lewis acid?
(a) CO_2 (b) Cu^{2+} (c) NH_3 (d) BF_3
- 7) Which among the following is amphoteric?
(a) H_2S (b) S^{2-} (c) HCO_3^- (d) Zn^{2+}
- 8) Which among the following is a H-like system?
(a) H_2 (b) H^- (c) He^+ (d) Li^+
- 9) What is the set of quantum numbers for the last electron in Chromium at the ground state?
(a) 3, 2, -1, $\frac{1}{2}$ (b) 4, 0, -1, $\frac{1}{2}$
(c) 4, 0, 0, $\frac{1}{2}$ (d) 4, 0, 0, $-\frac{1}{2}$
- 10) The shapes of radial nodes & angular nodes are –
(a) Both spherical (b) planar & spherical
(c) spherical & planar (d) Both planar