

D. J. SANGHVI COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRONICS ENGINEERING
EXC402: DISCRETE ELECTRONIC CIRCUITS SEM IV
B1 BATCH ASSIGNMENT 02

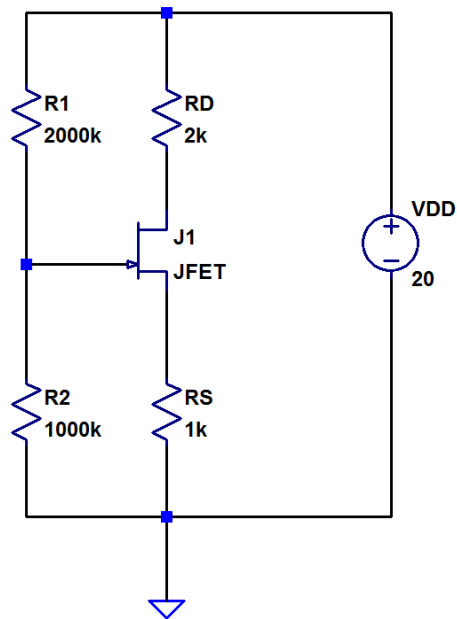
23rd March, 2017

[Total Marks: 75]

1. Attempt all the questions.
2. Read the questions carefully before attempting.

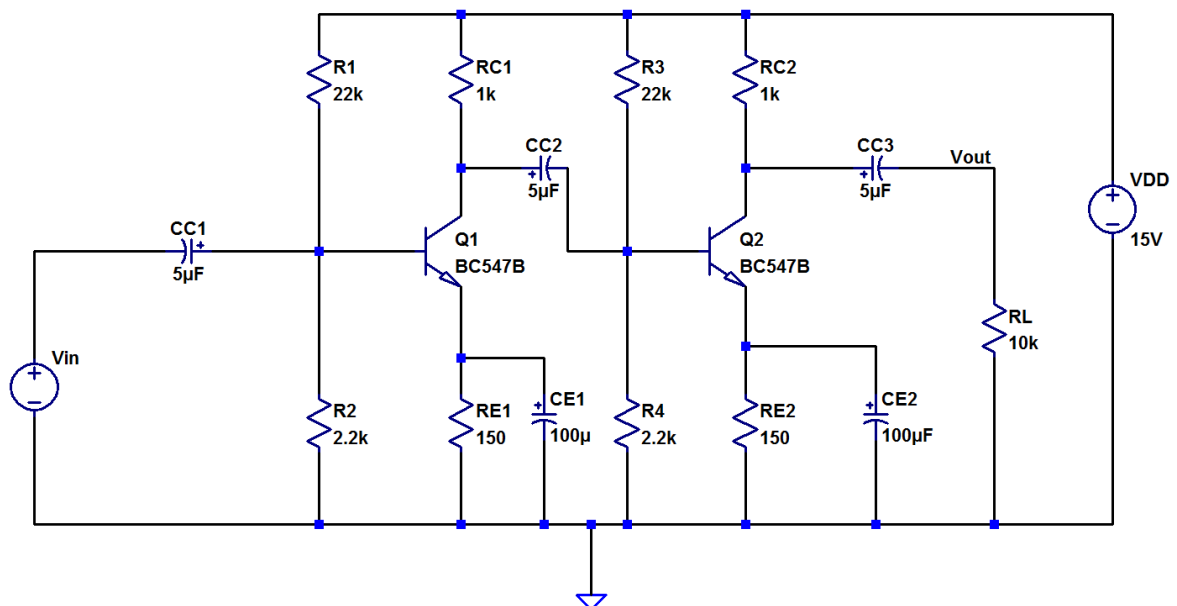
1. Determine the operating point and draw DC load line for the circuit below:
 Given: $I_{DSS} = 7mA, V_P = -2.5V$

[10]

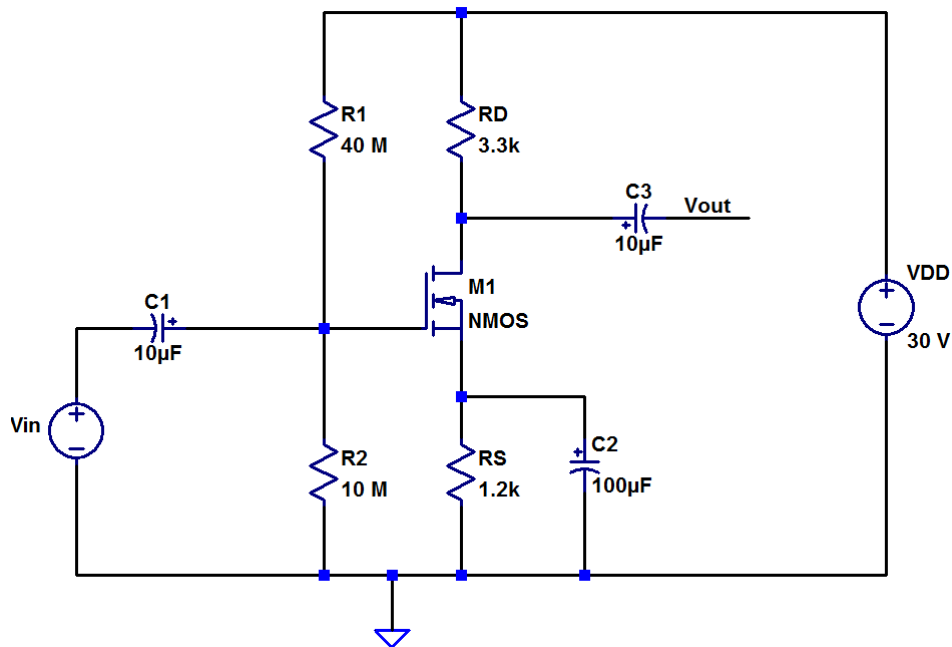


2. For the given two stage circuit, find A_V, R_i and R_o
 Given : $\beta_1 = \beta_2 = 220$

[10]



3. Compare BJT, JFET and MOSFET. [5]
4. What are different biasing circuits for n-channel JFET. Explain any one in detail. [10]
5. State different types of negative feedback topologies and explain current series in details using block diagram. [10]
6. For the circuit shown find A_V , R_i and R_o [10]
 Given: $V_{GS(th)} = 3V$, $K = 0.4 \times 10^{-3}$, $r_d = 40K\Omega$



7. Draw circuit diagram of common-source amplifier with voltage divider bias with un-bypassed source resistance R_S using n-channel E-MOSFET. Derive the expression for voltage gain, input resistance and output resistance. [10]
8. Draw two stage CS-CS amplifier circuit and derive expressions for A_V , Z_i and Z_o [10]
