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|  | | | **R.V. College of Engineering**  **(*Autonomous Institute affiliated to VTU, Belagavi)***  **Department of Chemistry**  **Sub: Engineering Chemistry (16CH22)**  **II Semester, ‘G’ Section ‘EIE’ branch**  **Quiz-2 (For Absentees)** | | | | | | | | | | | | | | | | | | | |
| **Date: 08/04/2017** | | | | | | |  |  |  | |  | | **Duration: 15 minutes** | | | | | | **Max Mark: 10** | | | |
| **Roll No.:** | |  | | | **Section:** | | | | **Name of the Student :** | | | | | | |  | | | **Signature:** | | | |
| **Q No** | | | 1 | 2 | | 3 | | | 4 | 5 | | 6 | | 7 | 8 | 9 | 10 | Version | Total Marks | Signature of Faculty | | |
| **Marks** | | |  |  | |  | | |  |  | |  | |  |  |  |  | **A** |  |  | | |
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| ***Instruction: Answer ALL the questions*** | | | | | | | | | | | | | | | | | | | |  |  |  |
| **Sl. No** | **Questions** | | | | | | | | | | | | | | | | | | | Marks | BT | CO |
| 1 | Write the cell reaction for the following cell: Fe(s)/Fe2+(aq) // Al3+(aq) /Al (s). | | | | | | | | | | | | | | | | | | | 1 | L1 | 1 |
| 2 | Mention the type hydrocarbons, which increase the ignition delay in diesel. | | | | | | | | | | | | | | | | | | | 1 | L2 | 2 |
| 3 | In potentiometric titration of FAS against acidified K2Cr2O7, the EMF doubles after the complete oxidation of Fe2+. Write the Nernst equation of a redox electrode which exists before the equivalence point. | | | | | | | | | | | | | | | | | | | 1 | L3 | 3 |
| 4 | The octane number of petrol sample is 70. What is the percentage of n-heptane in the standard mixture, which has same knocking tendency as that of the petrol sample? | | | | | | | | | | | | | | | | | | | 1 | L2,L3 | 2 |
| 5 | What is alkaline error of glass electrode? | | | | | | | | | | | | | | | | | | | 1 | L1,L2 | 1 |
| 6 | In the nerve cell membrane, How resting potential is different than action potential? | | | | | | | | | | | | | | | | | | | 1 | L4 | 4 |
| 7 | In the membrane technology for RO process, the membrane consists of polysulfone and polyurethane polymers. Write the structure of the polysulfone. | | | | | | | | | | | | | | | | | | | 1 | L3,L4 | 3 |
| 8 | Write the reaction taking place at anode in direct methanol-oxygen fuel cell. | | | | | | | | | | | | | | | | | | | 1 | L2,L3 | 2 |
| 9 | For the given galvanic cell: Cr(s) /Cr3+(aq) // I2 (s) /I-(aq) /Pt; give the equilibrium constant (Keq) expression. | | | | | | | | | | | | | | | | | | | 1 | L4,L5 | 4 |
| 10 | In a rechargeable Li ion battery, no-aqueous electrolytes are used. Suggest suitable electrolyte. | | | | | | | | | | | | | | | | | | | 1 | L3,L4 | 3 |
| **Course Outcomes (As per Bloom’s revised taxonomy)** | | | | | | | | | | | | | | | | | | | | | | |
| 1.      Explain the principles of Chemistry in Engineering (L1). | | | | | | | | | | | | | | | | | | | | | | |
| 2.      Apply the knowledge of Chemistry in solving societal problems related public health, safety and environmental issues (L2, L3). | | | | | | | | | | | | | | | | | | | | | | |
| 3.      Identify, analyze and interpret Engineering problems associated with chemistry to achieve solutions (L3, L4). | | | | | | | | | | | | | | | | | | | | | | |
| 4. Developing solutions for problems associated with water, fuel, corrosion, battery, nanomaterial and polymer technologies (L4). | | | | | | | | | | | | | | | | | | | | | | |