

CRM08	Rev 1.10	<B.S.>	<25/08/2021>
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**CONTINUOUS INTERNAL EVALUATION- 2**

Dept: B.S.	Sem / Div:II/A,B,C	Sub:Engineering Chemistry	S Code: 18CHE22
Date:30/08/2021	Time: 3:00-4:30 PM	Max Marks: 50	Elective:N
Note: Answer any 2 full questions, choosing one full question from each part.			

QN	Questions	Marks	RBT	COs
<b>PART A</b>				
1	a Define PV Cell. Explain principle, construction and working of PV Cell. Mention their advantages and limitations	10	L1,L2	CO3
	b Define Knocking? Explain its mechanism with relevant chemical reaction.	8	L2	CO3
	c Explain the preparation of solar grade silicon by union carbide process.	7	L2	CO3
<b>OR</b>				
2	a i) Write a short note on Bio-diesel ii) 0.85g of coal sample (Carbon 90%, H <sub>2</sub> 5% and ash 5%) was subjected to combustion in a bomb calorimeter. Mass of water taken in the calorimeter was 2500g and the water equivalent of the calorimeter was 650g. The rise in temperature was found to be 3.2°C. Calculate the gross and net calorific values of the sample.	10	L2,L3	CO3
	b Define chemical fuel. Explain the experimental determination of calorific value of fuel using Bomb calorimeter.	8	L1,L2	CO3
	c What are fuel cells. Explain the construction and working of solid oxide fuel cell.	7	L1,L2	CO3
<b>PART B</b>				
3	a Define demineralisation. Explain ion exchange process for softening of water.	10	L2	CO4
	b What is electroplating? Explain decorative electroplating chromium with relevant chemical reactions.	8	L1,L2	CO2
	c i) Define COD. ii) In a COD experiment, 28.1ml and 14.0ml of 0.05N FAS solution were required for blank and sample titration respectively. The volume of test sample used was 25ml. Calculate the COD of the sample?	7	L1,L3	CO4
<b>OR</b>				
4	a Explain the gravimetric and colorimetric method for estimation of sulphate and fluoride in water respectively.	10	L1,L2	CO4
	b What is electrolessplating? Explain elctrolessplating of copper with relevant chemical reactions.	8	L1,L2	CO2
	c Define desalination. Describe the process of reverse osmosis of sea water.	7	L2	CO4