



मोतीलाल नेहरू राष्ट्रीय प्रौद्योगिकी संस्थान इलाहाबाद
प्रयागराज - 211004 [भारत]

Motilal Nehru National Institute of Technology Allahabad
Prayagraj - 211004, [India]

15

Department of Chemical Engineering

Mid Semester (Odd) Examination (Session 2024-25)

Programme Name: B.Tech.
Course Code: CHN15112
Branch: Chemical Engineering
Duration: 90 Minutes

Semester: V
Course Name: Chemical Technology
Student Reg. No.:
Max. Marks: 20

Instructions:

1. Solve the questions as per the given sequence
2. Attempt all the questions

Question 1:

Explain the electrolytic process for chlorine and caustic soda production with the quality process flow diagram. How mercury electrolytic cell is different from diaphragm electrolytic cell?

5 Marks

Question 2:

Explain the steam reforming process of synthesis gas production with a quality diagram with reactions. Write about major engineering problems also.

5 Marks

Question 3:

Write the constituents of portland cement. Describe the manufacturing process of portland cement with reactions.

5 Marks

Question 4:

Explain the manufacturing process of urea with chemical reactions and draw a neat process flow diagram. Write about major engineering problems also.

5 Marks



मोतीलाल नेहरू राष्ट्रीय प्रौद्योगिकी संस्थान इलाहाबाद
प्रयागराज - 211004 [भारत]

Motilal Nehru National Institute of Technology Allahabad
Prayagraj - 211004, [India]

Department of Chemical Engineering

End Semester (Odd) Examination (Session 2024-25)

Programme Name: B.Tech.
Course Code: CHN15112
Branch: Chemical Engineering
Duration: 150 Minutes

Semester: V
Course Name: Chemical Technology
Student Reg. No.:
Max. Marks: 40

Instructions:

1. Solve the questions as per the given sequence
2. Attempt all the questions

Question 1:

Explain the process flow diagram of Sodium Carbonate (Na_2CO_3) production by solvay process with reactions and write the major engineering problems.

5 Marks

Question 2:

Explain the partial combustion process of acetylene gas production with a quality diagram with reactions. Write about major engineering problems also.

5 Marks

Question 3:

What are the types of portland cement? Describe the process of cement rock beneficiation with the quality diagram.

5 Marks

Question 4:

Explain the manufacturing of ammonia oxidation process for nitric acid production with chemical reactions and draw a neat process flow diagram.

5 Marks

Question 5:

Explain the production of red phosphorus from phosphate rock with reactions and quality process flow diagram. Discuss about the handling of phosphorus also.

5 Marks

Question 6:

What is the importance of paints and pigments in our daily life? Explain about pigments and extenders in detail.

5 Marks

Question 7:

Discuss the sulfate pulp process with a process flow diagram. How sulfate pulp process is different from sulfite pulp process?

5 Marks

Question 8:

what are the petrochemicals produced from methane? Explain the manufacturing of methanol via synthesis gas route with chemical reactions and draw a neat process flow diagram.

5 Marks