SET - 1

## I B. Tech I Semester Supplementary Examinations, Oct/Nov. - 2018 ENGINEERING CHEMISTRY

(Com. to CE,ME,CSE,PCE,IT,Chem E,Aero E,AME,Min E,PE,Metal E,Textile Engg)
Time: 3 hours
Max. Marks: 70
Note: 1. Question Paper consists of two parts (Part-A and Part-B)
2. Answering the question in Part-A is Compulsory
3. Answer any THREE Questions from Part-B

## PART -A

1. a) Explain the principle involved in EDTA method for determination of hardness.
b) Discuss the importance of electrochemical series.
c) Explain the various types of metal oxide layers formed during dry corrosion.
d) What is addition and condensation polymerization? Give examples.
e) Explain the reason for knocking in engines.
f) Discuss the working of photovoltaic cell.

## PART -B

2. a) Explain compounding of plastics.
b) What is meant by combustion? The percentage composition of a sample of coal is $\mathrm{C}=75 ; \mathrm{H}=12 ; \mathrm{O}=8 ; \mathrm{S}=5$. Calculate the composition of the dry products of combustion by volume if $80 \%$ excess air is supplied.
3. a) Write notes on
(i) boiler corrosion
(ii) caustic embrittlement
b) Discuss the principle involved in potentiometric titrations.
4. a) Explain the various steps taking place during refining of petroleum.
b) Explain setting and hardening of cement.
5. a) Explain cathodic protection.
b) Explain reverse osmosis method and give its applications.
6. a) Explain the working of primary and secondary battery taking an example for each.
b) Discuss the preparation and applications of styrene butadiene rubber and polyethylene.
7. a) Discuss about conducting polymers.
b) Discuss electrochemical theory of corrosion.

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