



**G.PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY (AT)**  
**I.B.Tech, II SEM II MID Subjective Examination**  
**CIVIL ENGINEERING**

Sub: Engineering Chemistry(15A51101)  
Time: 90 min

SET - 1

Date: 11-05-2017  
Max.Marks:30

PART-A(2x5=10M)

**Answer all the questions**

MARKS	UNIT	CO	COGNITIVE LEVEL
2	III	112.3	Diifferentiate
2	IV	112.3	Understand
2	IV	112.4	Apply
2	V	112.4	Understand
2	V	112.5	Apply

- 1.a) Distinguish between electroplating and electro less plating?
- b) What is power alcohol? Give example.
- c) Define carbonization of coal.
- d) Write the types of refractories?
- e) Define lubricants.

PART-B(10x2=20M)

**Answer all the questions**

- 2 . Describe the construction, working principle and applications of Lead – acid batteries? (10M)  
(OR)

MARKS :10M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply
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3. a) Write a brief account of dry corrosion? (5M)
- b) Write any four factors influencing corrosion? (5M)

MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply

4. a)How do you synthesis petrol by Fischer Tropsch process?(5M)
- b) Describe the fractional distillation of petroleum (5M)  
(OR)

MARKS :5M	UNIT:IV	CO:112.1	COGNITIVE LEVEL: Understand
MARKS :5M	UNIT:IV	CO:112.1	COGNITIVE LEVEL: Apply

5. Describe the manufacturing of Portland cement? (10M)

MARKS:10M	UNIT:V	CO:112.2	COGNITIVE LEVEL: Understand
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Prepared by : Dr.Syeda Jeelani Basri, Sr.Asst.Professor



**G.PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY (AT)**  
**I.B.Tech, II SEM I MID Subjective Examination**  
**CIVIL ENGINEERING**

Sub: Engineering Chemistry(15A51101)  
Time: 90 min

SET NO:2

Date: 11-05-2017  
Max.Marks:30

**PART – A (2x5=10 marks)**

**Answer all the questions**

1. a) What is pilling-Bed worth rule?
- b) Distinguish between Octane number and Cetane number?
- c) What is the significance of flue gas analysis?
- d) Define cement. Write types of cement.
- e) Define fire and flash point.

MARKS	UNIT	CO	COGNITIVE LEVEL
2	III	112.1	Understand
2	IV	112.1	Understand
2	IV	112.1	Apply
2	V	112.1	Understand
2	IV	112.1	Apply

**PART – B (10x2=20 marks)**

**Answer all the questions**

2. a) Give the construction, working principle and applications of Hydrogen-Oxygen fuel cell? (5M)
  - b) Write a brief note on Lithium ion batteries? (5M)
- (OR)

MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply

- 3.a) Describe the mechanism of electro chemical corrosion. (5M)
- b) Explain sacrificial anodic protection method. (5M)

MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply

4. What are refractories? Write its classification and properties of refractories? (10M)
- (OR)

MARKS :10M	UNIT:V	CO:112.1	COGNITIVE LEVEL: Apply
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5. Calculate the minimum amount of air required for the complete combustion, dry products of of 1 Kg of coal containing the following composition. C= 70%, H<sub>2</sub>=22%, O<sub>2</sub>=11%,S=1% N= 2%. (10M)

MARKS :10M	UNIT:IV	CO:112.1	COGNITIVE LEVEL: Apply
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Prepared by : Dr.Syeda Jeelani Basri, Sr.Asst.Professor



**G.PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY (AT)**  
**I.B.Tech, II SEM IIIMD Subjective Examination**  
**CIVIL ENGINEERING**

**Sub: Engineering Chemistry(15A51101)**  
**Time: 90 min**

**SET NO:3**

**Date: 11-05-2017**  
**Max.Marks:30**

**PART - A (2x5=10 marks)**

**Answer all the questions**

1. a) What are the characteristics for good fuel cells.
- b) Distinguish between dry and wet corrosion?
- c) What is refining of petroleum?
- d) Define knocking. Write it's tendency.
- e) Define cloud & pour point.

MARKS	UNIT	CO	COGNITIVE LEVEL
2	III	112.3	Diifferentiate
2	III	112.3	Understand
2	IV	112.4	Apply
2	IV	112.4	Understand
2	V	112.5	Apply

**PART - B (10x2=20 marks)**

**Answer all the questions**

2. a) Give the working principle and applications of Ni-Cad cell? (5M)
  - b) Give the construction, working principle and applications of Solid-Oxide fuel cell? (5M)
- (Or)

MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:III	CO:112.2	COGNITIVE LEVEL: Apply

3. Describe the various factors influencing the rate of corrosion. (10M)

MARKS :10M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply
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4. With a neat diagram describe the Orsat's gas analysis method. What are the significances? (10M)
- (Or)

MARKS :10M	UNIT:IV	CO:112.2	COGNITIVE LEVEL: Apply
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- 5.a) Write the various chemical reactions involved, explain the setting & hardening of cement. (5M)
  - b) Explain the fluid film lubrication mechanism? (5M)
- (Or)

MARKS :5M	UNIT:V	CO:112.2	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:V	CO:112.3	COGNITIVE LEVEL: Apply



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**I.B.Tech, II SEM I MID Subjective Examination**  
**CIVIL ENGINEERING**

Sub:Engineering Chemistry(15A51101)  
 Time: 90 min

SET NO:4

Date: 11-05-2017  
 Max.Marks:30

**PART - A (2x5=10 marks)**

**Answer all the questions**

MARKS	UNIT	CO	COGNITIVE LEVEL
2	III	112.3	Diifferentiate
2	IV	112.3	Understand
2	IV	112.4	Apply
2	V	112.4	Understand
2	V	112.5	Apply

1. a) Distinguish between electroplating and electro less plating?
- b) Distinguish between Octane number and Cetane number?
- c) What is the significance of flue gas analysis?
- d) Write the types of refractories?
- e) Define lubricants.

**PART - B\_(10x2=20 marks)**

**Answer all the questions**

2. a) Give the working principle and applications of Ni-Cad cell? (5M)
  - b) Give the construction, working principle and applications of Hydrogen-Oxygen fuel cell? (5M)
- (Or)

MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:III	CO:112.2	COGNITIVE LEVEL: Apply

- 3.a)How do you synthesis petrol by Fischer Tropsch process?(5M)
- b) Describe the fractional analysis of petroleum (5M)

MARKS :5M	UNIT:III	CO:112.2	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:III	CO:112.1	COGNITIVE LEVEL: Apply

4. a)Calculate the minimum amount , volume of air required for the complete combustion of 1 Kg of coal fuel containing the following composition C= 75%, H<sub>2</sub>=12%, O<sub>2</sub>=12%,S=1% . (5M)
- b) How do you synthesis petrol by Bergius process? (5M)

MARKS :5M	UNIT:IV	CO:112.1	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:IV	CO:112.3	COGNITIVE LEVEL: Apply

- 5.a). Write a brief account on producer gas and natural gas? (5M)
- b) Explain the boundary film lubrication mechanism? (5M)

MARKS :5M	UNIT:V	CO:112.2	COGNITIVE LEVEL: Apply
MARKS :5M	UNIT:V	CO:112.1	COGNITIVE LEVEL: Apply