

No. of Pages **02**
IV Semester
End Semester Examination

Roll No.....
B. Tech (EL)
March-2019

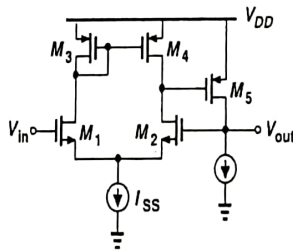
Time: 1: 30 Hours

Maximum Marks: 20

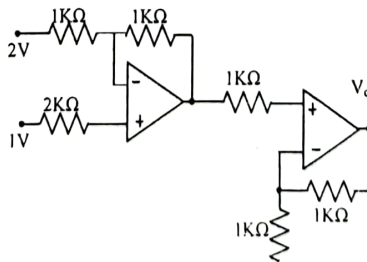
EL 202 LINEAR INTEGRATED CIRCUITS

Note: Answer **ALL** questions
Assume suitable value for missing data (if any) by
giving suitable reasons.

- 1 Discuss the characteristics of negative feedback with reference to amplifiers. Prove that the input impedance of a voltage amplifier may be increased by the application of negative feedback. **04**
- 2 Write down the value of input and output impedance of the following types of ideal amplifiers:
(i) voltage (ii) current (iii) transresistance (iv) transconductance **02**
- 3 Determine the polarity of feedback in the amplifier circuit shown below. **02**

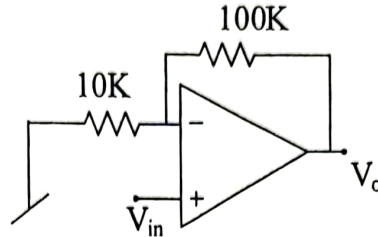


- 3 Determine the value of the output voltage in the ideal opamp circuit given below. **02**

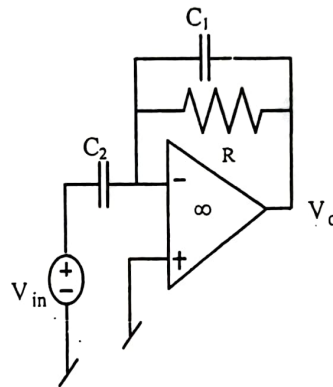


- 4 The amplifier circuit shown below is implemented using uA74. It has an open-loop DC gain $A_0 = 2 \times 10^5$ V/V and bandwidth (3dB)

of this gain is 10 Hz. Input impedance of the op-amp is $1M\Omega$. Determine the input impedance of the circuit and its voltage gain at 100 KHz, using the integrator model of the opamp. **04**



- 5 Determine the transfer function of the circuit given below. **03**



- 6 Draw the pin-configuration of IC operational amplifier $\mu A741$. Also draw the schematic diagram of generating the bias voltage of $\pm 15V$ using two 0-15V power supplies. **03**