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SEAT No._____

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SARDAR PATEL UNIVERSITY

M.Sc SEMESTER-II EXAMINATION

M.Sc INDUSTRIAL CHEMISTRY

PS02CICH25 PETROCHEMICAL TECHNOLOGY

TIME: 10:00A.M.-01:00P.M **23-03-2019, Saturday** **MARKS: 70**

Q.1 ANSWER THE FOLLOWING MCQs **(08)**

1. _____ are the chief constituents of LPG

A. Methane+Ethane B. Ethane+Propane C. Propane+Methane D. Propane+Butane

2. _____ is the acid gas present in natural gas

A. H_2S B. CO_2 C. Both A & B D. HCl

3. A low value of degree API indicates _____ crude oil.

A. Heavier B. Lighter C. Viscous D. Non-Viscous

4. _____ was the first process used to increase the gasoline production.

A. Catalytic cracking B. Catalytic reforming C. Steam cracking D. Thermal cracking

5. _____ directs the reaction towards the desired products

A. Selective Catalyst B. Non-selective Catalyst C. Promotor D. All of these

6. _____ have higher octane ratings

A. Paraffin B. Napthenes C. Olefin D. Aromatic

7. _____ are the first catalysts used in catalytic cracking

A. Acid treated clays B. Alumina silicates C. Zeolites D. Sodium silicate

8. _____ process is used exclusively for production of olefins

A. Coking B. Vis breaking C. Steam cracking D. Propane deasphalting

Q.2 Answer the following short questions **(Any 7)** **(14)**

1. Differentiate between Associated and Non-Associated Natural Gas.

2. What is BMCI for crude oil?

3. Explain briefly three streams of NLG

4. Discuss the main aims of conversion processes used in the petroleum industry

5. Enlist the important thermal cracking processes.

6. Differentiate between Fluid coking and Flexi coking

7. Why ethylene is known as 'King' of petrochemicals?

8. Enlist the important chemicals produced from Butenes.

9. What are chloromethanes? How they are Produced?

Q.3 (a) Enlist various impurities present in Natural Gas and Discuss in brief methods for their removal. **(06)**

Q.3 (b) Give classification of crude oil and also explain Degree API and WCF for crude oil **(06)**

OR

Q.3 (b) Write a note on Oil shales and Gas Hydrates: An alternative resources **(06)**

Q.4 (a) Discuss Aim, Feed, catalysts and process for catalytic cracking **(06)**

Q.4 (b) Discuss Aim, Feed, Method and Products of steam cracking process. **(06)**

OR

Q.4 (b) Discuss reactions taking place during thermal cracking process **(06)**

Q.5 (a) What is synthesis gas? Write a note on production of Ammonia from Synthesis gas **(06)**

Q.5 (b) Write a note on production of CS_2 and HCN from methane. **(06)**

OR

Q.5 (b) Discuss in brief about various chemical produced by Oxidation of Ethylene **(06)**

Q.6 (a) Write a note on production of Styrene and Cummene from benzene **(06)**

Q.6 (b) Give outlines of Chlorprene and Sulfolane Production from Butadiene **(06)**

OR

Q.6 (b) Discuss the products of Nitration of Toluene **(06)**

—X—

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