

21

SYLLABUS FOR (TRADE NAME)

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TRADE:

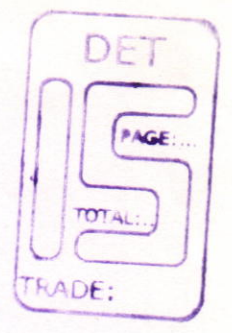
MILLING MACHINE OPERATOR

UNDER CODE OF REGULATIONS FOR
INDUSTRIAL SCHOOLS



AS APPROVED BY
DEPARTMENT OF EMPLOYMENT AND
TRAINING, CHEPAUK,
CHENNAI 600 005.

..... 2004



LIST OF COMMITTEE MEMBERS

FOR THE TRADE OF MILLING MACHINE OPERATOR

1. Members and Experts

1. Sri. T. SUNDARARAJAN
Regional Joint Director
Gundy, Chennai - 32.

2. Sri. P. DWARAKA
Assistant Director
Guindy, Chennai - 32.

3. Sri. S.J. MANOHARAN
principal (I/C)
CSI Rural Community College
Industrial School
Melrosapuram - 603 204.

4.

5.

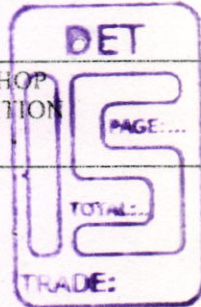
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COURSE DETAILS

Name of Trade	: MILLING MACHINE OPERATOR
Qualification	: VIII Pass
Age	: 14-40 Years
Duration	: 1 Year
Number of Trainees	: 20
Number of Practical hours	: 32 hrs. per week
Number of Theory Hours	: 8 hrs. per week
Number of Workshop Calculation hours	: 2 hrs. per week.
Number of Engineering Drawing hours	: 2 hrs. per week
Space Required	
Workshop	: 1000sq. feet
ClassRoom	: 200 sq. feet
Power Required in KW	: 10 k.w.

DRAFT SYLLABUS FOR THE TRADE OF MILLING MACHINE OPERATOR ONE YEAR UNDER INDUSTRIAL SCHOOL PATTERN

Duration : One Year

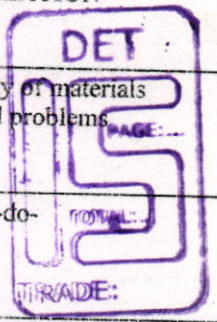


WEEK NO	TRADE THEORY	TRADE PRACTICAL	ENGINEERING DRAWING	WORKSHOP CALCULATION
01	Introduction of RCC Industrial school Facilities, course offer And duration	Safety Precaution	-----	-----
02	Introducing the trade (Scope of the trade)	Introduction workshop & workshop discipline.	-----	Reading the scale
03	Safety & house keeping	Studying work shop layout.	Different types Of lines	Conversion from mm to Inches
04	Introduction use and care of hand tools	Handling method of hand tools	-do-	Conversion from Inches to MM
05	Introduction use and care of hand tools	Handling tools with different method.	Letter writing	Reading the scale And calibration.
06	Functioning of milling machine	Function of milling m/c & differents of speed & feed.	Letter writing	Conversion from MM To Inches and Inches To MM.
07	Different types of milling machine	Operation method of milling machine	Different types of lines & Symbols	Conversion from MM To Inches and Inches To MM
08	Different types of milling machine	Job setting in milling machine	-do-	Multiplication, subtraction
09	Specification of milling machine	Job setting in milling machine	Free hand sketch screws & threading	Multiplication, subtraction
10	Different types of milling machine explain	Different types of cutters	Free hand sketch single row bearing, lubrication system in machines.	Basic conversion FPS to MKS

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WEEK NO	TRADE THEORY	TRADE PRACTICAL	ENGINEERING DRAWING	WORKSHOP CALCULATION
11	Principle of operation	Different types of cutters uses	Method of title box	Density of materials related problems
12	Principle of operation	Plain milling	First angle projection learning	-do-
13	Principle of operation	Side milling	First angle projection learning	Properties of materials
14	Accessories using in milling machine	Squaring the job in face mill cutter.	First angle projection Learning	-do-
15	Accessories using in milling machine	Squaring the job in face mill cutter.	Learning third angle projection	Division, Subtraction
16	Review previous syllabus and exam conducted			Ratio & Proportion
17	Nomenclatures of cutting	Face in end mill cutter	Learning third angle projection	Simple problem with addition multiplication and fraction
18	Truing the vice, bed	Side in end mill cutter	Free hand sketch of simple solids & Rectangular block	Division, subtraction
19	Milling m/c processing	Squaring in end mill cutter	-do-	Solving simple problem
20	Milling m/c processing	Job setting truing with dial	-do-	Simple problem of sq.root
21	Milling m/c processing	Instruction of drilling machine	Boring tools sketches	Solving simple problem, basic trigonometry
22	Conventional milling m/c	Key way operation	Isometric view	-do-
23	Climb milling m/c	Slot milling	Learning Isometric view	-do-



