Hall Ticket Number:

I/IV B.Tech (Regular) DEGREE EXAMINATION

APRIL, 2019	**CE/ME/EEE Branches**
Second Semester	**Engineering Chemistry**
Time: Three Hours	**Maximum :** 50 Marks
Answer Question No.1 compulsorily.	(1X10 = 10 Marks)
Answer ONE question from each unit.	(4X10=40 Marks)
1. Answer all questions	(1X10=10 Marks)

No.	Questions 1 (a to j)	Level	COs
a	Define hardness of water?	Remember	CO 1
b	Define priming.	Remember	CO 1
c	What is meant by phosphate conditioning	Understand	CO 1
d	What is galvanic corrosion?	Understand	CO 2
e	State ''Pilling-Bedworth rule''?	Remember	CO 2
f	Define Octane number.	Remember	CO 3
g	What is lower calorific value of fuel	Understand	CO 3
h	Write the composition of Petrol	Remember	CO 3
i	Define addition reactions?	Remember	CO 4
j	Write any two applications of Poly HydroxyButerate (PHB).	Apply	CO 4

		UNIT – I			
No.		Questions (2 to 9)	Level	COs	Marks
2	(a)	Define Alkalinity of water. Discuss the estimation of alkalinity of water.	Remember, Understand	CO 1	6M
	(b)	100 mL of water sample on titration with N/50 H_2SO_4 required 8.0 mL of the acid to phenolphthalein end point and 9 mL of the same acid to methyl orange end point. Determine the type and amount of alkalinity present in water sample.	Understand, apply	CO 1	4M
		OR			
3	(a)	Explain the following i).Boiler corrosion ii). Caustic embrittlement	Understand	CO 1	6M
	(b)	Discuss the method of treatment of brackish water by Electro dialysis	Understand, apply	CO 1	4M
		UNIT – II			
4	(a)	Deduce Nernst equation for single electrode potential. Write its applications (any two)	Analyze, Apply	CO 2	4M
	(b)	What is electrochemical corrosion? Describe the mechanism of electrochemical corrosion by evolution of hydrogen type and absorption of oxygen type.	Remember, Understand	CO 2	6M
		OR			
5	(a)	Discuss various factors affecting corrosion rate of a metal.	Understand	CO 2	6M
	(b)	Write short note on Electro plating of Gold.	Understand	CO 2	4M
		UNIT – III			
6	(a)	Define calorific value of a fuel. Discuss the construction and working of Bomb calorimeter to determine calorific value of solid fuel.	Remember, Create	CO 3	7M
	(b)	Write short note on knocking and anti-knocking agents.	Understand	CO 3	3M
		OR			
7	(a)	What is meant by Flue gas? Explain the method of analysis of flue gas by Orsat apparatus	Remember, Understand	CO 3	7M
	(b)	What is LPG? What are the advantages of LPG over other gaseous fuels	Remember	CO 3	3M
		UNIT – IV			
8	(a)	Explain briefly the various classes of conducting polymers.	Understand	CO 4	7M
	(b)	Describe a method of synthesis of "Aspirin"	Understand	CO 4	3M
		OR			
9	(a)	Distinguish between Thermoplastic and Thermosetting polymers	Analyze	CO 4	6M
	(b)	Explain the preparation and applications of Bakelite	Understand	CO 4	4M