

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING AND TECHNOLOGY									
Programme		Bachelor of Technology			Branch/Spec		ALL		
Semester		I / II			Version		2.0.0.0		
Effective from Academic Year			2018-19		Effective for the batch Admitted in			July 2018	
Subject code		2BS103		Subject Name		Physics			
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture (DT)		Practical (Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	--	1	--	3	Theory	40	60	100
Hours	2	--	2	--	4	Practical	30	20	50
Pre-requisites: --									
Learning Outcome:									
After successful completion of course, students will be able to:									
<ul style="list-style-type: none"> • understand necessary parameters of different materials in different domains. • demonstrate the behavior of material in different fields based on their properties. • enrich their experimental knowledge. • enhance practical capability and skills for modules using different materials and selection of material for system designs. 									
Theory syllabus									
Unit	Content								Hrs
1.	Thermal Physics Introduction, thermometry, resistance thermometer, thermoelectric conduction, convection, radiation, thermal conductivity of material.								3
2.	Optics Introduction, different theories based on the properties of light, reflection, refraction, classification of fibers, absorption, dispersion, Lasers and LED, its operation and applications.								8
3.	Acoustics Introduction, parameters associated with sound wave, doppler effect, ultrasonic and its applications								4
4.	Magnetics Magnetic moment, Magnetic dipole, Magnetic Filed strength, Magnetic flux density, Intensity of magnetization, Magnetic dipole moment, Magnetic field Intensity, magnetic permeability, magnetic susceptibility, Bohr magnetron, classification of magnetic materials, , hysteresis, Skin effect, application of magnetic materials.								4
5.	Semiconductor Physics Conductors, Insulator, semiconductors, silicon crystals, intrinsic semiconductor, doping, type of semiconductor, biasing, breakdown, energy level and hill, barrier potential.								6
6.	Modern Physics Introduction to nucleus, application of plasma physics, superconductive materials Nanomaterials, Bio-materials, X-rays.								5
Practical content									
Practicals are based on above contents.									

Text Books	
1	“Engineering Physics” by V Rajendran (Tata McGraw Hill Education).
2	“Modern Engineering Physics” by Vasudeva (S. Chand Publication).
3	“Electronic Principles” by A. P. Malvino (Tata McGraw Hill Education).
Reference Books	
1	“Engineering Physics” John Wiley & Sons.
2	“Engineering Physics” by Naidu (Pearson Education India Publication).
3	“A Text Book of Engineering Physics” by M. N. Avadhunuly, P.G. Kshirsagar (S. Chand Publication).
4	Moocs : 1. http://nptel.ac.in/courses/122107035/1 2. http://nptel.ac.in/courses/122107035/8