SIDDHARTHA INSTITUTE OF TECHNOLOGY & SCIENCES

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5	Perform an experiment to choose Q-point for a Transistor that operate in active region and observe the effect of external Load resistance on Q-point.	
6	Design a Self bias Circuit and determine the Q-point of the Transistor and its Stability factor by both simulation and realization with hardware components	
7	Obtain the I/O Characteristics of CE, CB, CC amplifiers. Calculate h-parameters from the Characteristics.	
8	Design and Simulate a Common Drain Amplifier with voltage divider bias and determine the Stability factor	
9	Obtain the Drain and Transfer characteristics of CD, CS amplifiers of JFET. Calculate gm, rd from the Characteristics	
10	By experiment prove that the voltage gain of Emitter Follower Circuit is one	
11	Design a Common Emitter Amplifier with a gain of 30db and Bandwidth of 10KHZ and plot the frequency response practically.	
12	Design a two stage RC Coupled amplifier and prove that gain is increased and analyze the effects of coupling capacitance.	
13	Practically prove that the Darlington pair has high input impedance.	
14	Draw the high frequency response of common emitter transistor amplifier and calculate fα, fβ and gain bandwidth product.	
15	Design a cascode amplifier for a given specifications	

16	Design four topologies of feedback amplifiers and draw the frequency response of them with and without feedback.	
17	Design an RC phase shift oscillator circuit and derive the gain condition for oscillations practically for given frequency.	
18	Design a Colpitts oscillator circuit for the given frequency and draw the output waveform	

SIDDHARTHA INSTITUTE OF TECHNOLOGY & SCIENCES

VISION & MISSION OF THE INSTITUTE

VISION:

To be a Centre of Excellence in Technical Education and to become an epic center of Research for creative solutions.

MISSION:

To address the Emerging Needs through Quality Technical Education with an emphasis on practical skills and Advanced Research with social relevance.

OBJECTIVES:

- To translate our vision into action and accomplish our mission, we strive to provide state-of-art infrastructure.
- Recruit, Motivate and develop faculty of high caliber and with multiple specialization.
- Continuously review, innovate and experiment teaching methodologies and learning processes.
- Focus on research, training and consultancy through an Integrated Institute-Industry symbiosis.

SIDDHARTHA INSTITUTE OF TECHNOLOGY & SCIENCES

VISION & MISSION OF THE DEPARTMENT

VISION :

To provide innovative teaching and learning methodologies for excelling in a high-value career, higher education and research to the students in the field of Electronics and Communication Engineering to meet the needs of the industry and to be a part of the advancing technological revolution.

MISSION :

- To create engineers of high quality on par with international standards by providing excellent infrastructure and well qualified faculty.
- To establish centers of excellence to enhance collaborative and multidisciplinary activities to develop human and intellectual qualities.
- To provide technical expertise to carry out research and development.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS) :

Graduates shall apply the fundamental, advanced and contemporary knowledge of

1. Electronics, Communication and allied Engineering, to develop efficient solutions and systems, to meet the needs of the industries and society.
2. Graduates will get employed or pursue higher studies or research.
3. Graduates will have team spirit, good communication skills and ethics with lifelong learning attitude.

SIDDHARTHA INSTITUTE OF TECHNOLOGY & SCIENCES

PROGRAM OUTCOMES:

Engineering Graduates will be able to:

1. **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent

    and life-long learning in the broadest context of technological change.

RULES AND REGULATIONS OF LAB

All students must observe the Dress Code while in the laboratory.

- All bags must be placed at rack.
- The lab timetable must be strictly followed.
- Be PUNCTUAL for your laboratory session.
- Program/experiment must be executed within the given time.
- Workspace must be kept clean and tidy at all time.
- Handle the systems and interfacing kits with care.
- All students are liable for any damage to the accessories due to their own negligence.
- All interfacing kits connecting cables must be RETURNED if you taken from the lab supervisor.

  Students are strictly PROHIBITED from taking out any items from the laboratory.
- Students are NOT allowed to work alone in the laboratory without the Lab
- Supervisor USB Ports have been disabled if you want to use USB drive consult lab
- supervisor.
- Report immediately to the Lab Supervisor if any malfunction of the accessories, is there

Before leaving the lab

- Place the chairs properly.
- Turn off the system properly
- Turn off the monitor.
- Please check the laboratory notice board regularly for updates.