Code No: 154BH

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech II Year II Semester Examinations, November/December - 2020
LINEAR IC APPLICATIONS
(Common to ECE, EIE)

Time: 2 Hours **Max. Marks: 75**

Answer any Five Questions
All Questions Carry Equal Marks

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1.a)	Perform AC analysis of single input dual output differential amplifier Configuration.	
b)	List out the features of ideal OP-Amp.	[10+5]
2.a)	What are the differences between the inverting and non inverting terminals? What do you mean by the term "virtual ground"?	
b)	List out AC and DC characteristics of OP-AMP.	[7+8]
3.a)	Draw the circuit diagram of instrumentation amplifier using 741 op-amp and explain its operation.	
b)	How OP-AMP is used as integrator? Explain its working.	[9+6]
4.a)	How OP-AMP is used as Comparator? Explain its working.	
b)	How OP-AMP is used as Arithmetic circuits? Explain its working.	[6+9]
5.a)	Design a active high pass filter with cutoff frequency of 4 KHz.	
b)	Explain the working principle of Wein Oscillator.	[7+8]
6.a)	How to generate a Saw tooth waveform? Explain the working of such a circuit with a neat circuit diagram.	
b)	Discuss in detail about band pass and band reject filters.	[8+7]
7.a)	Describe the 555 timer monostable multivibrator applications in: i) Frequency divider ii) Pulse width modulation.	
b)	Explain the terms frequency multiplication, frequency translation of PLL.	[8+7]
8.a)	What is the conversion time of a 10 bit successive approximation ADC if its input clock is 5 MHz?	
b)	List and explain the specifications of DAC.	[6+9]

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