



ROLL NO:

PRESIDENCY UNIVERSITY, BENGALURU
SCHOOL OF ENGINEERING

Weightage: 20 %

Max Marks: 40

Max Time: 1 hr.

Tuesday, 25th September, 2018

TEST – 1

Odd Semester 2018-19

Course: **CHE 101 Engineering Chemistry**

I Sem Chemistry Cycle

Instruction:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

Part A

(3 Q x 4 M = 12 Marks)

1. What is meant by volumetric analysis? How do end point and equivalence point differ from each other?
2. What is called desalination? Suggest a method of desalination and give its principle
3. Distinguish between iodometry and iodimetry

Part B

(2 Q x 8 M = 16 Marks)

4. Explain the process of scale and sludge formation in boilers and any two internal methods of treatment for its prevention.
5. What is called sterilization? Compare the process of purification of drinking water, free from microorganisms using (a) bleaching powder, (b) chlorine and (c) ozone

Part C

(1Q x 12 M = 12 Marks)

6. A sample of water obtained from a bore well in Pattancheru near Hyderabad gave the following analysis for salts: $\text{Mg}(\text{HCO}_3)_2$: 25.5 mg/L ; MgSO_4 : 14.7 mg/L ; MgCl_2 : 19.8 mg/L; CaSO_4 : 30.5 mg/L ; $\text{Ca}(\text{HCO}_3)_2$: 42.2 mg/L; NaCl =11.7 mg/l. Find out the total hardness of water in ppm , °CL and °F units, giving temporary and permanent hardness, assuming the atomic masses of Ca=40, Mg=24, Na=23, S=32, C=12, O=16, H=1, Cl=35.5.



PRESIDENCY UNIVERSITY,
BENGALURU

SCHOOL OF ENGINEERING

TEST 2

Odd Semester: 2018-19

Course Code: CHE 101

Course Name: Engineering Chemistry

Branch & Sem: Chemistry Cycle & I Semester

Date: 28 November 2018

Time: 1 Hour

Max Marks: 40

Weightage: 20%

Instruction:

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

Part A

Answer **all** the Questions. **Each** question carries **three** marks. (4x3=12)

1. Write the monomers of the following: PVC, Buna S, Nylon 6,10
2. Define tacticity. Mention its types
3. Mention the anode, cathode and electrolyte in Leclanche cell.
4. What is called fuel cell? Mention any two advantages of fuel cell over conventional galvanic cells.

Part B

Answer **all** the Questions. **Each** question carries **eight** marks. (2x8=16)

5. Explain the working, principle and any two applications of lead acid storage battery
6. Explain the synthesis, properties and uses of bakelite

Part C

Answer the Question. Question carries **twelve** marks. (1x12=12)

7. (a) Illustrate the steps involved in the free radical polymerization mechanism with suitable example
- (b) Differentiate between thermo and thermosetting polymers (any four)



Roll No.

**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

SET A

END TERM FINAL EXAMINATION

Odd Semester: 2018-19

Course Code: CHE 101

Course Name: Engineering Chemistry

Programme & Sem: B.Tech (Chemistry Cycle) & I Sem

Date: 11 January 2019

Time: 2 Hours

Max Marks: 80

Weightage: 40%

Instructions:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

Part A

Answer **all** the Questions. **Each** question carries **five** marks. (4Qx5M=20)

1. What are fuels? Explain the high and low calorific values of the fuel.
2. What is corrosion? Write the difference between dry and wet corrosion.
3. What are refractories? Write any FOUR properties of a good refractory.
4. What is pulverized coal? Write advantages and disadvantages of pulverized coal.

Part B

Answer **all** the Questions. **Each** question carries **ten** marks. (4Qx10M=40)

5. Explain differential metal and differential aeration corrosion with suitable examples.
6. What is synthetic petrol? Explain Fischer Tropsch process in detail.
7. Write short notes on- A) Knocking, B) Heat treatment of steel.
8. What is electroplating? Discuss the electroplating of Chromium?

Part C

Answer **both** the Questions. (2Q=20)

9. What is phase rule? Explain phase diagram of one-component system with detailed explanation of areas, lines and point. (12M)
10. What is coking? Explain coking process by using Bee-Hive oven method. (8M)



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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

SET B

END TERM FINAL EXAMINATION

Odd Semester: 2018-19

Course Code: CHE 101

Course Name: Engineering Chemistry

Programme & Sem: B.Tech (Chemistry Cycle) & I Sem

Date: 11 January 2019

Time: 2 Hours

Max Marks: 80

Weightage: 40%

Instructions:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

Part A

Answer **all** the Questions. **Each** question carries **five** marks. (4Qx5M=20)

1. Write the flow chart for Setting and Hardening of cement.
2. Give the classification of Fuels and give one examples for each.
3. Mention the number of the components and phases in sulphur-system.
4. Define the term lubrication. Mention any four purposes of lubrication.

Part B

Answer **all** the Questions. **Each** question carries **ten** marks. (4Qx10M=40)

5. Describe the manufacturing process of steel by bessemerisation process.
6. What is the principle of Cathodic protection? Discuss Sacrificial anode method with a neat diagram. Give example. How does it differ from sacrificial coating?
7. What is cracking? With a neat labelled diagram discuss the Fluidized bed catalytic cracking. Mention the optimum conditions.
8. Discuss the stages involved in manufacturing of cement. Give any 3 reactions involved.

Part C

Answer **both** the Questions. **Each** question carries **ten** marks. (2Qx10M=20)

9. a) What is reforming of petrol? Explain any two reactions involved in reforming process.
b) Define Octane and Cetane number.
10. a) Discuss electroless plating of Nickel.
b) Write the composition of water gas and producer gas.