

KATHMANDU UNIVERSITY  
End Semester Examination  
February/March, 2019

Level : B.E.

Year : III

Exam Roll No. :

Time: 30 mins.

Course : CHEG 311

Semester: I

F. M. : 10

Registration No.:

Date 06 MAR 2019

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Attempt ALL questions. Tick the most appropriate answer.

1. During the desalting of crude oil, which of the statement is not true?
  - (a) Desalter pressure is maintained above vaporization pressure of crude oil
  - (b) Desalter pressure is maintained below vaporization pressure of crude oil
  - (c) Low voltage is preferable for better desalting
  - (d) Lower temperature is preferable
2. Caprolactum, a raw material for the manufacture of nylon-6, is produced from
  - (a) Phenol
  - (b) Benzene
  - (c) Naphthalene
  - (d) Pyridine
3. Visbreaking process is used mainly for making
  - (a) Smoke free kerosene
  - (b) Fuel oil
  - (c) High octane gasoline
  - (d) High octane Number
4. Crude oil is pumped by a \_\_\_\_\_ pump.
  - (a) Gear
  - (b) Centrifugal
  - (c) Screw
  - (d) Reciprocating
5. What is the temperature of crude oil in desalting unit?
  - (a) 131-141 °C
  - (b) 151-161 °C
  - (c) 171-181 °C
  - (d) 101 -120 °C
6. Catalytic cracking of paraffins generally give
  - (a) Smaller paraffins + olefins
  - (b) naphthene + olefins
  - (c) aromatic + olefins
  - (d) alkylated naphthene with fewer rings
7. Which of the following is thermo set resin?
  - (a) Epoxy resin
  - (b) PET resin
  - (c) Polycarbonate
  - (d) Fluorocarbon
8. Knocking is the term used for
  - (a) Diesel
  - (b) Gasoline
  - (c) Jet fuel
  - (d) Kerosene
9. In the solvent pulping process, the operating temperature is around
  - (a) 140-220 °C
  - (b) 90-120 °C
  - (c) 220-320 °C
  - (d) 320-420 °C
10. In catalytic reforming, preheating is done to achieve
  - (a) Temperature control
  - (b) To reform catalyst
  - (c) To remove gases and reformat
  - (d) To separate aromatics from the product
11. Yeast enzyme readily ferments
  - (a) Sucrose to ethanol
  - (b) Sucrose to propanol
  - (c) Sucrose to butanol
  - (d) Sucrose to methanol



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Time : 2 hrs. 30 mins.

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Semester: I  
F. M. : 40

SECTION "B"

[4Q. × 5 = 20 marks]

Attempt *ANY FOUR* questions.

1. Discuss the manufacturing of pulp with neat and clean flow sheet diagram. Why does black liquor enter various section of digester in the preparation of wood pulp?
2. Discuss the manufacturing of sugar from sugarcane with neat and clean flow sheet diagram. Discuss energy economy in the sugar manufacturing process.
3. What do you mean by crude oil distillation? Discuss in detail the various products produced during the distillation of crude oil.
4. Explain Visbreaking with Soaker process with neat and clean diagram.
5. What is reforming of crude oil? Explain any one type of catalytic reforming process with neat and clean flow diagram.

SECTION "C"

[5Q. × 4 = 20 marks]

Attempt *ANY FIVE* questions.

6. Make comparison of soaps and detergents. Draw flow sheet for continuous soap manufacturing process.
7. Explain hydrogenation of oil. Draw flow diagram for hydrogenation of oil.
8. Discuss Ziegler process for polyethylene manufacture.
9. Discuss thermosetting and thermoplastic polymers with their applications.
10. What is synthetic fiber? Describe monomer and comonomer.
11. Discuss *ANY FOUR*.
  - a. Fluidized bed catalytic cracking
  - b. Types of crude oil
  - c. Alkylation and isomerization
  - d. Isotactic and atactic polymer
  - e. Steam methane reforming reaction

