18CY101$_3$

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 alkalinity of water?	Remember	CO 1
b	Write any two examples for coagulants	Remember	CO 1
c	What is meant by colloidal conditioning?	Remember	CO 1
d	Define entropy.	Remember	CO 2
e	State ‘’Pilling-Bedworth rule’’?	Remember	CO 2
f	Define Anti knocking agent. Give an example	Understand	CO 3
g	Define calorific value of fuel.	Remember	CO 3
h	Write the main constituents of LPG.	Remember	CO 3
i	DefineMarkownikoff"s rule?	Remember	CO 4
j	Write any two applications of conducting polymer?	Apply	CO 4

UNIT – I					
No.	Questions (2 to 9)		Level	COs	Marks
2	(a)	Compare between hard water and soft water.	Evaluate	CO 1	3M
	(b)	Explain the following i).Boiler corrosion ii). prevention methods of scale	Understand	CO 1	7M
OR					
3	(a)	Discuss any three disinfection methods.	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)	Explain Chemical or Dry corrosion and its mechanism	Understand	CO 2	6M
OR					
5	(a)	Explain how corrosion of a material is controlled by Cathodic protection method with neat labeled diagram	Understand, Create	CO 2	6M
	(b)	Write short note on Electro less plating of Nickel	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 cetane number	Understand	CO 3	3M
OR					
7	(a)	Write short note on refining of crude petroleum. Write various fractions obtained from petroleum	Remember, Understand	CO 3	7M
	(b)	Define Bio Fuels? Discuss one method for the preparation of Bio diesel	Remember, Understand	CO 3	3M
UNIT – IV					
8	(a)	Explain with mechanism of SN^1 and SN^2 reactions	Understand	CO 4	6M
	(b)	Describe a method of synthesis of "Aspirin"	Create	CO 4	4M
OR					
9	(a)	Distinguish between Thermoplastic and Thermosetting polymers	Analyze	CO 4	6M
	(b)	Explain the preparation and applications of any one of Biodegradable polymers	Understand, Apply	CO 4	4M