JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION - 2022

B.Tech. IV Semester (ECE)

COURSE CODE: 18B11EC411   MAX. MARKS: 15

COURSE NAME: ANALOG INTEGRATED CIRCUITS

COURSE CREDITS: 03   MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. Why operational amplifier is called direct coupled high differential circuit?   [2]

Q2. Mr. Amit wants to implement Instrumentation amplifier in the laboratory. Help him in drawing the circuit. Also, remind him what the gain of the amplifier is?   [2]

Q3. A student want to design a circuit which results in $V_0 = - (3V_1 + V_2 + 0.2V_3)$. Show all designing steps.   [3]

Q4. The differential gain A_d, of an op amp measure 100. In the measurement of common mode gain experiment when 1.0V is applied common to both the inputs, output voltage measured is 0.01V. How much is common-mode rejection ratio (CMRR) in dB?   [3]

Q5. For the ideal op amp shown in Fig 1, what should be the value of resistor R_f to obtain a gain of 5 ?   [5]
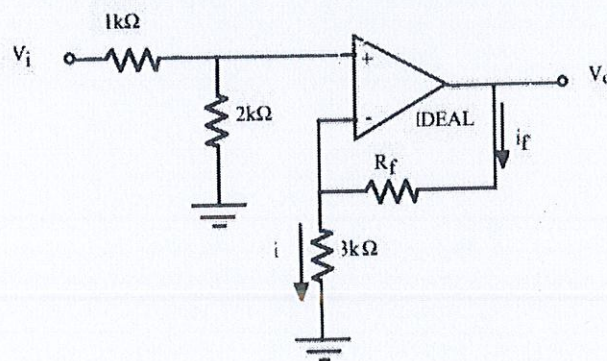

Fig 1