

QP Code : 12410

(3 Hours)

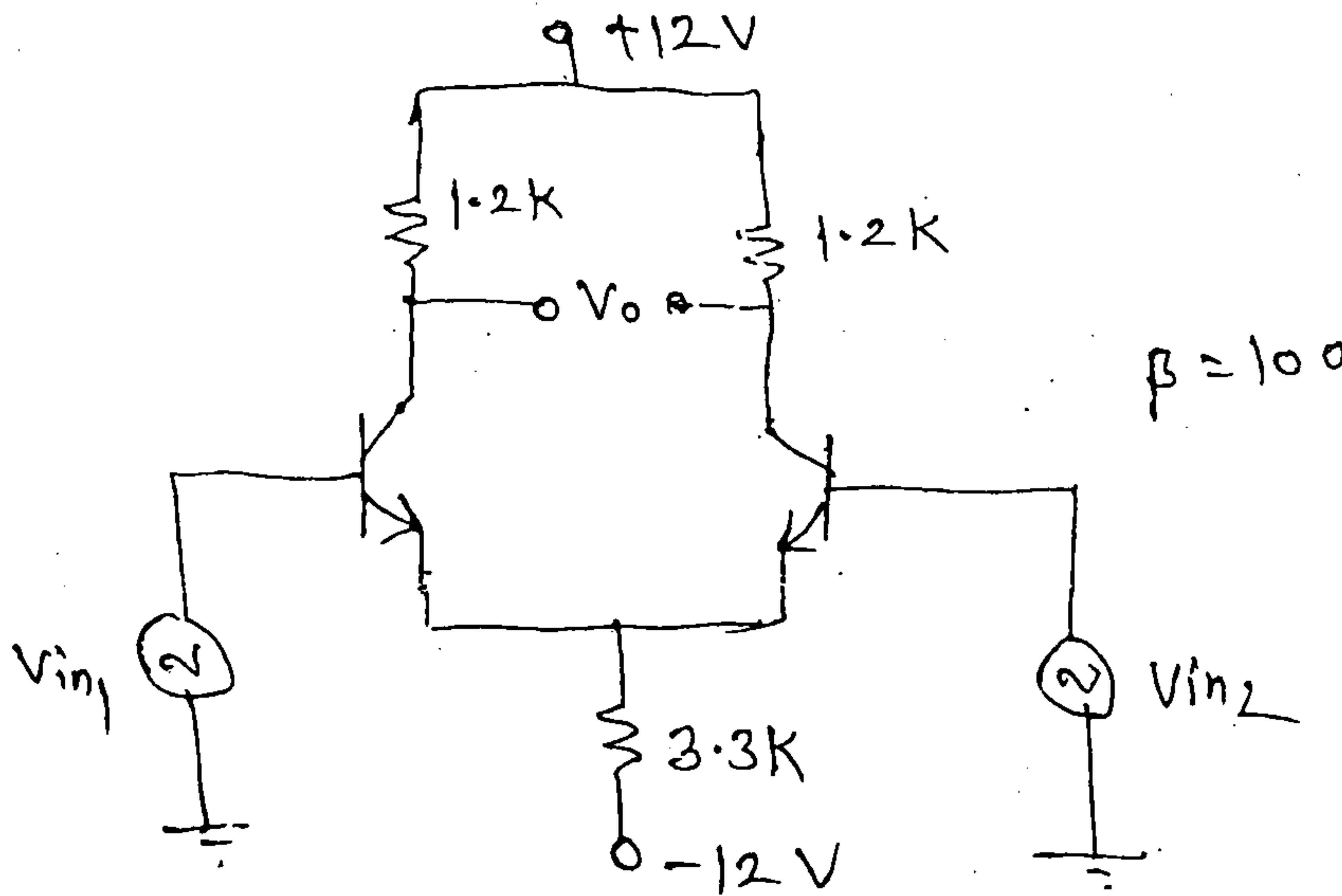
[Total Marks : 80

- N.B. :** (1) Q.No.1 compulsory and solve any **three** questions from remaining questions.
 (2) Assume suitable **data** if necessary.

1. Solve the following questions :-

- (a) Explain the clamper circuit with proper waveforms. 4
 (b) What are different biasing methods used for common source configuration and hence explain any one in detail. 4
 (c) Explain why the feedback is required in oscillators. 4
 (d) Explain need of constant current source in differential amplifier. 4
 (e) Design self bias circuit using JEET for mid point biasing. 4
 Let $I_{DSS} = 8\text{mA}$, $V_p = -3\text{V}$.

