Academic year 2022-2023 (Odd Sem)
(IMPROVEMENT TEST FOR I SEM CS STREAM)

DEPARTMENT OF CHEMISTRY

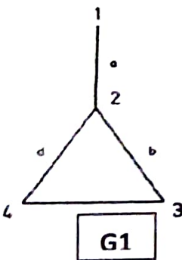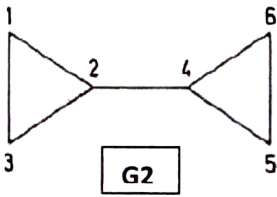| Date	20th March 2023	Maximum Quiz Marks	10
Course Code	22CHY12A	Maximum Test Marks	50
Sem - I	CIE-III/Improvement Test	Duration (Quiz + Test)	120 Min

CHEMISTRY OF SMART MATERIALS AND DEVICES

Instructions-
1. All quiz questions should be answered in first 2 pages.
2. Handbook of Chemistry is permitted.

	Quiz	Marks	BL	CO
1	List any two advantages of e-waste recycling.	1	1	1
2	Justify the role of active material in light emitting electrochemical cell (LEC).	1	3	4
3	Predict the hydrocarbon structure whose hydrogen supressed vertex adjacency matrix is $\begin{matrix} 0 & 1 & 0 & 0 \\ 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{matrix}$	1	2	3
4	Calculate the atom economy w.r.t H_2O, for combustion of methane, given by the equation $CH_4(g) + 2O_2(g) => 2H_2O(g) + CO_2(g)$. (Given, atomic mass of C =12, H = 1 and O = 16)	1	3	4
5	Give one example for synthetic hydrogel.	1	1	2
6	Identify the interactions between the layers of graphite.	1	2	3
7	Give any one hazardous effect of mercury due to leaching from e-waste	1	1	2
8	Identify which topological matrix is same for the following two graphs.	1	3	2
9	Identify the interaction between sodium and chloride ion, when NaCl is dissolved in water	1	5	3
10	List two disadvantage of cache memory.	1	2	1

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	Test Questions	Marks	BL	CO
1	What is liquid crystal? Explain the fabrication and working of liquid crystal display. Justify the role of TFT in TFT-LCD.	7	2	1
2	Illustrate the semiconductor chip manufacturing process with detailed explanation.	7	3	3
3	Justify the importance of any four green chemistry principles with relevant examples.	7	5	4
4	With the help of flow chart, explain the extraction of copper from PCB by Hydrometallurgy.	7	4	3
5	What is biodegradable and biocompatible polymer? Explain the synthesis of polylactic acid with its two medical applications.	7	2	2
6	What is the significance of topological matrix? Write the vertex and edge adjacency matrix for graph G1 and distance matrix for graph G2.	8	2	2
7	What are stabilizing interactions? Illustrate the significance of stabilizing interaction with the help of electrostatic force, Hydrogen bonding and ion pair interaction in protein.	7	1	1

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

	Particulars	CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
Marks Distribution	Max Marks	2+14	3+15	3+14	2+7	3+7	3+2	3+7	7	1+7	
	Target	2+10	3+16	3+17	2+7						

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