

Code No: R10104

R10

SET - 1

I B. Tech I Semester Supplementary Examinations, January - 2020
ENGINEERING CHEMISTRY-I
(Com. to all branches)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks

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1. a) Explain the principle involved in osmosis and reverse osmosis. Write the advantages of reverse osmosis. (8M)
 - b) Define Lechatelier's principle. Explain its industrial application in production of sulphuric acid. (7M)
 2. a) Explain the process of fermentation with example. (8M)
 - b) Define catalyst. Explain the characteristics of catalyst. (7M)
 3. a) Explain the principle of biosensor. Give its applications. (8M)
 - b) Give the applications of NMR. (7M)
 4. a) Explain the controlled valency and stoichiometric semiconductors. (8M)
 - b) Explain the types of liquid crystals. (7M)
 5. a) Explain ultimate analysis of coal and its significance. (8M)
 - b) What is pulverized coal? Explain the types of carbonization of coal. (7M)
 6. a) What are reference electrodes? Explain the working of calomel electrode. (8M)
 - b) Discuss the working and applications of hydrogen-oxygen fuel cell. (7M)
 7. a) Define binding energy. Explain the relation between binding energy and nuclear stability. (8M)
 - b) Explain the role of moderator and coolant in nuclear reactor. (7M)
 8. Discuss the green house gases and its effects to environment. (15M)