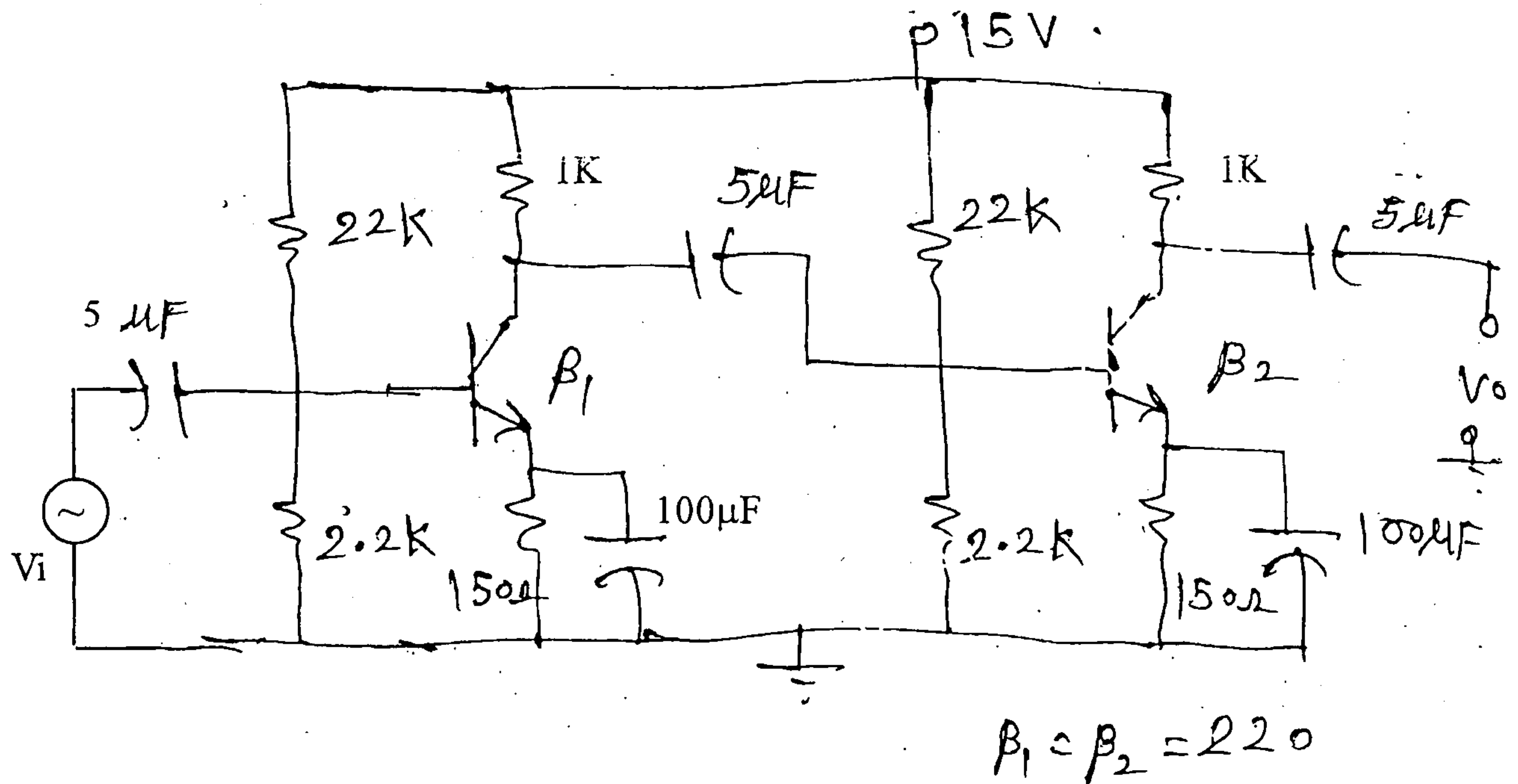
2. (a) Design voltage divider biased circuit to give $I_{CQ} = 5\text{mA}$, $V_{CEQ} = 5\text{V}$ and $\beta = 100$ 10
 (b) Explain complete the frequency response of CS amplifier. 10
 3. (a) Explain working of CASCODE Amplifier in detail. 10
 (b) For the given circuit find I_{CQ} , V_{CEQ} , A_d , A_{CM} and $CMRR$ 10



4. (a) Explain working of class A transformer coupled power amplifier and derive equation of power efficiency. 10
 (b) What are different biasing circuits for E MOSFET explain any one in detail. 10

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5. (a) Explain working of any one high frequency oscillator circuit and give its applications. 10
 (b) Explain current-series feedback amplifier with the help of block diagram and derive expressions for R_{if} , R_{of} and A_f . 10
6. (a) For the given two stage circuit find R_i , R_o and Voltage gain. 12



- (b) Explain MOSFET Wilson current source.