[This question paper contains 2 printed pages.]

Sr. No. of Question Paper : 8748 **C** **Roll No.....**

Unique Paper Code : 251304

Name of the Paper : ELHP-306 : Electronics Practical – VI

Name of the Course : B.Sc. (H), Electronics, Part II

Semester : III

Duration : One Hour

Maximum Marks : 25

(Write your Roll No. on the top immediately on receipt of this question paper.)

Instructions for Candidates

Attempt any five questions from Section –A and any ten questions from Section-B. Use of Scientific Non-programming calculators is allowed.

Section A

(Attempt any Five) **(5X1)**

1. Explain the function of a Capacitor filter of a full wave rectifier?
2. What is the ripple factor of a half-wave and a full-wave rectifier?
3. What factors affect BJT biasing?
4. Which is the best method of biasing ?
5. Write an expression for frequency of a Colpitts oscillator.
6. What is the main function of the transformer used in the output of power amplifier?
7. In which region transistor should be operated to work as an amplifier?

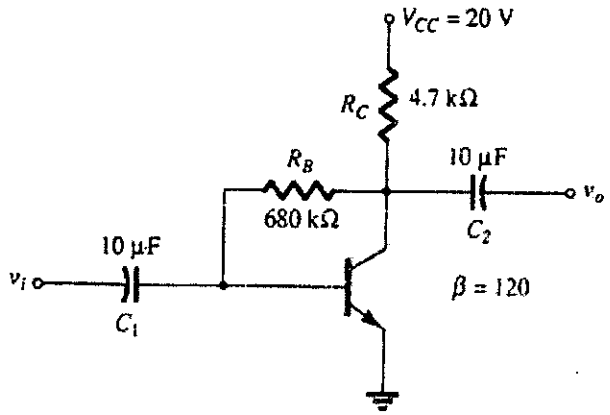
Section B

(Attempt any Ten) **(10X2)**

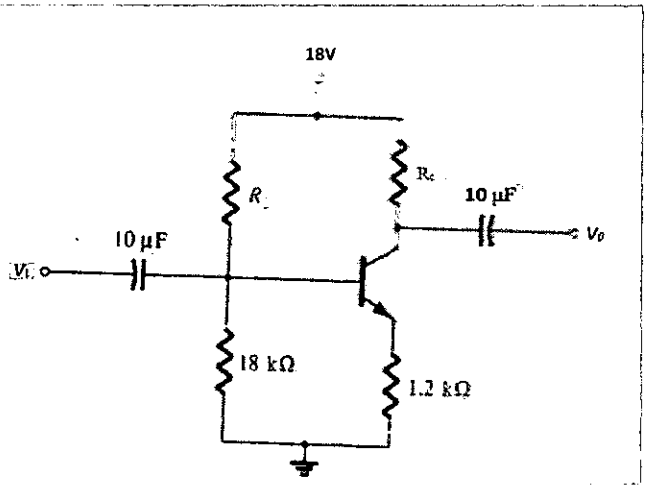
1. A power supply A delivers 10V dc with a ripple of 0.5V r.m.s. While power supply B delivers 20Vdc with a ripple of 1mV. Which is better power supply ?
2. Give the maximum efficiency value of half-wave and full wave rectifier.
3. What operating modes are possible for a BJT. Draw its Characteristics.
4. Define the terms bandwidth. Which transistor configuration will give more bandwidth?

P.T.O.

5. Find the gain in dB
   (i) Voltage gain of 30 (ii) Power gain of 100.
6. For a given network determine I_{CQ} and V_{CEQ}



7. A multistate amplifier consists of three stages. The voltage gains of the stages are 30, 50 and 60. Calculate the overall gain in dB
8. Given I_{CQ}=2mA and V_{CEQ}=10V. determine R_1 for given network



9. A power transistor working in class A operations has Zero signal power dissipation of 10 watts. If the a.c out put power is 4 watt, find collector efficiency?
10. What should be the closed loop voltage gain of an amplifier in a phase shift oscillator? Write its frequency expression.
11. Explain why we use blocking and by pass capacitor in a CE amplifier.
12. A phase shift oscillator uses 5 pF capacitors each. Find the value of R to produce a frequency of 1KHz.
13. For a FET ac resistance is 32 K ohm, the transconductance is 3600 μmho. Find amplifications factor.