

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
**Syllabus for B. Tech in Electronics & Communication Engineering**  
(Applicable from the academic session 2018-2019)

<b>EC492</b>	<b>Analog Electronic Circuits Lab</b>	<b>0L:0T:2P</b>	<b>1 credits</b>
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1. Conduct experiment to test diode clipping (single/double ended) and clamping circuits (positive/negative).
2. Design and set up the following rectifiers with and without filters and to determine ripple factor and rectifier efficiency:  
(a). Full Wave Rectifier      (b). Bridge Rectifier
3. Design and set up the BJT common emitter amplifier using voltage divider bias with and without feedback and determine the gain- bandwidth product from its frequency response.
4. Set-up and study the working of complementary symmetry class B push pull power amplifier and calculate the efficiency
5. Realize BJT Darlington Emitter follower with and without bootstrapping and determine the gain, input and output impedances
6. Conduct an experiment on Series Voltage Regulator using Zener diode and power transistor to determine line and load regulation characteristics.
7. Design and set-up the following tuned oscillator circuits using BJT, and determine the frequency of oscillation.  
R-C Phase shift Oscillator/Wien Bridge Oscillator
8. Plot the transfer and drain characteristics of n-channel MOSFET and calculate its parameters, namely; drain resistance, mutual conductance and amplification factor.
9. Design, setup and plot the frequency response of Common Source JFET/MOSFET amplifier and obtain the bandwidth.

Course Outcome:

**Students will be able to:**

CO1: Design and test rectifiers, clipping circuits, clamping circuits and voltage regulators.

CO2: Compute the parameters from the characteristics of JFET and MOSFET devices.

CO3: Design, test and evaluate BJT amplifiers in CE configuration.

CO4: Design and test JFET/MOSFET amplifiers.

CO5: Design and test a power amplifier.

CO6: Design and test various types of oscillators.