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WEEK NO	TRADE THEORY	TRADE PRACTICAL	ENGINEERING DRAWING	WORKSHOP CALCULATION
24	Milling Operation	Slot milling	Isometric view	Calculate P.C.D.
25	Continued previous syllabus	Step operation	Other graphs view, solids, hollow objects	-do-
26	Straddle milling m/c	T-slotting operation	-do-	Gear Calculation
27	Gang milling machine	T-slotting operation	Other graphs View, square, circle etc.,	-do-
28	Vertical milling attachments	T-slot with drilling operation	Sectioning	-do-
29	Gear cutting in milling machine	Gear cutting operation and calculations	To show various parts by sectioning	Allowance, tolerance
30	Follow last week	Index method	Drawing threads in bolt & nuts etc.,	-do-
31	Formed cutter method	Index method	-do-	Weights, measurements, unit and conversion
32	Revision from old portion and exams conducted.			-do-
33	Template method	Gang milling operation	To continue the 31 st week syllabus, rivets and joint.	Fits & Units
34	Generation method	Drilling operation in milling machine	-do-	-do-
35	Drilling head type	Tool holding device	Orthographic view single solids	Fraction, Conversion
36	Principle of operation and calculations	Tool holding device	-do-	Slip gauge calculation

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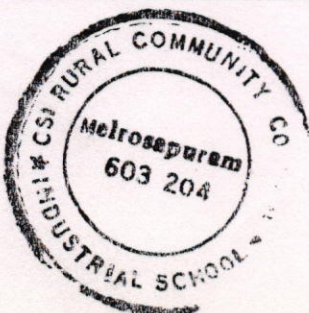
WEEK NO	TRADE THEORY	TRADE PRACTICAL	ENGINEERING DRAWING	WORKSHOP CALCULATION
37	To continued last week syllabus	Angular milling	Free hand sketches of job.	Slip gauge calculations
38	Introduction last week syllabus	Angular milling	-do-	To find taper angle
39	Types of drilling m/c purpose	Drilling and counter boring operation	-do-	-do-
40	Types of drilling m/c purpose	Jig boring operation in milling m/c	Blue Print reading	Working power energy
41	Description and function of Radial drilling m/c	Jig boring operation in milling m/c	-do-	Ratio proportions & applications
42	Work holding device of drilling m/c	Jig boring operation in milling m/c	-do-	Fraction, sq. root, etc.,
43	Regrinding of drill bits	Boring operation in milling m/c	Free hand sketches hand tools	Simple equations.
44	Introducing measuring Instruments	Boring operation in milling m/c	Free hand sketches hand tools	Simple Simultaneous equations
45	Explain precession, non precession Instruction	Boring operation in milling m/c	Free hand sketches hand tools	Simple machines and mech. advantages
46	How to handle precession, Non-precession Instruments	To true the bed	Free hand sketches hand tools	Single algebraic problem
47	Maintenance of measuring Instruments	To true the bed	Free hand sketches hand tools	Trigonometrical relations

W/S. Cal : 48 temp., heat, specific heat, latent heat. 49 Volume and weights. 50 Area of simple figures
51 Revision. 52 Test.

Note :

From 5th week to 10th week facing and OD turning including ID boring is taught in lathe machine.

From 48th week to 52nd week Review from 1st week to till date syllabus and model and Annual exam conducted.



ACHIEVEMENTS

1. From academic qualification to the Technical qualification each student learn to operate various kind of machines.
2. Learning the knowledge of handling precision Instruments.
3. Learning to study the Blue Print and Engineering Drawings.
4. By getting suitable job and earn a decent salary to support the family and for their future.

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LISTING FOR
MILLING MACHINE OPERATOR.

Sl. No.	Description	Quantity
1.	Outside Micrometer 00-25 (5 Nos.), 25-50 (2 Nos.), 57-75 (3 Nos.) 75-100 (2 Nos.), 100-125 (2 Nos.)	14
2.	Vernier Calliper - 150 mm (3 Nos.), 300 mm (3 Nos.), 600 mm (3 Nos.)	9
3.	Bore Dial Gauge ϕ 300 mm (1 No.), 35-60 mm (1 No.)	2
4.	Vernier Height Gauge 50-100	1
5.	Depth Micro-meter 0.50 mm (1 No.), 0.75 mm (1 No.), 0.150 mm (1 No.)	3
6.	L-angle Plate 200 mm, 175 mm	2
7.	Plunger type Dial 0.01 mm . 2 Nos, 0.001 mm-2 Nos.	4
8.	Magnetic V Block	2
9.	Non-Magnetic V Block	2
10.	Combination Set 300 mm	2
11.	Steel Parallel Blocks 100x50x25 mm	2
12.	Slip Gauge Box (1.87)	1
13.	Universal Milling Machine	2
14.	Vertical Milling Machine	2
15.	Milling Cutters (Complete)	1 set
16.	Lathe (all geared) motorised with all attachments	2
17.	Drilling Machine	1



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