GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Diploma in Vocation (D.Voc), 2nd Semester

Branch: All Branches

Subject Name: Basic Electricity Lab

Subject Code :1220105

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory		Tutorial / Practical		
L	T	OJT	C	University exams (ESE)	Progressive Assessment (PA)	External Practical /viva Exam(ESE)	Internal evaluation Practical /viva Exam(PA)	
0	0	2	2	0	0	30	20	50

Course Content:

Suggested Course Practical List: If any

Sr. No.	Experiment /Practical Exercises	Hrs.
1	To verify ohm's law.	**02**
2	Study of series resistive circuits.	**02**
3	Study of parallel resistive circuits.	**02**
4	Study of series and parallel connection of cells in circuits.	**02**
5	Preparation of Electrolyte for lead acid battery and its charging and measurement of Specific gravity with the help of hydrometer.	**02**
6	Charging and Discharging of a capacitor.	**02**
7	Study of R.L. series circuit and measurement of power and power factor.	**02**
8	Study of R.C. series circuit and measurement of power and power factor	**02**
9	Study of R.L.C. series circuit and measurement of power and power factor	**02**
10	Verification of temperature co-efficient of resistance: (i) Positive for Tungsten and Nichrome and (ii) Negative for carbon.	**02**
11	To find heat efficiency of an electric kettle.	**02**

Note: Minimum Eight Experiments should be performed by the students from the above given list. Or any other experiments related to above topics.

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List of Laboratory/Learning Resources Required: Ammeters, Voltmeters, Wattmeters, Resistors, Capacitors and Inductors of appropriate rating. Multimeters, Digital storage oscilloscope.

References/Suggested Learning Resources:

(a) Books:

1. Electrical Technology by B.L.Therja, S.Chand Publication
2. Electrical Estimating & costing by Surjitsingh, Dhanpat Rai & Co.
3. Mittle N., "Basic Electrical Engineering", Tata McGraw Hill Edition, NRA Delhi, 1990.
4. Nagsarkar T K and Sukhija M S, "Basics of Electrical Engineering", Oxford press 2005.
5. Mehta V K, "Principles of Electronics", S.Chand& Company Ltd, 1994.

(b) Open source software and website:

1. https://nptel.ac.in/

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