

~~DEE~~  
Sub - Discrete Electronic Circuits  
Q.P. Code :37278

[Time: Three Hours]

[Marks:80]

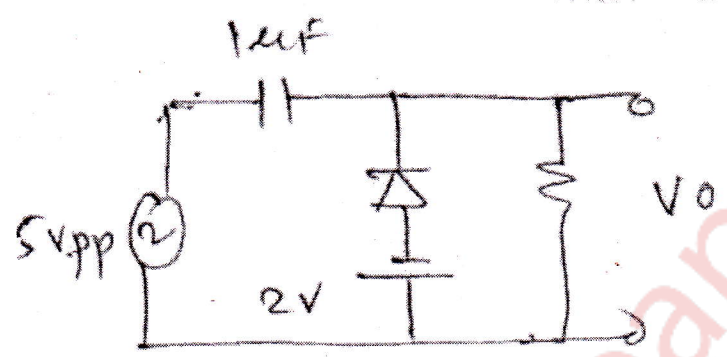
Please check whether you have got the right question paper.

- N.B:
1. Q.1 is compulsory.
  2. Solve any three from remaining.
  3. Assume suitable data if necessary.

Q.1 Solve any four.

1) Draw i/p and o/p waveform for the following circuit. Identify the circuit.

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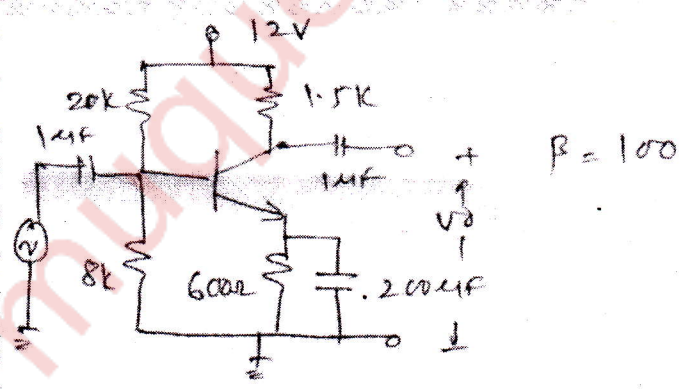
- 2) Explain need for cascading of amplifiers.
- 3) Derive expression for efficiency of Class A power amplifier.
- 4) Explain advantages of negative feedback.
- 5) Compare CE amplifier with CS amplifier.

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Q.2

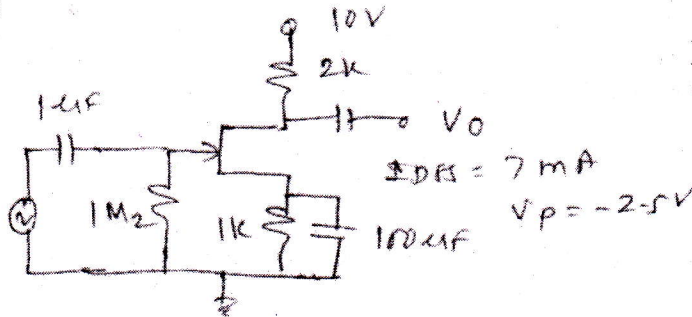
a) For the given Circuit calculate  $A_v$ ,  $R_i$  and  $R_o$ ,  $f_L$ .

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b) Explain working of Wein bridge oscillator. Compare with RC phase shift oscillator.

Q.3 a) For the given circuit plot DC/AC load line, find operating point.



b) Draw two stage CS-CS amplifier and derive  $A_v$ ,  $R_i$  and  $R_o$ .

Q.4 a) Draw dual i/p balanced o/p differential amplifier. Explain its working. What is the use of swamping resistor in it? 10

b) Explain working of Class B power amplifiers. What are the techniques to remove cross over distortion? 10

Q.5 a) Draw block diagram of current series negative feedback. Derive necessary equations. 10

b) Draw high frequency model for CE amplifier. Derive expression for  $f_T$ . 10

Q.6 Solve any three:- 20

- 1) Hartley Oscillator working
- 2) Power BJTS and it's use.
- 3) Cascode amplifier
- 4) Constant current source in diff amps. (any one)