EXPERIMENT NO. 7

OBJECTIVE: Draw Push-Pull Amplifier circuit. Measure the output impedance and also find the bandwidth of a push pull amplifier.

APPARATUS REQUIRED: Function generator, DC Regulated Power Supply, Power. Meter, Push Pull Amplifier Set-up.

THEORY: The Push-Pull amplifier belongs to the Group B Class of Power Amplifiers. Here two transistor CE amplifiers are so connected that each transistor handles one half of the input signal waveform. Hence the power handling capacity of the amplifier is doubled. Being in phase opposition, the two collector currents add together to cancel the interfering second harmonic component of the input signal. The corresponding efficiency in this system is much higher compared to that of class A Power Amplifier.

CIRCUIT DIAGRAM:
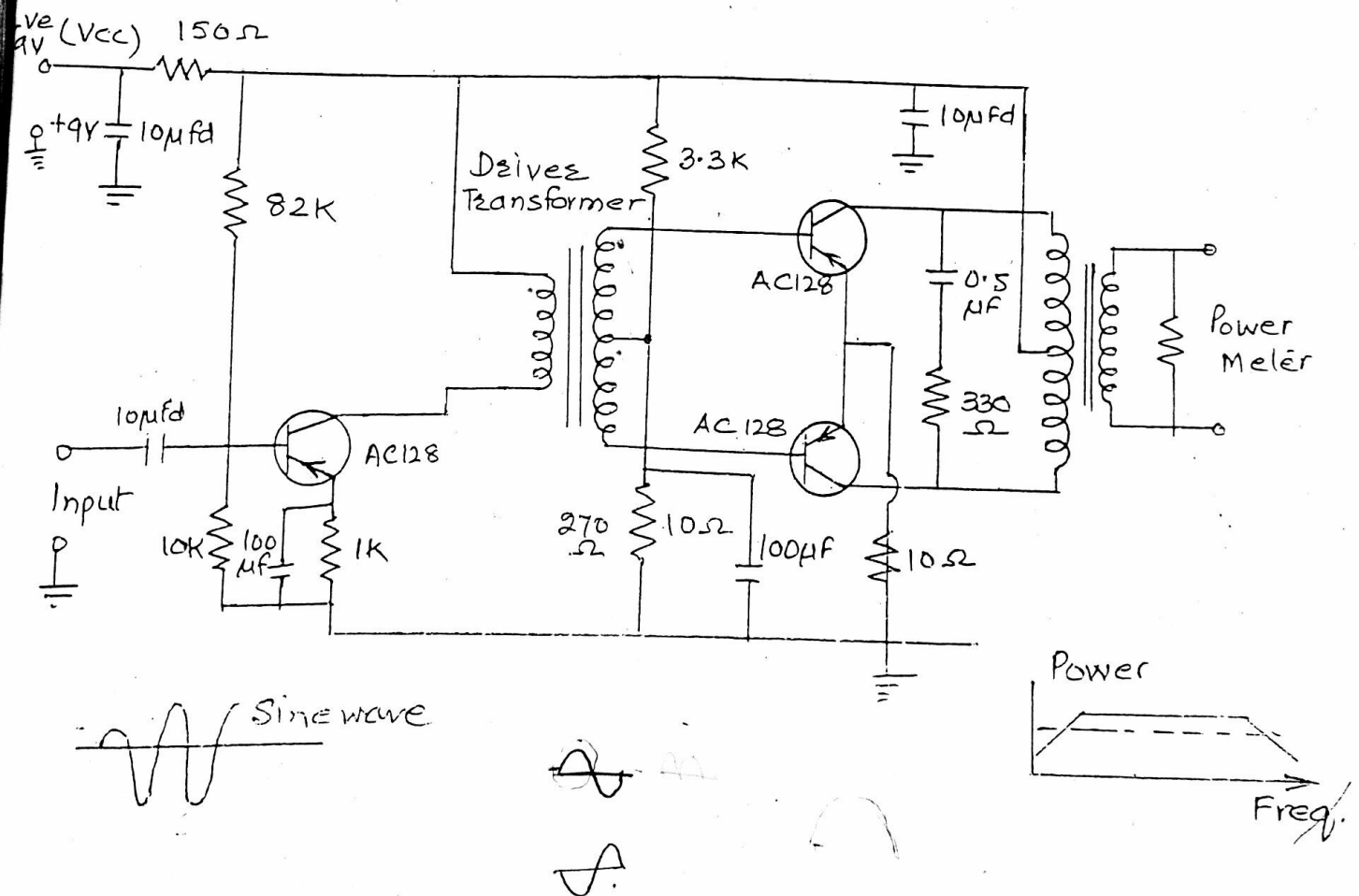
PROCEDURE:

1. Connect 9V dc supply to the trainer by observing dc polarity of supply.
2. Connect output power meter to the secondary side of the output transformer.
3. Connect sine waveform from function generator to the input terminal of the trainer observing ground potential.
4. Adjust function generator frequency to 400 Hz/1Khz and raise its amplitude to the value till output across power meter appears.
5. Now vary impedance switch of the power meter till the meter reads out maximum power. Maximum power is transferred only when both impedances match i.e. impedance of the transformer and the impedance of the meter. Find out the output impedance of the stage.
6. Now vary the input frequency of the function generator and record output power meter. Vary frequency gradually till output power comes to half.
7. Plot the recorded reading on graph sheet i.e. frequency Vs power to plot bandwidth of the amplifier.

OBSERVATIONS & CALCULATIONS:

1. Record of Input Frequency & Output Power.

Sl. No.	Input Frequency (Hz)	Output Power (mW)
1.	400Hz	
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

2. Plot Input Frequency Vs Output Power on a graph sheet and calculate the Bandwidth of the Push-Pull Amplifier.

F_L =   , F_H =

Bandwidth =   Hz