


Name:			
Enrolment No:			
<b>UNIVERSITY OF PETROLEUM AND ENERGY STUDIES</b> <b>End Semester Examination, May 2023</b>			
<b>Course: Petroleum Refining and Petrochemical Technology</b> <b>Program: B. Tech APE Gas</b> <b>Course Code: CHGS 3013 P</b>		<b>Semester: VI</b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions: Attempt all</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	Name any four petrochemicals derived from C <sub>2</sub> hydrocarbon	4	CO1
Q 2	Describe paraffins, naphthene, aromatics and olefin present in crude oil.	4	CO2
Q3	Write any four importance of crude desalting process.	4	CO2
Q 4	Name any four Sulphur compounds present in crude oil.	4	CO4
Q 5	Describe first generation, second generation and third generation petrochemicals.	4	CO3
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 6	Describe modified Claus process with respect to the following points: objective, feedstock, catalyst used and major reactions.	10	CO4
Q 7	Explain briefly about the purification and separation of BTX.	10	CO1
Q 8	How will you manufacture ammonia from synthesis gas as the starting material? Discuss the process with reactions.	10	CO2
Q 9	Write the importance of natural gas sweetening? Explain gas sweetening process in detailed with help of flowsheet.	10	CO3
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	Write down the major reactions involved in hydrotreating process. Describe the hydrotreating process with the help of flowsheet.	20	CO4
Q 11	Answer the following: (5 marks each) a) Significance of Merox process b) Elemental composition of natural gas c) What is toluene disproportionation? d) Discuss doctors sweetening process.	20	CO2