

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BTECH
BRANCH: CHEMICAL ENGINEERING**

**SEMESTER : VI
SESSION : SP/2024**

SUBJECT: CL355: PETROCHEMICALS TECHNOLOGY

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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Q.1(a)	Discuss about the chemical compositions of petroleum crude and natural gas. What are role of Selexol and Econamine processes?	5	1	2
Q.1(b)	Describe the separation processes of C3s, C4s and aromatics from the naphtha cracking product stream.	5	1	2
Q.2(a)	Briefly describe the UOP-Pacol process with reactions, process condition, catalyst, separation, and flow diagram.	5	2	2
Q.2(b)	Describe the Parex process with appropriate process flow diagram	5	2	2
Q.3(a)	Describe the production of caprolactam with reactions, process condition, catalyst, separation and flow diagram.	5	3	2
Q.3(b)	Why is DMT preferred over TPA production? Describe the production process of DMT from p-xylene with reactions, process condition, catalyst, separation, and flow diagram	5	3	2
Q.4(a)	What is syn gas? What chemicals are prepared from syn gas? Describe the syn gas production process.	5	4	2
Q.4(b)	Describe the two-step manufacturing process of vinyl chloride from ethylene.	5	5	2
Q.5(a)	Describe the manufacturing process of acrylonitrile from propylene with reactions, process condition, catalyst, separation, and flow diagram.	5	5	2
Q.5(b)	Describe the manufacturing process of butadiene from butane with reactions, process condition, catalyst, separation, and flow diagram.	5	5	2

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