B.M.S. College of Engineering, Bengaluru
Department of Physics
Syllabus from the year 2021-2022

Engineering Physics Laboratory			
Course Code	21PY1BSPHL / 21PY2BSPHL	CIE Marks	50
Teaching Hours/Week (L:T:P:S)	0:0:2:0	SEE Marks	50
Credits	01	Exam Hours	3 Hours

Course objectives:

1. To give hands-on experience on various experiments
2. To demonstrate competency and understanding of the basic concepts in experimental Physics

List of Experiments:

Ten Experiments to be performed

No.	Name of the experiment	Mapping with Units	Skill
1	Wavelength of transparent LEDs	Unit-1	Determine
2	Wavelength of semiconductor LASER source using diffraction grating	Unit-2	Determine
3	Numerical aperture and attenuation coefficient of an optical fiber	Unit-2	Analyse
4	Divergence angle of semiconductor LASER beam	Unit-2	Determine
5	Fermi energy of copper	Unit-3	Determine
6	Thermal conductivity of a poor conductor by Lee Charlton's method	Unit-3	Determine
7	Thermal conductivity of a metal by Forbe's method	Unit-3	Determine
8	Dielectric constant of a material by charging and discharging of a capacitor	Unit-4	Determine
9	Energy gap of a semiconductor using four probe method	Unit-4	Determine
10	Series and parallel LCR circuits	Unit-5	Analyse
11	Spring constant of a given spring	Unit-5	Determine
12	X-ray film analysis	General	Analyse

Course outcomes:

	On completion of the course, the student will have the ability to:	POs Mapped	Strength of mapping
CO1	**Conduct** experiments to obtain the desired physical parameter of the given system	PO4	3

Assessment Details:

Scheme of Continuous Internal Evaluation (CIE):

Criteria	Conduction of experiment and reporting	Record writing	Viva-voce	Lab Test	Total Marks
Marks	10	10	5	25	50

Lab Test: One experiment will be allotted for each student

Details of marks for each experiment

1. Write-up : 05
2. Conduction of experiment : 10
3. Result : 05
4. Viva : 05

Total : 25

Eligibility for Semester End Examination

Submission and certification of lab manual and record is compulsory to attend SEE

Minimum marks required in CIE to attend semester end practical examination: 20 marks

Viva-voce will be conducted individually

Semester End Examination:

All 10 experiments are included for the practical examination.

Scheme of Semester End Examination (SEE):			
1.	Exam will be conducted for 50 marks in 3 hours duration Two experiments will be allotted for each student		
2	Minimum marks required in SEE to pass: 20 out of 50 marks		
3	Write-up	10 marks	50 marks
4	Conduction of experiments	20 marks	
5	Calculations, result with unit, accuracy	10 marks	
6	Viva- voce	10 marks	

Suggested Learning Resources:

https://bmsce.ac.in/home/contentView/Physics-Department/PHY/47

https://vlab.amrita.edu/?sub=1&brch=282&sim=1512&cnt=1

https://bop-iitk.vlabs.ac.in/basics-of-physics/List%20of%20experiments.html

https://virtuallabs.merlot.org/vl_physics.html

https://phet.colorado.edu

https://www.myphysicslab.com

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