		Reg. No.										
The state of the s	MANIPAL IN	ISTITU	ΓE	O	F	TE	EC	H	V	)L	O	GY
	MANIPAL											
VSPIRED BY LIFE	A Constituent Institution of Manipal University											

## VII SEMESTER B.TECH. (CHEMICAL ENGINEERING) END SEMESTER EXAMINATIONS, NOV/DEC 2016

SUBJECT: PETROLEUM REFINERY ENGINEERING [CHE 423]

## REVISED CREDIT SYSTEM (6/12/2016)

Time: 3 Hours MAX. MARKS: 100

## **Instructions to Candidates:**

- ❖ Answer **ANY FIVE FULL** questions.
- Missing data may be suitable assumed.

1.	Obtain equilibrium distilled from giver Volume percent distilled TBP temperature(°F)		•	30 230	50 350	for 30% 70 470	90 550	% volume 95 610	20
2.	Briefly explain the purpose and feed stock of the basic operations in petroleum processing.								20
3.	With a neat diagram explain the principle, working and features (overflash, temperature profile, pressure considerations, mechanical design considerations) of atmospheric distillation unit.								20
4A.	Draw a neat sample TBP curve of crude oil and explain TBP cut points and ASTM end points.								4
4B.	Write notes on different modes of catalyst regeneration in catalytic reforming unit.								6
4C.	Draw a neat diagram of an FCC reactor and explain its purpose, principle, working and features.							10	
5A.	Write notes on i) light ends processing ii) lube oil refining.							10	
5B.	Explain the purpose, feedstock and principle of coking.							5	
5C.	Define octane number. Discuss its importance?							5	
6A.	Write notes on composition of crude oil							10	
6B.	What is engine knocking? Why was tetra ethyl lead used in fuel earlier? Discuss the reasons its use was later prohibited.							5	
6C.	Discuss Bharat Stage norms.								5