

Engineering Chemistry – D1- Quiz

Date: 16/10/2021

Time: 4.00 pm

Marks: 10

1. The energy of an isolated system remainsconstant.
2. Work done by a gas when it expands in vacuum is

Ans: Free expansion (expansion in vacuum)

$$w = - \int_{v_i}^{v_f} P_{ex} dv = 0$$

3. The intercept at infinite T of $\ln k$ vs $1/T$ plot gives A
4. The conditions which increase the rate constant of a reaction are increase in and decrease in

ans: increase in T, DECREASE IN E_a

5. The interaction between catalyst surface and the reactant is
adsorption
6. Nitrite ion is a ligand (unidentate)
7. Oxidation state of $[\text{Co}(\text{H}_2\text{O})_4(\text{OH})_2]$ is (+2)
8. A d^7 metal ion gives octahedral complex of pink color with H_2O . The formula of the complex is $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$
9. The highest energy 'd' orbital resulted in elongation of two axial bonds of octahedral are ($d_{x^2-y^2}$)
10. CFSE (Δ_o) is -1.2, magnetic moment is 3.87 BM. The number of paired electrons in the 'd' orbital of the metal ion are (zero)

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