JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2024

B.Tech-4th Semester (ECE)

COURSE CODE (CREDITS): 18B11EC411 (3)   MAX. MARKS: 15

COURSE NAME: Analog Integrated Circuits

COURSE INSTRUCTORS: Lt. Pragya Gupta,

MAX. TIME: 1 Hour

Note: (a)All questions are compulsory.

(b)Marks are indicated against each question in square brackets.

(c) The candidate is allowed to make Suitable numeric assumptions wherever required for

solving problems

Q1. Draw the circuit diagram of Logarithmic Amplifier and Summing Amplifier using Operational Amplifier and derive the expression of output voltage for both the circuits.

[4](CO-2)

Q2. Show the connection of three operational amplifier stages (Non Inverting) to provide outputs that are 10, 20 and 50 times larger than input voltage (V_i). Use R_f = 500 Kohm in all the stages.
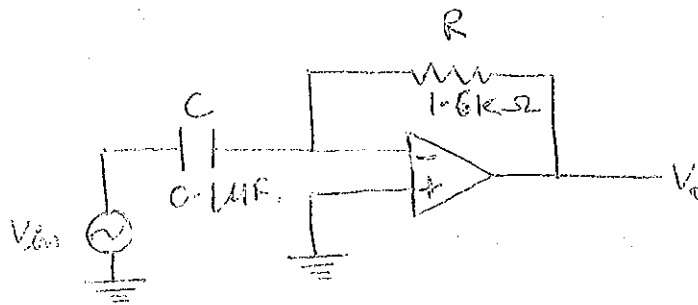
[3] (CO-2)

Q3. Draw the pin diagram of IC 741 and write down the characteristics of Ideal Operational Amplifier.   [2] (CO-1)

Q4. Draw the output of the given differentiator circuit, if a sine wave of 1 volt peak at 1000Hz is applied to it.   [3] (CO-2)

Q5. Define the following terms-

i.   Thermal drift
ii.   CMRR
iii. Output Off set voltage   [3] (CO-1)