

<b>GANPAT UNIVERSITY</b>										
<b>FACULTY OF ENGINEERING AND TECHNOLOGY (DIPLOMA PROGRAMMES)</b>										
Programme		Diploma Engineering				Branch/Spec.		Electrical Engineering		
Semester		I				Version		1.0.0.0		
Effective from Academic Year			2018-19			Effective for the batch Admitted in			June 2018	
Subject code		1ES110		Subject Name		Electrical Engineering Workshop Practice				
Teaching scheme					Examination scheme (Marks)					
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total	
	L	TU	P	TW						
Credit	0	0	2	0	2	Theory	00	00	00	
Hours	0	0	4	0	4	Practical	60	40	100	
Pre-requisites:										
None										
Learning Outcome:										
After successful completion of the course, student will be able to										
<ul style="list-style-type: none"> <li>• Identify various types of tools used for electrification.</li> <li>• Identify various types of electrical and electronics symbols.</li> <li>• Use and connect various measuring instruments to measure electrical parameters.</li> <li>• Identify various types of wire and cables.</li> <li>• Understand domestic protective devices.</li> <li>• Identify wiring and practise connections.</li> <li>• Practise soldering and disordering.</li> <li>• Understand importance of earthing and safety.</li> </ul>										
Practical content										
No.	Topics								Hrs	
1	Identify various tools used for electrical wiring.								04	
2	Identify the symbols used in electrical and electronics circuit diagrams.								04	
3	Use common testing instruments used in electrical workshop. (Test lamp, Line tester, Multimeter, Clip on meter, megger).								04	
4	Identify and connect various electrical measuring instruments and measure various electrical parameters like voltage, current and power.								04	
5	Connect different domestic appliances to power supply and measure current drawn by them.								04	
6	Preparation of different types of domestic wiring.								02	
7	Identify and specify different types of wires, cables and cable joints used for different current and voltage.								04	
8	Identify different types of energy sources, open circuit and short circuit.								04	
9	Identify and specify different types of switches used for different applications as per current and voltage ratings.								04	
10	Identify and specify different types of sockets and plugs used for different current and voltage ratings.								02	
11	Know the working of various domestic electrical circuit protective devices(fuse, MCB,ELCB)								04	
12	Prepare a meter board for lighting and power installation using MCB, energy meter, fuse unit, DP switch, indicators and busbars.								04	

13	Identify and specify different types of resistors and capacitors as per standard color code practice.	04
14	Solder various resistors, capacitors and electronic components on PCB.	04
15	Conduct mock artificial respiration and first aid exercises to learn about safety procedures of first aid in case of electrical hazards.	04
16	Know the importance of earthing in electrical installations.	02
17	Introduction to Trouble shooting.	02
References		
1	Mithal, G.K., "Electrical Engineering Materials", Khanna Publication.	
2	Gupta, J.B. , & Gupta, Renu, "Electrical engineering materials & semiconductor devices", S.K. Kataria & sons.	
3	Singh, Surjit, "Electrical engineering drawing i & ii", S.K. Kataria & sons.	
4	Bhatia, S.L., "Handbook of Electrical Engineering", Khanna Publication.	
5	Uppal, S.L. & Garg ,G.C., "Electrical Wiring, Estimating and Costing", Khanna Publication.	
6	<a href="https://home.howstuffworks.com/electrical-tools.htm">https://home.howstuffworks.com/electrical-tools.htm</a>	