



|| Jai Sri Gurudev ||
Sri Adichunchanagiri Shikshana Trust (R)
SJB Institute of Technology

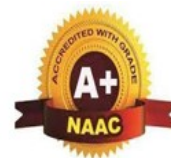
BGS Health and Education City, Dr. Vishnuvardhana Road, Kengeri, Bengaluru-560060

Approved by AICTE, New Delhi.

Autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi

Accredited by NAAC with 'A+' grade, Certified by ISO 9001 - 2015

Recognized by UGC, New Delhi with 2(f) & 12 (B)



Semester:	I / II	Course Type:	ESC		
Course Title: Introduction to Electronics & Communication Engineering					
Course Code:	25ECT13/23		Credits:		3
Teaching Hours/Week (L: T:P:S)			3:0:0:1	Total Hours:	40
CIE Marks:	50	SEE Marks:	50	Total Marks:	100
SEE Type:	Theory			Exam Hours:	3
I. Course Objectives					
This course will enable students: <ul style="list-style-type: none">To understand the construction, operation and characteristics of Semiconductor Diodes & BJT.To demonstrate the operation and applications of Op-AmpTo design basic digital circuits using logic gates.To explain the basics of communication systems, WLAN and Bluetooth.To Interpret the structure and functionality of embedded systems.					
II. Teaching-Learning Process (General Instructions)					
<ul style="list-style-type: none">Chalk and talk method.Power point presentation / keynotesVideosVirtual LabsDemonstration of components /circuitsProblem Based Learning (PBL), which fosters students’ Analytical skills, develop thinking skills such as the ability to evaluate, generalize, and analyse information rather than simply recall it.Case-based teachingRole playProject/activity based learning					
III. COURSE CONTENT					
Module-1 Semiconductor Diodes and its Applications					8 Hours
Semiconductor diode, Ideal Versus Practical, Resistance Level, Diode Equivalent Circuits, Zener diodes, Load Line Analysis. Half Wave Rectification, Full Wave Rectification, Capacitor filter. Textbook-1 : Chapter - 1, 2, 15 : Sections: 1.6,1.7,1.8,1.9,1.15 , 2.2,2.6,2.7,2.10 , 15.3					
RBT Levels: L1, L2, L3					
Module-2 BJT & Operational Amplifier					8 Hours
Introduction, Transistor construction, Transistor Operation, Common Base, Common Emitter, Common Collector Configuration Operational Amplifier: Operational Amplifier Parameters, Operational Amplifier Characteristics, Operational Amplifier Configurations, Operational Amplifier Circuits. Textbook 1: Chapter - 3, Sections 3.1,3.2,3.3,3.4,3.5,3.6,3.7					

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VI. Assessment Details (CIE & SEE)				
General Rules: Refer to Academic Regulations				
Continuous Internal Evaluation (CIE): Refer to Annexure SL #1				
Semester End Examination (SEE): Refer to Annexure SL #1				
VII. Learning Resources				
VII(a): Textbooks:				
Sl. No	Title of the Book	Name of the author	Edition and Year	Name of the publisher
1	Electronic Devices and Circuits Theory	Robert L Boylestad & Louis Nashelsky	10 th edition	Pearson
2	Electronic Circuits Fundamentals & Applications	Mike Tooley	6 th Edition	Elsevier, 2020
3	Digital Logic and Computer Design	M. Morris Mano	ISBN-978-81-203-0417-8, 2008	PHI Learning
4	Communication Systems	S L Kakani , Priyanka Punglia	1 st edition, 2017	New Age International Pvt Ltd
5	'Introduction to Embedded Systems',	K V Shibu	2nd Edition, 2019.	McGraw Hill Education (India), Private Limited,
VII(b): Reference Books:				
1	Electronic Devices and Circuit Theory	David A Bell	5 th Edition	Oxford University Press
2	Electronic Communication Systems	George Kennedy	4 th edition	TMH
VII(c): Web links and Video Lectures (e-Resources):				
<ul style="list-style-type: none"> • https://nptel.ac.in/courses/122106025 • https://nptel.ac.in/courses/108105132 • https://nptel.ac.in/courses/117104072 • https://youtu.be/C0s7TS6HK0I • https://youtu.be/j8V8nDCIHXY 				
VIII: Activity Based Learning / Practical Based Learning/Experiential learning:				
Welcome to Virtual Labs - A MHRD Govt of India Initiative (vlabs.ac.in)				