**DEPARTMENT OF CHEMISTRY**

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| Date | 20th September 2023 | Maximum Test Marks: **50** | |
| Course Code | 22CHY22C |
| Sem - II | Improvement CIE | Duration of test | **90 Min** |
| **CHEMISTRY OF FUNCTIONAL MATERIALS**  **(EC, EE, EI & ET BRANCHES)** | | | |

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| **Test Questions** | | **M** | **BTL** | **CO** |
| 1 | [How will you differentiate supercapacitor and battery](https://www.google.co.in/search?sca_esv=561868494&q=how+will+you+differentiate+fuel+cell+and+battery&spell=1&sa=X&ved=2ahUKEwirn5-794iBAxVmSGwGHWA2BVwQkeECKAB6BAgHEAE)? With neat labelled diagram, discuss the construction, working of pseudocapacitor. | 7 | 1 | 1 |
| 2 | With diagrammatic representation explain the construction, charging, discharging and working mechanism of lithium cobalt oxide battery. | 7 | 3 | 3 |
| 3 | Discuss the construction and working mechanism of QDSSC with neat labelled diagram. Mention their applications. | 7 | 2 | 4 |
| 4 | Explain the following terms with respect to battery technology   1. Electrolyte 2. Li air battery | 7 | 4 | 3 |
| 5 | What are Thermochromic and Photometric materials? Discuss their importance in the field of electronics. | 7 | 1 | 2 |
| 6 | Explain the mechanism and application of electrochromic materials. | 7 | 2 | 2 |
| 7 | Colorimeter is an instrument used in [inorganic chemical](https://en.wikipedia.org/wiki/Inorganic_chemistry) [analysis](https://en.wikipedia.org/wiki/Analytical_chemistry) to determine the concentration of metal ions, explain its principle, procedure and instrumentation along with the applications. | 8 | 3 | 1 |

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

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| Marks Distribution | Particulars | CO1 | CO2 | CO3 | CO4 | L1 | L2 | L3 | L4 |
| Max Marks | 15 | 14 | 14 | 7 | 14 | 14 | 15 | 7 |