GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Metallurgy Engineering

Semester: 3

Subject Code
Subject Name METALLURGICAL DRAWING

LABORATORY EXPERIENCES (TERM WORK) :

SHEET-1 CRUCIBLE FURNACE AND CUPOLA MODEL
1.1 Typical crucible.
1.2 Natural draft pit furnace.
1.3 Gas fired crucible furnace.
1.4 Sectional view of cupola.

SHEET-2 ELECTRICAL FURNACES
2.1 Indirect arc furnace.
2.2 Direct arc furnace.
2.3 Resistance furnace.
2.4 List coil furnace.
2.5 Principle of Induction furnace.

SHEET-3 BLAST FURNACE
3.1 Section of moderate size blast furnace.
3.2 Section of Blast furnace Hearth and bosh.
3.3 Double cup and cone.

SHEET-4 STEEL MAKING - I
4.1 Kaldo furnace.
4.2 L.D.Converter.

SHEET-5 STEEL MAKING -II
5.1 Open Hearth furnace.

SHEET-6 HEAT TREATMENT FURNACES MODEL
6.1 Muffle furnace.
6.2 Salt bath furnace.

SHEET-7 PATTERN DRAWINGS
7.1 Types of patterns.

SHEET-8 GATTING SYSTEM
8.1 Top gate.
8.2 Bottom gate.
8.3 Parting line gate.

SHEET-9 RISERS CHART, TRANSPARENCIES
9.1 Blind riser.
9.2 Open riser.
9.3 Riser allocation.

SHEET-10 CASTING TECHNIQUES
10.1 Shell moulding.
10.2 Centrifugal moulding.
10.3 Concast machine.

SHEET-11 TYPES OF EQUILIBRIUM DIAGRAM
11.1 Two metals mutually soluble in liquid state and completely Insoluble in solid state.
11.2 Two metals mutually soluble in liquid state only partially soluble in solid state.

SHEET- 12 FE-C DIAGRAM
12.1 Draw proportionate Fe-C diagram with phases.

SHEET-13 METAL FORMING PROCESSES - I
13.1 Extruding.
13.2 Wire drawing.

SHEET-14 METAL FORMING PROCESSES - II
14.1 Rolling.

SHEET-15 METAL FORMING PROCESSES - III
15.1 Forging

Reference Books:

1. Introduction to foundry tech. By A.K.Winter
2. Engg. Metallurgy Vol. I & II By R.A.Higging
3. Mechanical metallurgy By Dieter
4. General metallurgy By Kuznenetsar