

GUJARAT TECHNOLOGICAL UNIVERSITY (GTU)

II - SEMESTER

Course Title: Material Technology

(Course Code: 1323404)

Diploma Programme in which this course is offered	Semester in which offered
Mechanical (Manufacturing Technology)	Second Semester

Module.	Topics	Hours
Module 1	Properties of Materials 1.1 Mechanical Properties 1.2 Electrical Properties 1.3 Thermal Properties	3 h
Module 2	Ferrous Metals 2.1 Ferrous Metals 2.2 Cast Iron – Properties and Application of 2.2.1 Grey Cast Iron 2.2.2 White Cast Iron 2.2.3 Alloy Cast Iron 2.3 Steel 2.3.1 Plain Carbon 2.3.2 Alloy Steel 2.3.3 Properties and Application of 2.3.3.1 Low Carbon Steel 2.3.3.2 Medium Carbon Steel 2.3.3.3 High Carbon Steel 2.3.3.4 Alloy Steel 2.4 Effect of Alloying Elements on Steel 2.4.1 Chromium 2.4.2 Nickel 2.4.3 Vanadium 2.4.4 Manganese 2.4.5 Cobalt 2.5 Titanium – Properties, Application	10 h
Module 3	Non – Ferrous Metals and Alloys 3.1 Properties and Application of the following 3.1.1 Copper 3.1.2 Aluminium 3.1.3 Zinc 3.1.4 Tin 3.1.5 Brass 3.1.6 Bronze	5 h

Module 4	Plastics 4.1 Thermo Plastics and Thermosetting Plastics 4.2 Properties and Application of the following Thermo Plastics 4.2.1 LDPE 4.2.2 HDPE 4.2.3 PS 4.2.4 PP 4.2.5 PA 4.2.6 PMMA 4.2.7 PET 4.2.8 PC 4.2.9 PVC	6 h
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