



**PRESIDENCY UNIVERSITY,  
BENGALURU**

**SCHOOL OF ENGINEERING**

**TEST 2**

**Odd Semester:** 2018-19

**Course Code:** PET 217

**Course Name:** Petroleum Refining and Petrochemicals

**Branch & Sem:** PET & VII SEM Group - I

**Date:** 27 November 2018

**Time:** 1 Hour

**Max Marks:** 20

**Weightage:** 20%

**Instructions:**

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

**Part A**

Answer **all** the Questions. **Each** question carries **two** marks. (3x2=6)

1. Describe a naphtha splitter and its operating conditions.
2. How pumping of waxy crude is done?
3. Discuss in brief chilling and pressing process and conditions to be followed in it.

**Part B**

Answer **all** the Questions. **Each** question carries **four** marks. (2x4=8)

4. Discuss briefly about crude desalters.
5. Illustrate roughly moving bed catalytic cracker (Air Lift Thermoform catalytic cracker) with labelling.

**Part C**

Answer the Question. Question carries **six** marks. (1x6=6)

6. Explain in detail chemical impurities and methods for treating it.



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BENGALURU**

**SCHOOL OF ENGINEERING**

**END TERM FINAL EXAMINATION**

**Odd Semester:** 2018-19

**Course Code:** PET 217

**Course Name:** Petroleum Refining and Petrochemicals

**Programme & Sem:** PET & VII Sem (Group-1)

**Date:** 27 December 2018

**Time:** 2 Hours

**Max Marks:** 40

**Weightage:** 40%

**Instructions:**

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

**Part A**

Answer **both** the Questions. **Each** question carries **two** marks.

(2Qx2M=04)

1. State the typical feedstocks to petrochemical processes.
2. Why is pressure not reduced for the first phase separator in manufacture of methanol?

**Part B**

Answer **all** the Questions. **Each** question carries **four** marks.

(4Qx4M=16)

3. Explain the process of manufacture of Maleic anhydride from benzene with reaction, operating conditions, catalyst, and uses.
4. Explain the process of manufacture of Benzoic acid (intermediate in manufacture of phenol from toluene oxidation).
5. In manufacture butadiene from n-butane the entire operation of a feed entry, product withdrawal, pre-heated air entry and combustion gases withdrawal from the packed bed reactor corresponds to one single cycle. Explain the process of this single cycle.
6. For production of ethanolamines from ethylene first ethylene oxide is needed to be produced. Write the reaction details in such production (reaction, reaction type, side reactions, limiting reactant, catalyst, operating temperature and pressure etc.,)

### Part C

Answer **both** the Questions. **Each** question carries **ten** marks.

(2Qx10M=20)

7. Explain the manufacture of methanol from synthesis gas in detail with the help of reactions, process and process flow sheet (rough sketch).
8. Vinyl chloride is produced in a two-step process from ethylene. Explain in detail manufacture of only ethylene dichloride from ethylene (reactions, rough flow sheet sketch and process).