**Course Number and Name**

**BCH101 - ENGINEERING CHEMISTRY - I**

**Credits and Contact Hours**

3 & 45

**Course Coordinator’s Name**

Ms. Madhubala

**Text Books and References**

**TEXT BOOKS:**


**REFERENCES :**


**Course Description**

To impart a sound knowledge on the principles of chemistry involving the different application oriented topics required for all engineering branches.

**Prerequisites**

+2 Level Chemistry

Co-requisites

NIL required, elective, or selected elective (as per Table 5-1)

**Course Outcomes (COs)**

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<th>CO</th>
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<tr>
<td>CO1</td>
<td>Understand the principles of water characterization and treatment for portable and industrial purposes.</td>
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<td>CO2</td>
<td>To impart knowledge on the essential aspects of Principles of polymer chemistry and engineering applications of polymers</td>
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<td>CO3</td>
<td>Having a sound knowledge in the Field of the Conventional and non-Conventional energy</td>
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<td>CO4</td>
<td>To impart knowledge on the essential aspects of electrochemical cells, emf and applications of EMF measurements</td>
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<td>CO5</td>
<td>To make the students understand the Principles of corrosion and corrosion control.</td>
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<tr>
<td>CO6</td>
<td>To impart knowledge about the Conventional and non-conventional energy sources and energy storage devices</td>
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**Student Outcomes (SOs) from Criterion 3 covered by this Course**

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<th>COs/SOs</th>
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List of Topics Covered

UNIT I  WATER TECHNOLOGY  9

UNIT II  POLYMERS  9
Introduction-Polymers- definition – polymerization – degree of polymerization - types of polymerization– Addition polymerization and Condensation polymerization – Mechanism of Polymerization - free radical polymerization mechanism only, Plastics: Classification – thermoplastics and thermosetting plastics – difference between thermoplastics and thermosetting plastics - preparation, properties and uses of PVC, Teflon, nylon-6,6, PET, Rubber :Types – drawbacks of natural rubber -vulcanization of rubber - properties and uses of vulcanized rubber Synthetic rubbers – butyl rubber and SBR

UNIT III  ELECTRO CHEMISTRY  9

UNIT IV  CORROSION AND CORROSION CONTROL  9

UNIT V  NON-CONVENTIONAL ENERGY SOURCES AND STORAGE DEVICES  9
Water technology. Introduction. Water is the nature's most wonderful, abundant and useful compound. Water is also used as a coolant, in power, and chemical plants. In addition to it, water can also be used in the production of steel, rayon, paper, textiles, chemicals, irrigation, drinking fire fighting, etc.