

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV(NEW) – EXAMINATION – SUMMER 2019
Subject Code:2143607
Date:09/05/2019
Subject Name: Unit Processes in Organic Synthesis
Time:02:30 PM TO 05:00 PM
Total Marks: 70
Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

MARKS

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|------------|-----|--|-----------|
| Q.1 | (a) | Discuss mechanism of aromatic bromination. | 03 |
| | (b) | Give manufacturing of any compound using sulfonation. | 04 |
| | (c) | Differentiate between unit process and unit operation with example. | 07 |
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| Q.2 | (a) | Write a short note on alkali hydrolysis. | 03 |
| | (b) | Explain chemistry of polymerization reactions. | 04 |
| | (c) | Discuss Bechamp reduction using suitable examples. | 07 |
| | | OR | |
| | (c) | Explain in detail 'Ease of Esterification' <u>and</u> 'Transesterification'. | 07 |
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| Q.3 | (a) | Discuss the formation of Nitryl ions in nitration process using mixed acids. | 03 |
| | (b) | Explain unit process for Amination with suitable example and process parameters. | 04 |
| | (c) | Describe manufacture of Aniline by Ammonolysis of Chloro benzene using flow sheet diagram. | 07 |
| | | OR | |
| Q.3 | (a) | Explain Van't Hoff factor with example. | 03 |
| | (b) | Explain in detail utility of various agents used in aromatic chlorination. | 04 |
| | (c) | Discuss Suspension polymerization process in detail. | 07 |
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| Q.4 | (a) | Give an account of various oxidizing agents. | 03 |
| | (b) | Define Nitric ratio and D.V.S with example. | 04 |
| | (c) | Draw a neat flow sheet diagram describing manufacture of Methanol. | 07 |
| | | OR | |
| Q.4 | (a) | Write a short note on alkylating agents. | 03 |
| | (b) | Give a brief account of nitration of paraffinic hydrocarbon. | 04 |
| | (c) | Enlist various polymerization techniques. Discuss Emulsion polymerization process with its advantages and disadvantages. | 07 |
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| Q.5 | (a) | Write a note on PETN. | 03 |
| | (b) | Write a short note on sulfonation and sulfation with suitable examples. | 04 |
| | (c) | Discuss in detail Hydrogenolysis reactions with examples. | 07 |
| | | OR | |
| Q.5 | (a) | Give manufacture of any one : Anisole | 03 |
| | (b) | Discuss Technical Hydrogenation process in detail. | 04 |
| | (c) | Using a neat flow sheet diagram describe manufacture of ethyl acetate by batch process. | 07 |
