

WORKSHOP PRACTICE**I SEMESTER****Objectives:**

- At the end of the practice, the students will be able,
- To acquire skills in basic engineering practice.
- To identify the hand tools and instruments.
- To acquire measuring skills.
- To acquire practical skills in the trades.

SCHEME OF INSTRUCTION AND EXAMINATION

Subject	Instruction		Examination			Duration
	Hours / Week	Hours / Semester	Marks			
WORKSHOP PRACTICE	3	48	Internal	Examination	Total	3 Hrs.
			25	75	100	

Note:

The students should be given training in both sections. All the exercises should be completed. The students should maintain record notebook for the concerned trades and submit during the Board Practical Examinations. **Wiring should also to be done in the fitting section, not in the electrical laboratory.**

FITTING SECTION

- General safety precaution inside the workshop.
- Study about first aid.
- Study of hand tools and measuring instruments.
- Marking and punching practice.
- Hacksaw cutting practice.
- Filing and fitting practice.
- Drilling and tapping practice.

Note: Practices should be given to cover the above area. At the end, the students should be able to do the following exercises for the board practical examinations. Students should mention the variations in the dimensions of their exercises.

Exercises

1. V-Joint
2. L-Joint
3. Step joint
4. T-Joint
5. U-Joint
6. Drilling and tapping 1
7. Drilling and tapping 2

Note: 70mm X 50 mm X 3mm thick plate can be used for the above joints. All the exercises should be given for the board practical examinations. **Drilling and tapping operations should be exercised in the fitting section itself.**

WIRING

- Study about the safety in wiring.
- Study of tools.
- Study about the earthing.
- Identify different electrical fitting and accessories.
- Identify the types of wires with colour code.
- Identify the symbols in circuit diagram.
- Practice simple wiring.
- Practice soldering.

Exercises

1. One lamp controlled by one-way switch.
2. Two lamps controlled by one-way switch in series.
3. Two lamps controlled by one-way switch in parallel.
4. Staircase wiring.
5. Tube light connection.
6. Circuit diagram for a fan.
7. Circuit diagram for a calling bell with ON/OFF control.

Note: Wiring section should be attached with the fitting section. Only components should be given to the students along with the board. Students should draw the circuit diagram and should collect the components according to their circuit and after the execution. All the components should be disassembled from the boards after evaluation by the examiner.

BOARD EXAMINATION EVALUATION

Practical Examination

Note: Arrangement should be made to conduct the examinations inside the workshop for both the sections. All the exercises should be given in the question paper and students are allowed to select by a lot.

Exercises	Duration	Max. Marks
Fitting	1 ½ Hrs	35
<u>Allocation</u>		
Marking & Cutting		- 10
Dimensions		- 20
Joint / Finish		- 5
Wiring	1 ½ Hrs	35
<u>Allocation</u>		
Circuit diagram		- 10
Assembly & connection		- 20
Result		- 5
Viva-voce		5
Internal Assessment		25
TOTAL		100

LIST OF EQUIPMENT REQUIRED**(For the Batch of 30 students)***

NAME OF THE BRANCH / COURSE : FIRST YEAR BASIC ENGINEERING
SEMESTER : I SEMESTER
NAME OF THE LABORATORY : WORKSHOP PRACTICE – FITTING SECTION

S.No	LIST OF THE EQUIPMENT	QUANTITY REQUIRED
1	4" Bench vice	30 No's
2	12" Flat Rough file	30 No's
3	12" Flat smooth file	30 No's
4	10" Try angular file	30 No's
5	8" Half round file	30 No's
6	8" Square file	30 No's
7	10" Round file	30 No's
8	150 mm Try square	30 No's
9	150 mm Steel rule	30 No's
10	6 mm Dot punch	30 No's
11	6 mm Center punch	30 No's
12	Adjustable type Hacksaw Frame	30 No's
13	6" leg vice	5 No's
14	6 mm Prick punch	5 No's
15	Hand shearing machine	1 No
16	Ball Pan ½ lbs Hammer	30 No's
17	6.8 mm Drill Bit	5 No's
18	8.5 mm Drill Bit	5 No's
19	10.2 mm Drill Bit	5 No's
20	M8 tap set	5 No's
21	M10 tap set	5 No's
22	M12 tap set	5 No's
23	Bench drilling machine	5 No's
24	Deep cut Hacksaw frame	5 No's
25	2' x 1 ½' Surface plate	2 No's
26	Scriber	30 No's
27	Tap wrench	10 No's

NAME OF THE BRANCH / COURSE : FIRST YEAR BASIC ENGINEERING
SEMESTER : I SEMESTER
NAME OF THE LABORATORY : WORKSHOP PRACTICE – WIRING SECTION

S.No	LIST OF THE EQUIPMENT	QUANTITY REQUIRED
1	6” Insulated handle cutting pliers	30 No’s
2	8” Insulated handle screw driver	30 No’s
3	¼ pound hammer	30 No’s
4	Wire Cutter	30 No’s
5	250V Line Tester	30 No’s
6	10 cm Poker	30 No’s
7	4” Connecting Screw driver	30 No’s
8	2x1½ Wiring board	30 No’s
9	Multi meter	5 No’s
10	Required numbers of switches and sufficient consumables	

* If the batch strength is more than 30 students then the number of equipment required have to be procured and made available accordingly, so that all the students will do the exercises without any hindrance.

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