

# P P SAVANI UNIVERSITY

Third Semester of Diploma Examination

November 2022

IDCH2030 Chemical Process Technology

26.11.2022, Tuesday

Time: 10:00 a.m. To 12:30 p.m.

Maximum Marks: 60

## Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

## SECTION-I

- Q - 1 Answer all MCQ. Choose ONE option only. [05] CO BTL
- (i) Conversion of hexose phosphate from hexose and phosphoric acid is which types of fermentation [1] [1]  
(a) Oxidation (b) Reduction  
(c) Hydrolysis (d) Esterification
- (ii) Conversion of alcohol to acetic acid is which types of fermentation  
(a) Oxidation (b) Reduction  
(c) Hydrolysis (d) Esterification
- (iii) Conversion of sucrose to glucose is which types of fermentation  
(a) Oxidation (b) Reduction  
(c) Hydrolysis (d) Esterification
- (iv) Conversion of sulfur to hydrogen sulfide is which types of fermentation  
(a) Oxidation (b) Reduction  
(c) Hydrolysis (d) Esterification
- (v) Conversion of sucrose to citric acid is which types of fermentation  
(a) Oxidation (b) Reduction  
(c) Hydrolysis (d) Esterification
- Q - 2 (a) Give industrial uses of PVC, Polystyrene, Polyethylene, and Polyester. [05] 2 1
- Q - 2 (b) Describe pulp production using diagram. [05] 3 1
- Q - 3 (a) Draw a neat & clean diagram for Soap manufacturing (saponification Reaction). [05] 3 6
- Q - 3 (b) Write five example of polymer and their uses. [05] 1 1
- Q - 4 Attempt any ONE. [05]
- (i) Describe the manufacturing process of ethyl alcohol by fermentation with a diagram. 3 6
- (ii) Describe the manufacturing process of Citric acid by fermentation with a diagram. 3 6

## SECTION-II

- Q - 1 Answer all MCQ. Choose ONE option only. [05] 3 1
- (i) Which one of the following is a natural polymer?  
(a) bakelite (b) Silk  
(c) Kevlar (d) Lexan
- (ii) Which of the following is the fermentation process?

- (a) batch process                      (b) continuous process  
 (c) Both a and b                      (d) None of these
- (iii)** What is the percentage of acetic acid commercially available in vinegar?  
 (a) 2%                                      (b) 4%  
 (c) 10%                                    (d) 12%
- (iv)** Alcoholic fermentation takes place in:  
 (a) some fungi                      (b) bacteria  
 (c) both a and b                      (d) none
- (v)** The process of fermentation is:  
 (a) aerobic                              (b) anaerobic  
 (c) both a and b                      (d) none
- Q - 2 (a)** Explain the manufacturing process of sugar from sugarcane with the flow diagram                      [05]    3    6
- Q - 2 (b)** What are soaps and detergents with an example for each?                      [05]    1    1
- Q - 3 (a)** Write the difference between Thermosetting and Thermoplastic polymer                      [05]    1    2
- Q - 3 (b)** Explain any four classifications of polymer                      [05]    3    6
- Q - 4** Attempt any **ONE**.                      [05]            63
- (i)** Describe the manufacturing process of Acetic acid by fermentation with a diagram.
- (ii)** Describe the manufacturing process of Lactic acid by fermentation with a diagram.

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CO : Course Outcome Number

BTL : Blooms Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create