

Sl. No.

No. of Printed Pages : 2



**21CHE3E2BL**

**M.Sc. III Semester Degree Examination, April/May - 2023**

**CHEMISTRY**

**DSC, DSE : Green Chemistry**

**(CBCS)**

Time : 3 Hours

Maximum Marks : 70

**Note :** Answer **any five** of the following questions with Question No. 1 (Q1) **Compulsory**, each question carries **equal** marks.

1. (a) Discuss the principles of green chemistry and write a note on green catalysis. **5+5+4**  
(b) Write a note on "Prevention of Hazardous Products".  
(c) What are Supercritical fluids ? Explain.
2. (a) What are fuel cell ? Explain the construction and working of  $H_2O_2$  fuel. **5+5+4**  
(b) Discuss about the "Bio refinery chemicals from fatty acids".  
(c) Differentiate between small scale and large scale of biomass gasification.
3. (a) What are Photochemical reactions ? Mention the advantages and challenges. **5+5+4**  
(b) What is Life Cycle Assessment ? Explain the stages of LCA.  
(c) Write a short note on "Carbon foot Printing".
4. (a) Discuss the Reaction mechanism of Hofmann Elimination. **5+5+4**  
(b) Explain the principle and mechanism of Phase Transfer Catalysis.  
(c) What are green catalysts ? Explain polymer supported Catalysts.
5. (a) Explain Electrochemical Synthesis with examples. **5+5+4**  
(b) Explain Enzymes Catalysed Hydrolytic Processes.  
(c) What are the Major classes of enzyme reactions ? Explain any two.



**P.T.O.**

6. (a) Discuss the Impact of Biomass Utilization as a renewable resource. **5+5+4**  
(b) Differentiate between Syngas Economy and hydrogen Economy.  
(c) Briefly explain the Lactic acid Production.
7. (a) Explain the enantioselective Hydrolysis of Meso Diesters and N-acyl amino Acids. **5+5+4**  
(b) Write the reaction mechanism of :  
(i) Polymeric Thioanisoyl Resin  
(ii) Poly-N-Bromosuccinimide (PNBS)  
(c) Explain the esterification of alcohols and benzyl ethers.
8. (a) Explain in brief the biomass conversion technologies. **5+5+4**  
(b) What are polymeric supporting reagents ? Explain with an example.  
(c) Write a brief note on IPPC and REACH.

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