

**Enclosure-II****LIST OF TOPICS FOR APPRENTICESHIP TRAINING PROGRAM**

<b>SI No.</b>	<b>Topics</b>
1	Safety & General Precautions
2	Basic Hand Tools
3	Cutting Tools & Power Tools
4	Measuring Instruments
5	Metals - Ferrous & Non-Ferrous
6	Heat Treatment
7	Limits, Fits & Tolerance
8	Gauges
9	Speed, Feed & Depth Of Cut
10	Drills & Drilling
11	Milling
12	Half Nut/Apron. Nut & Gear Mechanism
13	Grinding
14	Lathe & Lathe work
15	Indexing
16	Different Types of Machines (Shaping, Slotting, Planning etc.
17	Super Finishing Processes (Lapping & Honning)
18	CNC Machine & Programming
19	Coolants & Lubricants
20	Bearings
21	Files & Fitting
22	Jigs, Fixtures & Templates
23	Welding & Welding Joints
24	Sheet Metal Technology
25	Basics of Foundry Technology
26	Transmission of Motion & Power
27	Rivets & Riveted Joints
28	Threaded Fasteners
29	Pipes & Pipe Joints
30	Keys, Cotter & Cotter Joints
31	Repair & Maintenance of Machines
32	Safety in Welding
33	Introduction to Welding Technology
34	Welding Tools, Equipments & Accessories
35	Different types of joining of Metals
36	Gas Welding & Cutting
37	Arc Welding
38	Carbon Arc Welding
39	Submerged Arc Welding
40	TIG & MIG Welding
41	Electro Slag Welding
42	Stud Welding
43	Plasma Arc Welding
44	Thermal Chemical Process

45	Radiant energy Process
46	Pressure Welding Process
47	Testing of Welds
48	Defects in welding
49	Welding Symbols
50	Electrical Safety
51	Nature of Electricity & Fundamental Laws
52	Work, Power & Energy
53	Electrical Measurement Instruments
54	Heating Effects of Electric Current
55	Chemical Effects of Electric Current
56	Magnetism & Electromagnetism
57	Electromagnetic Induction
58	Measuring Instruments
59	Hand Tools & Accessories
60	D C Generator
61	D C Motor
62	Cells & Batteries
63	Single Phase AC Circuits
64	Poly Phase AC Circuits
65	Alternators
66	Transformers
67	3 Phase Induction Motors
68	Single Phase Motors
69	Synchronous Motors
70	Illumination
71	Automobile Electrical System
72	Fundamentals of Electronics
73	Soldering Techniques
74	Earthing Principles etc.
75	Electrical Wiring, IE Rules etc.
76	Introduction to sheet Metal Work
77	Different Types of Sheet Metals as per BIS
78	Sheet Metal Cutting Tools & Stakes
79	Sheet Metal Folded Joints
80	Patterns & Templates
81	Development & Surfaces
82	Fastening of Sheet Metals
83	Sheet Metal Fabrication
84	Sheet Metal Machines
85	Painting
86	Material Handling
87	Estimation & Costing in Sheet Metal
88	Types of Foundries
89	Metal Casting
90	Sand Testing
91	Wood Working
92	Hand Tools & Accessories used in Foundry
93	Moulding & Composition

94	Binders & additives
95	Casting
96	Iron Ores & Grades
97	Steel Manufacturing Process
98	Furnaces
99	Computer Foudamentals
100	MS Windows
101	Office Automation Tools
102	Netqorking
103	C++, Java Language
104	Visual Basics, SQL
105	Basics of CNC Technology
106	CNC Programming & Execution of program
107	DNC Operation
108	CNC - Turning
109	CNC-Milling
110	BIS Symbols