

RECOMMENDED TEXT BOOKS

1. Principles of Metal casting by: F.W Heine & P.C Rosenthal - Pub. McGraw-Hill
2. Non-ferrous foundry metallurgy by: A. J. Wurfy - Pub. Pergamon Press
3. A manual of foundry practice by: J. Leing & R. T Roife Pub. Chapman & Hill
4. Cores and core-making by: F.D Ropers - Pub Allen & Union.
5. Material Science for Engineers by Van Ulack - Pub. Addison-Wesley, Pub. Co.
6. Foundry Technology by: C.O. Nwajagu - Pub
7. Foundry Engineering by: Howard F. Taylor, Merton C. Flemings, John Wulff.
8. Foundry sand practice by: Clyde A. Sanders

LIST OF WORKSHOPS AND LABORATORIES

A) WORKSHOPS

1. Pattern Making shop
2. Moulding shop
3. Core-making shop
4. Furnace shop
5. Finishing shop

B) METALLURGICAL LABORATORIES

1. Sand testing laboratory
2. Metal testing laboratory (Destructive and Non-destruction tests)

C) SCIENCE LABORATORIES

1. Physics Laboratory
2. Chemistry Laboratory

LIST OF EQUIPMENT

Tools, materials and equipment for use in pattern making, moulding, core making, casting and metallurgical laboratories

S/NO.	DESCRIPTION OF ITEMS	MINIMUM QUANTITY REQUIRED	QUANT. AVAIL.	REMARKS
	<u>Pattern Making Shop</u>			
1.	Jack planes	6		Add circular surface m/c cross cutting m/c thicknesser pedestal grinder surface plainer buot welder.
2.	Jack planes smooth	6		
3.	Cross cut saws	4		
4.	Rip cut saws	4		
5.	Tenon saws	10		
6.	Try squares	10		
7.	Mitre squares	6		
8.	Wood work benches	4		
9.	Wood work vices	16		
10.	Mortise gauge	6		
11.	Mortise chisels	6 sets		
12.	Marking gauge	10		
13.	Marking knife	10 sets		
14.	Firmer chisels	6		
15.	Spork shape	6		
16.	Hammer	10		
17.	Nails	5 kg		
18.	Glue	1 gallon		
	<u>Machines</u>			
	Hand drills	4		
	Wood tuning lathe	1		
	Band saw with accessories	1		
	Moulding shop	1		
1.	Red sand	1/4 ton		
2.	Silica sand	1 ton		
3.	Moulding bench	10		
4.	Bottom board	30		

5.	Moulding flasks	30		
6.	shovel	10		
7.	Moulding sand	30		
8.	Watering can	5		
9.	Wheel barrow	4		
10.	Parting dust	30		
11.	Rammers 1	30		
12.	Moulding trowels	10		
13.	Stake off bars	10		
14.	Gate cutter or spoon	10		
15.	Sprue pins			
16.	Vent rods	30 pks		
17.	Wet brush	30 pks		
18.	Draw pins	10		
19.	Bellowers	100 pks		
		6		
20.	Lifter	2		
21.	Bulb sponges	6		
22.	Riddle (sleeves)	10		
	<u>Machines</u>			
1.	Sand mixing machine	1		
2.	Continous mixer machine/dispenser	1		
	Moulding machines			
3.	Laboratory equipment for sand routine testing	5		
4.	<u>Core Making shop</u>	2 sets		
1.	Core boxes			
2.	C-clamps			
3.	Linseed oil			
4.	Fast drying agents	10		
5.	Core dried	20		
	<u>Machines</u>	5 gallons		
1.	Core blowing machine with accessories	5 pks		
2.	Shell core machines	2		
	<u>Furnace Shop</u>			
1.	Crucible furnace	2		

2.	Crucible pots			
3.	Crucible test or tool			
4.	Crucible lifting tongs	2		
5.	Metal pick-up tongs			
6.	Combined slag lifter and skimming ladle	1		
7.	Combined portable thermocouple and pyrometer	2		
8.	Chemical additives	3		
9.	Degassing plunger			
10.	Hammers	2		
11.	Face shields			
12.	Heat resistant gloves	6		
13.	Knee leggings	2		
14.	Big type aprons (leather)			
15.	Heavy shoes			
16.	Refractory clays	2		
2.	Outside caliper	8		
3.	Inside caliper	8		
4.	Steel measuring tapes	4		
	Measuring rules			
5.	<u>Vices/Pliers</u>	10		
	Bench vice			
1.	Hand vice	4		
2.	Combination pliers	6		
3.	<u>Files</u>	4		
	Flat file			
1.	Half round file	10		
2.	Round file	10		
3.	Triangular file	5		
4.	Rasp file half-round	10		
5.	<u>Machines</u>	5		
	Pillar drilling machine			
	Straight shank drill bits			

Knock out equipment safety wears.
Tumbling barel
shot blasting
hydroblasting

1.	Tapered shank drill bits Drill drift	1		
2.	Pedestal grinder Wire brush	2 sets		
3.	Goggle Hand hacksaw with blade	1 set		
4.		1		
5.	Metallurgical laboratory:	2		
6.	- grinders	10		
7.	- polishers	10		
8.	- metallurgical microscope	6		
	- etchants	2		
9.	- metal analysers etc.	2		

