**Exp.5 Class A BroadBand Amplifier EXP. 5**

Based on the circuit shown:

R1 = 68KΩ, R2 = 10KΩ, R3 = 10KΩ, R4 = 200Ω ( two 100Ω in series ),

R5 = 2.2KΩ, R6 = 10KΩ, R7 = 1KΩ

C1 = 0.1uF, C2 = 0.1 uF Q1 = 2N3904

 

Calculate what the expected DC voltage will be at the base, VB = \_\_\_\_\_\_;

 at the emitter VE = \_\_\_\_\_\_

 at the collector, VC = \_\_\_\_\_\_\_

Wire the circuit and measure these voltages, VB = \_\_\_\_\_\_ VE = \_\_\_\_\_\_ VC = \_\_\_\_\_\_\_

If the measured values are more than +/- 20% off recheck your calculations and measurements.

 **EXP. 5**

Set the signal generator at the input to 500mv [ 1v pk-pk]. With frequency equal to 1 KHz.

Connect one of the scopes to the collector of the transistor and record the input and output voltages.

Record voltages for the frequencies listed and calculate the voltage gain Av

You may need to review the instructions for using the scope.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Frequency | Vin +pk | Vin -pk | Vin | Vo +pk | Vo -pk | Vo | Av |
| 1KHz |  |  |  |  |  |  |  |
| 5KHz |  |  |  |  |  |  |  |
| 10KHz |  |  |  |  |  |  |  |
| 20KHz |  |  |  |  |  |  |  |
| 50KHz |  |  |  |  |  |  |  |
| 100KHz |  |  |  |  |  |  |  |
| 500KHz |  |  |  |  |  |  |  |
| 1MHz |  |  |  |  |  |  |  |

Plot Av versus frequency on semi log paper provided [ choose an appropriate vertical scale.]

 **EXP. 5**

 