

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION SP/2025)

CLASS: BTECH
BRANCH: CHEMICAL

SEMESTER : VI
SESSION : SP/2025

SUBJECT: CL355 PETROCHEMICALS TECHNOLOGY

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

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|--------|---|-------|-----|
| Q.1(a) | Briefly describe any one petrochemical/cracker complex operating in India, highlighting its feedstocks, major process units and key products | [2] 1 | 1 |
| Q.1(b) | Explain the different generations of petrochemicals with examples. | [3] 1 | 2 |
| Q.2 | Briefly describe UOP aromatics complex for benzene and <i>para</i> -xylene production, along with a clear and well-labeled block flow diagram. | [5] 2 | 2,3 |
| Q.3(a) | Explain the function of Quenching process in Naphtha cracking and list the methods by which it is done and enlist names of reactions occurring in steam cracking of Naphtha | [2] 1 | 2 |
| Q.3(b) | List the names of major equipment in Ethylbenzene production process and analyze & write the functions of TWO last stage major devices along with process conditions. | [3] 3 | 4 |
| Q.4(a) | Explain the functions of steam in styrene production process | [2] 3 | 2 |
| Q.4(b) | Outline the flowsheet for production of Linear Alkyl Benzene | [3] 3 | 2 |
| Q.5(a) | Illustrate with a figure, the part of the flowsheet showing CHP decomposition in phenol-acetone manufacture from cumene | [2] 3 | 2 |
| Q.5(b) | Outline all the reactions occurring in aniline production from phenol including side reactions and names of chemical species involved. | [3] 3 | 2 |

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