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TEST-1

B.Tech. ECE, 4<sup>th</sup> Semester

COURSE NAME: ANALOG INEGRATED CIRCUITS  
COURSE CODE: 18B11EC411

MAX. MARKS: 15  
MAX. TIME: 1 Hr

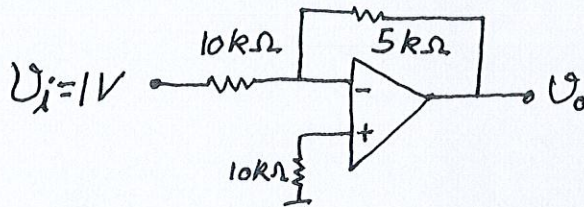
Note: Using of mobile phone in examination shall be treated as a case of unfair means.

Q-1: (a) Give the characteristics of ideal op-amp. CO-1 [1.5]

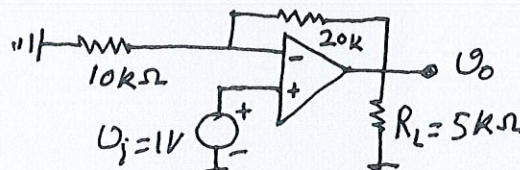
(b) What do you mean by the voltage transfer curve? Give the voltage transfer curve for practical op-amp (without feedback). CO-1 [2.0]

(c) Draw the equivalent circuit for the op-amp. CO-1 [1.5]

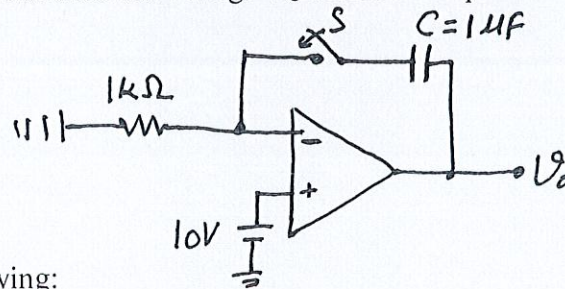
Q-2: (a) In following op-amp circuit; find the value of output voltage: CO-1 [1.5]



(b) In following op-am circuit; compute these quantities: (i) output voltage, (ii) Op-amp gain (closed-loop), (iii) current flowing through load resistance CO-1 [2.0]



(c) For the circuit shown in following figure, capacitor C is initially uncharged. At t=0, the switch 'S' is closed. Calculate the voltage V\_C across the capacitor at t=1ms CO-1 [2.0]



Q-3: Briefly explain the following:

CO-2 [3×1.5=4.5]

- Common mode rejection ratio (CMRR)
- Application of op-amp as integrator and differentiator
- Op-amp as Phase-lag and Phase-lead circuit