

No	Information of every subject	
1	Unit name:	Workshop Technology I
2	Code:	ME-21012 & ME22012
3	Classification:	Engineering Subject
4	Credit value:	2
5	Semester/ Year Offered:	1/2
6	Pre-requisite:	ME-11012 (workshop Practice)
7	Mode of delivery:	Lecture , Practical
8	Assessment system and breakdown of marks:	
	Test	30%
	Mid-term & Final Examination	70%
9	Academic staff teaching unit:	3
10	<p>Course outcome of unit:</p> <p>In this course, students will be able</p> <p>Semester I</p> <ul style="list-style-type: none"> (a) To manage plant and shop layout (b) To understand / use the industrial safety (c) To understand the properties of material (d) To operating in fitting shop (e) To understand and operate in sheet metal shop <p>Semester II</p> <ul style="list-style-type: none"> (a) Terms of welding, all of the welding process, different equipments in gas welding and arc weiding and in selecting in welding process of any metal joining situation . (b) Understand the principle parts of lathe ,shaper, planer, drilling and milling machine . (c) Understand in each machine operations , accessories and its tool 	
11	<p>Synopsis of unit:</p> <p>The subject of workshop technology has become very important to the engineer, supervisor or worker.Work can be performed skifully, when the work to be performed in the shop is understand both in its practical and theoreticalaspects.So the</p>	

	study of workshop technology has been made compulsory these days for a worker, foremen and engineer so that he can make himself with basic knowledge of manufacturing process and material.
12	<p>Semester I</p> <p>Topic:</p> <p>1 Plant and Shop Layout</p> <p> 1.1 Introduction</p> <p> 1.2 Factors in plant layout</p> <p> 1.3 Principle of plant layout</p> <p> 1.4 Objective of plant layout</p> <p> 1.5 Advantages of a good plant layout</p> <p> 1.6 Type of plant layout</p> <p> 1.7 Fixed position layout</p> <p> 1.8 Process layout or factional layout</p> <p> 1.9 Product layout or line layout</p> <p> 1.10 Comparison of process or product layout</p> <p> 1.11 Combination layout or group layout</p> <p> 1.12 Shop layout</p> <p> 1.13 Layout of fitting shop</p> <p> 1.14 Layout of machine shop</p> <p> 1.15 Layout of welding shop</p> <p> 1.16 Layout of sheet –metal shop</p> <p> 1.17 Layout of carpentry cum pattern making shop</p> <p> 1.18 Layout of Foundry shop</p> <p> 1.19 Layout of smith and forging shop</p> <p> Review Question</p> <p>2 Industrial Safety</p> <p> 2.1 Introduction</p> <p> 2.2 Objective of industrial safety</p> <p> 2.3 Accident</p> <p> 2.4 Causes of accidents</p> <p> 2.5 Types of accidents</p>

	<ul style="list-style-type: none">2.6 Effect of accidents2.7 Safety measures in construction work2.8 Safety measure in material handling2.9 Safety measure against electric shocks2.10 Fire prevention and protection2.11 Factories Act 1948, regarding safety2.13 First Aid <p style="text-align: center;">Review Questions</p>
3	<p>Properties of Engineering Materials</p> <ul style="list-style-type: none">3.1 Introduction3.2 Classification of metals3.3 General terms3.4 Properties of materials <p style="text-align: center;">Review Questions</p>
4	<p>Bench Work and Fitting</p> <ul style="list-style-type: none">4.1 Introduction4.2 Classification of metals4.3 Fitting tools4.4 Clamping tools4.5 Measuring and marking tools4.6 Method of marking4.7 Cutting tools4.8 Striking tools4.9 Miscellaneous tools4.10 Drilling4.11 Tapping <p style="text-align: center;">Review Questions</p>
5	<p>Sheet Metal Work</p> <ul style="list-style-type: none">5.1 Introduction5.2 Metal used in sheet metal work5.3 Sheet metal tools5.4 Sheet metal operations

5.5 Sheet metal joints: Hems and seams

5.6 Sheet metal machine

Review Questions

Semester II

1

Welding : A Fabrication Process

1.1 Introduction

1.2 Classification of welding

1.3 Types of welding joints

1.4 Welding positions

1.5 Basic weld symbols

Review Questions

2

Gas Welding

2.1 Definition

2.2 Oxy-acetylene welding

2.3 Oxy-hydrogen welding

2.4 Air-acetylene welding

2.5 Oxy-acetylene cutting

2.6 Safety precautions in gas welding

Review Questions

3

Arc Welding

3.1 Introduction

3.2 Arc welding principle

3.3 Arc welding equipment

3.4 precautions in arc welding

3.5 Electrodes

3.6 Types of arc welding

Review Questions

	<p style="text-align: center;">4 Machine Tools</p> <p style="text-align: center;">4.1 Introduction</p> <p style="text-align: center;">4.2 Lathe machine</p> <p style="text-align: center;">4.3 Milling machine</p> <p style="text-align: center;">4.4 Drilling machine</p> <p style="text-align: center;">4.5 Shaper</p> <p style="text-align: center;">4.6 Types of chip</p> <p style="text-align: center;">4.7 Cutting fluid</p> <p style="text-align: center;">Review Questions</p>
14	<p>Main references:</p> <p>Dr .R. Kesavan, B.Vijaya Ramnath, Machine Tools, First Edition, 2013, University Science Press</p>
15	<p>Additional references:</p> <p>Dr.K.Kesaran,B.Vijayaramath,S.K.Garj,Machine Tools,First Edition,2013,University Science Press,Workshop Technology(Manufacturing Process),Third Edition,2009, University Science Press.</p>