

D. J. SANGHVI COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRONICS ENGINEERING
EXC402: DISCRETE ELECTRONIC CIRCUITS SEM IV
B2 BATCH ASSIGNMENT 02

23rd March, 2017

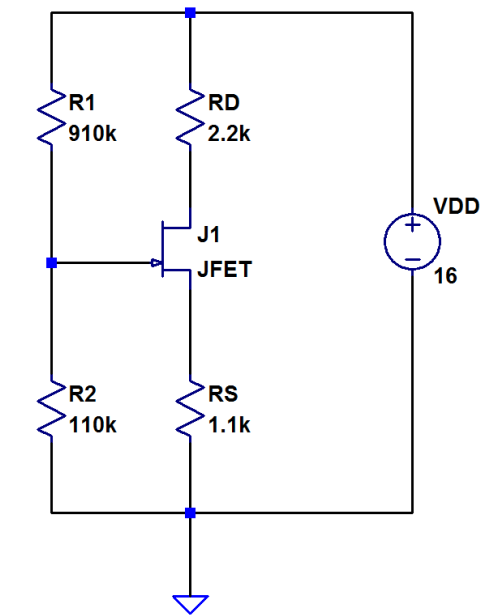
[Total Marks: 75]

1. Attempt all the questions.

2. Read the questions carefully before attempting.

1. For the given circuit, find I_{DQ} and V_{GSQ} and draw DC load line. Also state in which operating region circuit works. Given: $I_{DSS} = 10mA$, $V_P = -4V$

[10]

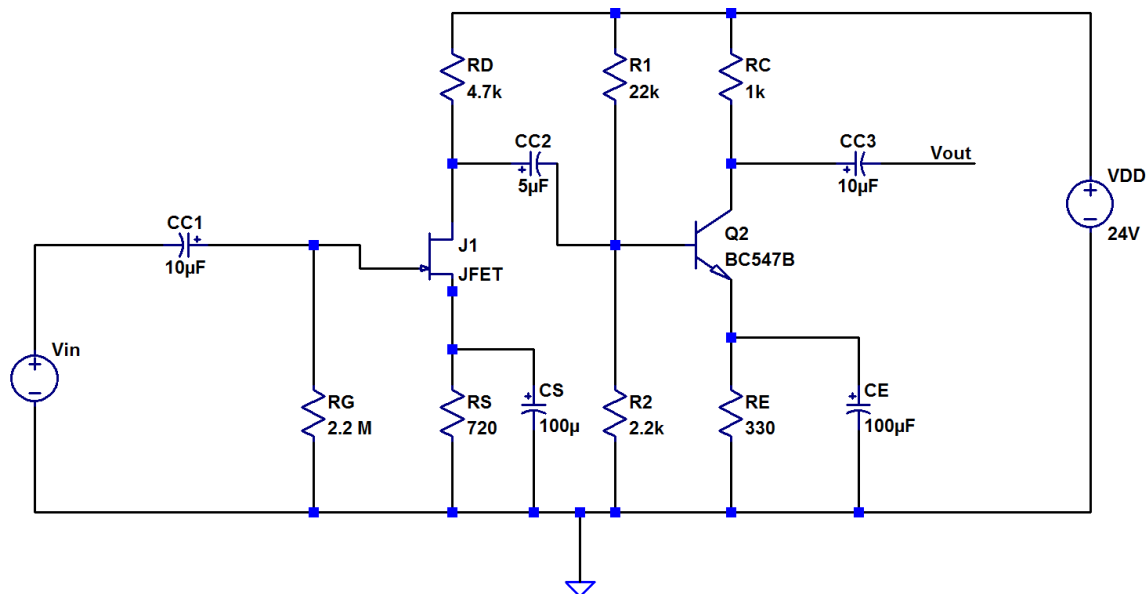


2. For the given two stage circuit, find A_V , R_i and R_o

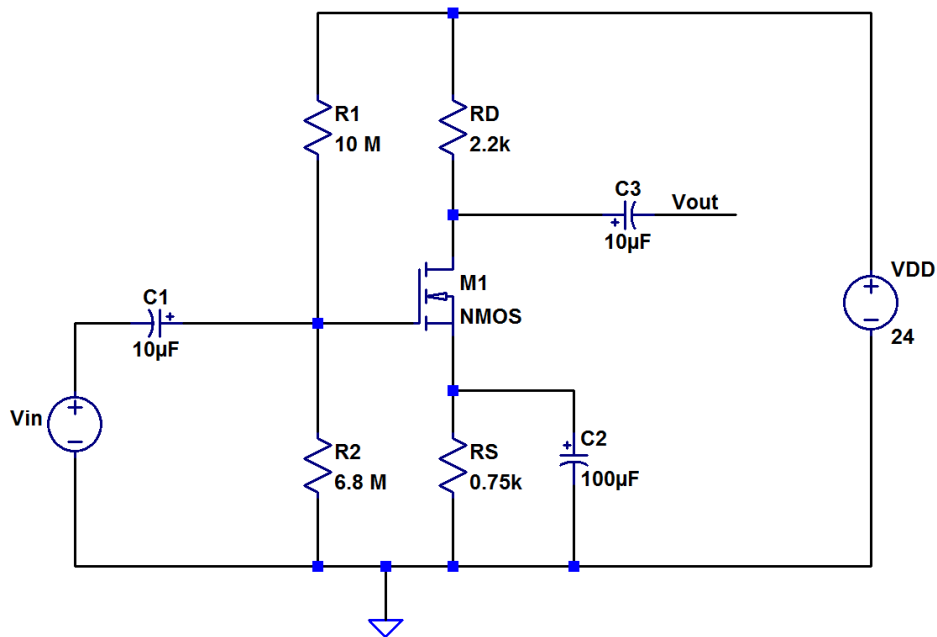
BJT : $\beta = 220$ $V_{BE} = 0.7V$

JFET : $V_P = -2.5V$ $I_{DSS} = 7mA$ $r_d = 50K\Omega$

[10]



3. Explain the need for cascading of amplifiers. [5]
4. What are different biasing circuits for E-MOSFET. Explain any one in detail. [10]
5. Explain voltage series feedback amplifier with the help of block diagram and determine expressions for R_{if} , R_{of} and gain with feedback. [10]
6. For the circuit shown find A_V , R_i and R_o [10]
 Given: $V_{GS(th)} = 3V$, $I_{D(on)} = 5mA$, $V_{GS(on)} = 6V$



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