GOVERNMENT OF TAMILNADU

DIRECTORATE OF TECHNICAL EDUCATION

DIPLOMA IN ENGINEERING
I YEAR

SEMESTER SYSTEM

L - SCHEME

2011 - 2012

II SEMESTER

WORKSHOP PRACTICE

CURRICULUM DEVELOPMENT CENTER

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TAMILNADU

DIPLOMA IN ENGINEERING - SYLLABUS

L- SCHEME

(Implements from the Academic Year 2011-2012 onwards)

Course Name: All Branches of Diploma in Engineering and Technology and Special Programmes except DMOP, HMCT and Film & TV.

Subject Code : **22009**

Semester : II Semester

Subject Title : **WORKSHOP PRACTICE**

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

No. of Weeks per Semester: 16 Weeks

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

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 exercises should be done in the workshop section itself, 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. U-Joint
5. Drilling and tapping 1
6. 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.

Note: Wiring section should be attached with the Fitting section.

Required wiring components should be given to the students along with the board. Students should draw the circuit diagram and fix the components according to their circuit. The power connection must be given on the board and the circuit must be tested with power after taking the due precaution. The concern faculty/examiner must ensure that the proper precaution has been taken before providing the power to the circuit. All the components should be disassembled from the board 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**
Allocation		
Marking & Cutting		*10*
Dimensions		*20*
Joint / Finish		*5*
Wiring	**1 ½ Hrs**	**35**
Allocation		
Circuit diagram		*10*
Assembly & connection		*20*
Result		*5*
Viva-voce		**5**
Internal Assessment		**25**
TOTAL		***100***

LIST OF TOOLS and EQUIPMENTS REQUIRED

NAME OF THE BRANCH / COURSE FIRST YEAR BASIC ENGINEERING

SEMESTER II SEMESTER

NAME OF THE LABORATORY WORKSHOP PRACTICE – **FITTING SECTION**

S.No	LIST OF THE TOOLS &EQUIPMENTS	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	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 II SEMESTER

NAME OF THE LABORATORY WORKSHOP PRACTICE – **WIRING SECTION**

S.No	LIST OF THE TOOLS &EQUIPMENTS	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	