

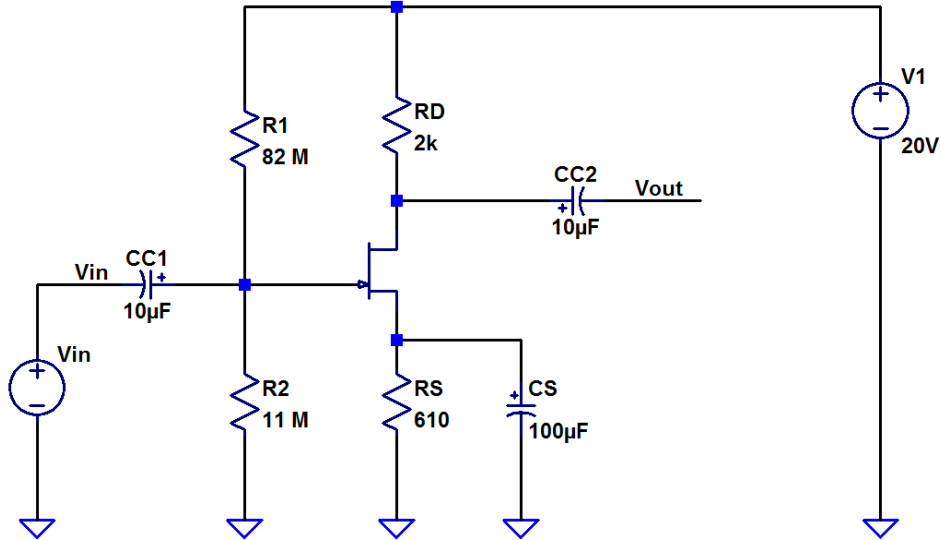
D. J. SANGHVI COLLEGE OF ENGINEERING
 DEPARTMENT OF ELECTRONICS ENGINEERING
 EXC402: DISCRETE ELECTRONIC CIRCUITS SEM IV
 B4 BATCH ASSIGNMENT 02

23rd March, 2017

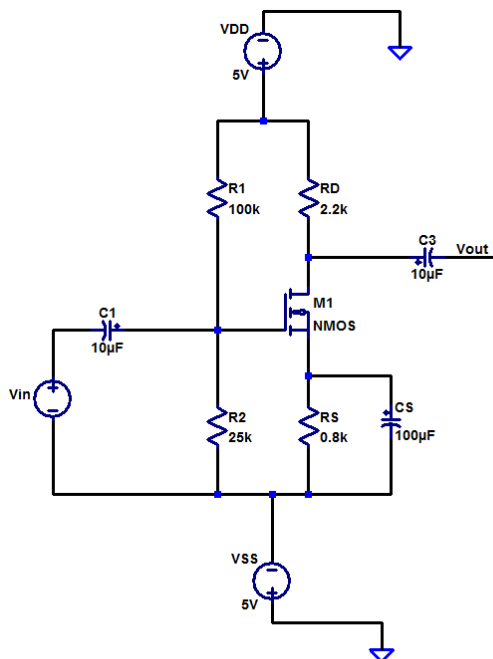
[Total Marks: 75]

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 [10]
 operating region circuit works. Hence find A_V , R_i and R_o
 Given: $I_{DSS} = 12mA$, $V_P = -3V$, $r_d = 100k\Omega$, $g_{mo} = 8mS$



2. For the given circuit, find V_{GSQ} , I_{DQ} and voltage gain A_V with C_S and without C_S [10]
 Given: $V_T = 1V$, $k_n = 1mA/V^2$



3. Compare CS-CS amplifier with CE-CE amplifier [05]
4. What are different biasing methods used for FET. Explain any one in details. [10]
5. What is use of negative feedback in amplifiers? Draw block diagram of voltage shunt feedback amplifier and find R_{if} , R_{of} and gain with feedback. [10]
6. Explain zero temperature drift technique and prove that $|V_p| - |V_{GS}| = 0.63V$ [10]
7. Draw circuit diagram of common-drain amplifier using MOSFET. Derive the expression for voltage gain, input resistance and output resistance. [10]
8. Explain the need for cascading of amplifiers. Derive the expression of A_V , R_i and R_o for CE-CE stage [10]
