ETRX - DLIC T.E Sem V (CBGS) 24/11/15

Q.P. Code : **5606**

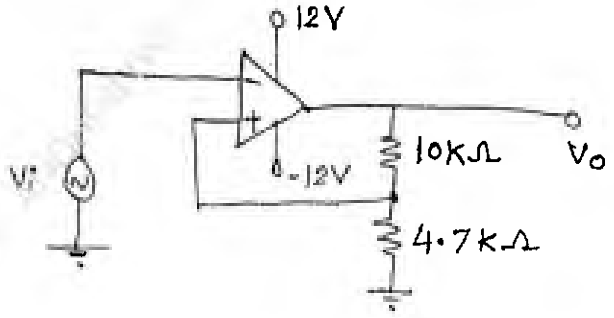
(3 Hours) [Total Marks : 80

N.B. : (1) Question **No.1** is **compulsory**.
(2) **Attempt** any **three** questions from remaining **five** questions.
(3) Assume **suitable** data if **required**.

1. Solve any **four** from the following :
   (a) What do you mean by Input Bias current of an op-amp, How it can be measured practically. What should be its value ideally. 5
   (b) How to avoid false triggering in electronics, draw suitable diagram and explain with neat waveforms. 5
   (c) Assume that you have to use ADC with microcontroller, before using it which performance parameters of ADC you need to study. 5
   (d) What are the features of Regulator IC LM 337, Design voltage regulator using LM 337 to give output voltage of -7 volts. 5
   (e) Explain Inverting mode current amplifier circuit using op-amp. 5
   (f) What are the features of Multiplier IC 534, explain one of its application. 5

2. (a) State the important ideal characteristics of an op-amp, compare it with the values of IC 741 op-amp. 10
   (b) Design a wide band reject filter having f_H = 400 Hz and f_L = 2 kHz with a pass band gain of 2, Also draw frequency response of it. 10

3. (a) For the circuit shown below. Calculate the trigger points if supply voltage V = ±12V, Plot the output voltage Vo if Vi is a 100 Hz triangular wave of magnitude ±10V. 10



   (b) What are the features of Instrumentation amplifier, Draw neat diagram of three op-amp instrumentation amplifier and hence derive equation of output voltage. 10

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4. (a) Explain the working of R/2R ladder D/A converter. 10
(b) What are the features of LM 380 Power Amplifier, explain any two applications of it. 10

5. (a) Design voltage Regulator to give Vo = 9V at 600 mA using IC 723. 10
(b) Explain how IC 555 can be used as PWM. 5
(c) Explain Precision Half wave rectifier. 5

6. (a) Explain the Astable mutivibrator using op-amp. 10
(b) Explain current voltage converter using op-amp and hence state applications of it. 5
(c) What are the features of IC 78XX. Design voltage regulator using IC 78XX for Vo = 20V. (Adjustable Regulator). 5
