Third Semester B.Sc. Examination, March/April 2022
(CBCS) (F+R) (2015 – 2016 and Onwards)
ELECTRONICS – III
Linear IC's and C Programming

Time : 3 Hours

Max. Marks : 70

Instructions : *i) Answer **all** the questions from Part – **A**, **any five** questions from Part – **B**, **any four** questions from Part – **C**.*

*ii) Answer **all** questions from Part – **A** in **any one** page, **same** questions answered multiple times will not be considered for evaluation.*

PART – A

Answer **all** the sub-divisions.

(15×1=15)

1. i) 1000 – 10000 transistors are fabricated on a chip. It belongs to

    a) SSI   b) MSI   c) LSI   d) VLSI

    ii) The 'slew rate' of an operational amplifier indicates

    a) how fast its output impedance can change

    b) how fast its output power can change

    c) how fast its output voltage can change

    d) none of the above

    iii) The op-amp with higher CMRR ensures

    a) higher value of common mode gain

    b) greater immunity to noise

    c) lower value of common mode gain

    d) both (b) and (c)

    iv) A non-inverting closed-loop op-amp circuit generally has a gain factor of

    a) less than one

    b) greater than or equal to one

    c) zero

    d) none of the above

P.T.O.

PART – C

Answer **any four** questions.   (4×5=20)

10. Design and draw an inverting adder using op-amp to get the output expression as $V_o = -(1V_1 + 2V_2 + 4V_3)$. Assume $R_f = 10$ KΩ.

11. Design a first order op-amp low pass filter for the cut off frequency of 1 KHz with a pass band gain of 11. Choose $C = 0.02$ μF and $R_f = 20$ kΩ.

12. Find the value of Y and i in each case if initially i = 20.
    i) Y = 4 + (i++);
    ii) Y = 4 + (++i);
    iii) Y = (++i) + 4;

13. Write a C program to calculate factorial of a given number.

14. Write a C program to find sum of two matrices of order M × N.

15. Write a C program to generate GCD of two numbers.

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