



PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

SUMMER TERM / MAKE UP END TERM EXAMINATION

Semester: Summer Term 2019

Date: 25 July 2019

Course Code: CHE A103

Time: 2 Hours

Course Name: Engineering Chemistry

Max Marks: 60

Program & Sem: B. Tech & II Sem (2016 Batch)

Weightage: 30%

Instructions:

- (i) Read the questions properly and answer accordingly
- (ii) Question paper consists of 3 parts

Part A

Answer **all** the Questions. **Each** question carries **five** marks. (3Qx5M=15)

1. What is corrosion? Write any four differences between dry corrosion and wet corrosion.
2. What are fuels? Explain gross/high and net/low calorific values of fuels.
3. What is knocking? Define Cetane and Octane number.

Part B

Answer **all** Questions. **Each** question carries **ten** marks. (3Qx10M=30)

4. What is the principle of Bessemer process for production of steel? Describe Bessemer process with labelled diagram.
5. Discuss differential metal and differential aeration corrosion with suitable example.
6. What is electroplating? Describe the process of electroplating of hard and decorative chromium.

Part C

Answer **any one** question. The question carries **fifteen** marks. (1Qx15M=15)

7. Define cracking with relevant reaction. Explain fluidized bed catalytic cracking with a neat labelled diagram.
8. Calculate the Total hardness, Temporary Hardness and Permanent hardness of a water sample containing the following: $\text{Mg}(\text{HCO}_3)_2$: 8.5 mg/L ; MgSO_4 : 4.8 mg/L ; MgCl_2 : 4.9 mg/L ; CaSO_4 : 12.1 mg/L ; $\text{Ca}(\text{HCO}_3)_2$: 7.2 mg/L. (Atomic Weights: Ca:40, Mg: 24, H: 1, C: 12, O:16, S: 32, Cl: 35.5, N: 14)

