

Uka Tarsadia University (Diwaliba Polytechnic)
Diploma in Environmental Engineering
Assignment (CEP- CM1013)

Unit 1 Nitrification

1. Explain by flow diagram for the manufacturing of nitric acid by ammonia oxidation process.
2. How can we control the emission of oxides of nitrogen in the environment?
3. Explain about the photometric determination of volatile mineral acid in environment.
4. What are the various oxides of nitrogen also write down the chemical formula and molecular weight of nitric acid.
5. Explain about the various method of production of nitric acid with chemical reaction.
6. Write short notes on atmospheric interaction by oxides of nitrogen.
7. Explain about the catalytic after burning of air pollutants.
8. Write short notes on toxicity of nitrogen oxide at low level.
9. Write short notes on manufacturing of nitric acid.
10. Write short notes on the effects of oxides of nitrogen on human health.
11. Write down the raw material used in manufacturing of nitric acid with quantitative requirement.
12. Explain a method for the recovery of nitrogen oxide from the plant manufacturing nitric acid.
13. Explain about the various methods for the detection and measurement of Nitric acid.
14. Explain about manufacturing of nitric acid with a flow diagram.
15. Write short notes on consumption pattern of nitric acid.
16. Write down the chemical formula of nitric acid and also define Wisconsin process.
17. Explain about the effect of nitric acid on plant, livestock and vegetation.
18. What are the various control methods for the emission of nitric acid and oxides of nitrogen in environment?
19. Write down the various chemical reactions taking place during manufacturing of nitric acid by ammonia oxidation process.
20. What are the worker safety procedures in plant manufacturing nitric acid?

Unit 2 Amination by reduction and halogenation

1. Explain about manufacturing of aniline, with block diagram.
2. Explain about the effect of monochloro acetic acid on environment.
3. Write down the reaction taking place in manufacturing of 2 chloro ethanol and vinyl chloride.
4. Explain about manufacturing of monochloro acetic acid, with block diagram.
5. Write short notes on effect of vinyl chloride on human health.
6. Explain about the effect of aniline on environment.
7. Explain about manufacturing of vinyl chloride, with block diagram.

8. Write short notes on effect of aniline on human health.
9. Briefly explain about the environment Degradation by 2 chloro ethanol.
10. Explain about synthesis and application of 2 chloro ethanol.
11. Briefly explain about aniline pathways and MCAA acute effect on human health.
12. Explain about the effects of vinyl chloride on human health.
13. Write short notes on effect of monochloro acetic acid on human health.
14. Write down the chemical formula and molecular weight of aniline, monochloro acetic acid, and vinyl chloride and ethylene chlorohydrins.
15. Write short notes on effect of vinyl chloride on human health.

Unit 3 Sulfonation

1. Explain about manufacturing of ethanol with flow diagram by catalytic hydration.
2. Explain about the adverse effect of ethanol on environment.
3. Write down the core plan (from OSHA) for ethanol production safety.
4. Write down the various chemical reactions taking place in manufacturing of ethanol by esterification method.
5. Explain about manufacturing of ethanol with flow diagram by esterification and hydrolysis.
6. Diagrammatically explain about the safety concern in plant manufacturing ethanol.
7. Briefly explain how ethanol can reduce pollution.
8. Write down the various chemical reactions taking place in manufacturing of ethanol by catalytic hydration method.
9. Explain about manufacturing of ethanol from ethylene.
10. What are the safety procedures in plant manufacturing ethanol?
11. What are the major engineering aspects during manufacturing of ethanol by malt fermentation process?
12. Write down the chemical formula, molecular weight and uses of ethanol.
13. Write short notes on ethanol.
14. Explain about the pollution created by plant manufacturing ethanol.
15. Write short notes on hazard assessment.
16. Write short notes on respiratory protection in plant manufacturing ethanol.
17. What are the various uses of ethanol?
18. Explain about manufacturing of ethanol with block diagram by malt process.
19. Write down few properties of ethanol
20. Write short notes on ignition source to ethanol.

Unit 4 Amination by Ammonolysis and oxidation

1. Draw the block diagram for the manufacturing of hydrogen cyanide.
2. What are the different uses of acetic acid?
3. Explain the manufacturing of acetic acid by oxidative fermentation method.
4. Explain the different methods of production of urea and acetic acid.
5. What are the harmful effects of hydrogen cyanide on human health?

6. Discuss the different pollution prevention and control measure from nitrogenous fertilizer
7. Explain about the effect of hydrogen cyanide on environment.
8. Draw the block diagram for the manufacturing of urea.
9. Explain the effects of acetic acid on human health.
10. Explain the manufacturing of acetic acid using Ethylene oxide.
11. Write a short note on acetic acid Hazards.
12. Explain the manufacturing of urea from ammonium carbamate.
13. Explain the manufacturing of acetic acid using anerobic fermentation method.
14. Write a short note on urea and its effect on human health.
15. What are the different proper health care for acetic acid exposure.

Unit 5 Hydrogenation

1. Explain the production of methanol with a block diagram.
2. Write down the balanced chemical reaction taking place during hydrogenation of cotton oil.
3. Define rancidity, winterising.
4. Explain explosion hazard of methanol.
5. Write down the various process involved in oil deterioration.
6. Explain about the harmful effect by the plant manufacturing methanol on environment.
7. Write down the fire fighting information in plant manufacturing methanol.
8. Define saponification value and acid value.
9. Draw the block diagram for the hydrogenation of cotton oil.
10. Explain about effect of methanol on human health.
11. Define hydrogenation and iodine value.
12. Explain the function of hydrogenator, deodorizer and finishing.
13. Explain the various zone of safety in plant manufacturing methanol.
14. Explain the detailed process related to gas liquid hydrogenation reaction.
15. What are the precautions which should be followed for better utilization of cotton oil for cooking?
16. Explain about biotechnology role in improvement of oil quality.
17. Explain about manufacturing of methanol using synthesis gas.
18. What are the various types of pollution created by the plant manufacturing methanol.
19. Explain about cotton oil production and uses.
20. How nickel catalyst is prepared, write down the chemical reaction.

Unit 6 Esterification and Hydrolysis

1. Explain the manufacturing of ethyl acetate with a flow diagram.
2. Explain the “toxicological information” about cellulose acetate.
3. Write down few applications of cellulose acetate.
4. Explain about storage, transport and handling of vinyl acetate.

5. Explain the manufacturing of vinyl acetate with a block diagram.
6. Write short notes on effect of cellulose acetate on environment.
7. What are the harmful effects of ethyl acetate on environment?
8. Write down the reactions taking place during manufacturing of ethyl acetate.
9. Draw the block diagram for manufacturing of cellulose acetate.
10. Explain the harmful effect of vinyl acetate on human health
11. What happens to vinyl acetate when it enters the environment?
12. What are the methods for handling and storage of cellulose acetate
13. What are the harmful effects of ethyl acetate on human health?
14. Write short notes on first aid treatment in plant manufacturing vinyl acetate
15. Write down the chemical formula and molecular weight of cellulose acetate, vinyl acetate and ethyl acetate.
16. Write a short note on vinyl acetate?
17. Explain about the process steps in the manufacturing of cellulose acetate.
18. Draw the block diagram for synthesis of ethyl acetate.
19. Write down the chemical reaction taking place during manufacturing of vinyl acetate monomer.
20. Explain about the photo chemical degradation of cellulose acetate.