Syllabus for Diploma in Vocation (D.Voc), 1st Semester
Branch: Refrigeration and Air Conditioning
Subject Name: Applied Physics Lab
Subject Code: 1210106

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory		Tutorial/ Practical		
L	T	P	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

L- Lectures; T- Tutorial; P- Practical; C- Credit; ESE- End Semester Examination;
PA- Progressive Assessment

SUGGESTED LIST OF EXPERIMENTS

Sr. No.	Unit No.	Experiment /Practical Exercises	Hrs.
1	1	Linear Measurement by Vernier calipers.	02
2	1	Linear Measurement by Micrometer screw.	02
3	3	Measurement of Surface tension.	02
4	3	Measurement of Viscosity.	02
5	3	Measurement of Young's Modulus.	02
6	3	To determine Force constant with the help of periodic time of oscillations of spring.	02
7	3	Measurement of specific gravity.	02
8	6	To calculate refractive index of material of prism using spectrometer device.	02
9	4	Joule's mechanical equivalent of heat.	02
10	4	Measurement of co-efficient of thermal conductivity.	02
11	5	To study the relation between the length of a stretched string and the tension in it with the help of a sonometer.	02
12	6	To calculate SA/V ratio of simple objects to understand nanotechnology.	02

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

Suggested Specification Table with Marks (Practical):

Distribution of Practical Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
5	**10**	**10**	**5**	**10**	**10**

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

1. Engineering Physics I by Mani P. Dhanam Publications.
2. Engineering Physics by Marikani A. PHI Learning Pvt., India.
3. Engineering Physics by Palanisamy P.K. SCITECH Publications.
4. Materials Science by Palanisamy P.K. SCITECH Publishers.

(b) Open source software and website:

1. https://nptel.ac.in

List of Laboratory/Learning Resources Required:

1. https://vlab.amrita.edu/
2. https://www.amrita.edu/project/online-labs/
3. https://www.vlab.co.in/
4. https://iitb.vlabs.co.in/
5. https://vlab.amrita.edu/
6. https://praxilabs.com/

Suggested Activities for Students: If any

a) Sugar and bending of light: prepare a solution of sugar and water to demonstrate bending of Light

b) Mirascope: to demonstrate the Holographic effect using simple concept of reflection

c) Measurement: Measure physical quantities using smart phone applications.

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