King Fahd University of Petroleum and Minerals
Electrical Engineering Department
EE303 Electronics II
Exam # II

Name:	I.D#	No.	Sec.# 01

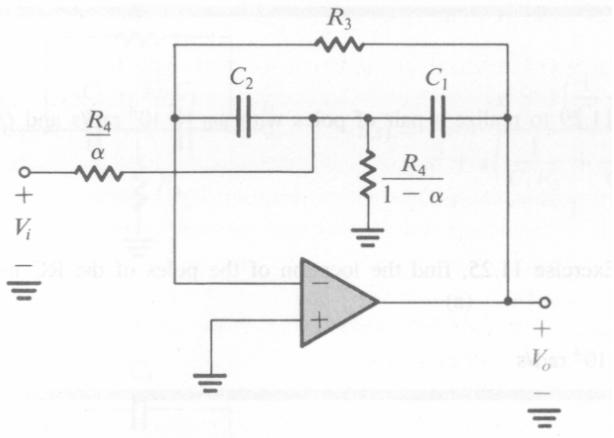
5/15

Question No.1

Assume the op amp is ideal.

(a) Drive the voltage transfer function for the bandpass filter shown assuming C1=C2.

(b) With C1=C2=5nF, Design the filter such that the center frequency is 12.5kH, Q=10 and the magnitude of the midband gain is 20.

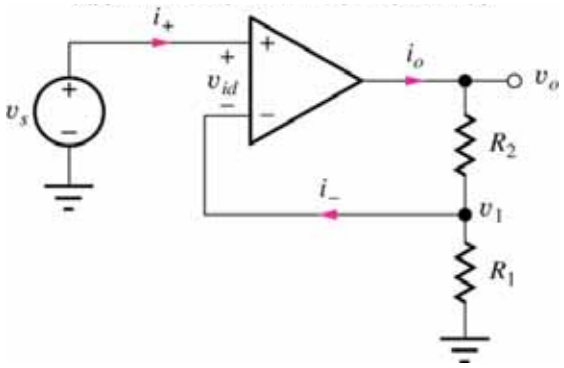


Question No.2 **5/15**

Consider the amplifier in Fig. 2. The op-amp parameters are A_v=5000, R_i=1kΩ, and R_o=100Ω. Use R_2=10R_1=10kΩ.

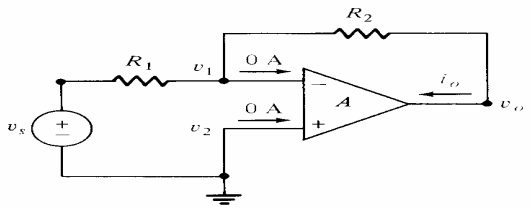
(a) Which type of feedback topology is incorporated?

(b) Use feedback analysis to find values for closed loop gain v_o/v_s and input and output resistances.

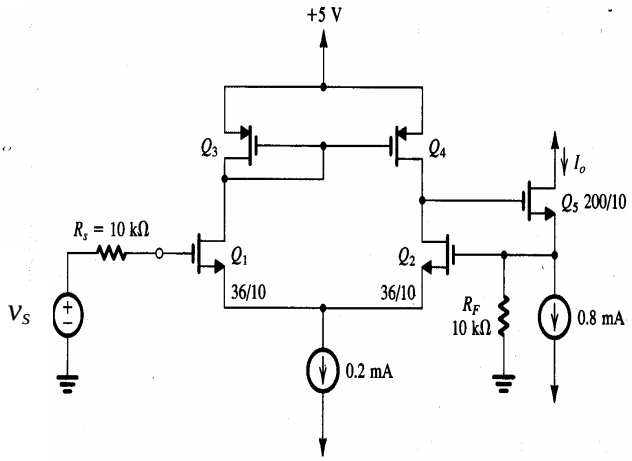


Question No.3

(a) Determine the type of feedback and calculate the feedback factor β for each amplifier shown.



(a)



(b)

(b) List three different negative feedback topologies that can be obtained from a single transistor amplifier. Draw these amplifiers.