

- 6 a. Sketch the circuit of a second order low pass filter, explain its working and design steps. (08 Marks)
- b. Design a second order high pass active filter to have a cutoff frequency of 12KHz. Use a 715 Op – amp, I_{Bmax} for 715 Op – amp is 1.5 μ A. (06 Marks)
- c. With a neat circuit diagram, explain the operation of single stage first order bandpass filter. Show the frequency response. (06 Marks)
- 7 a. With a block diagram, explain FLT – U2 universal active filter. Also explain how it can be realized as second order low pass, high pass and band pass filter. (08 Marks)
- b. With a block diagram, explain the Operating principle of phase locked loop. (06 Marks)
- c. Explain the theory of operation of a switched capacitor filter. (06 Marks)
- 8 a. With a neat circuit diagram, explain the operation of a precision voltage regulator. (06 Marks)
- b. Explain the terms line regulation , load regulation and ripple rejection for a dc voltage regulator. (06 Marks)
- c. With a neat schematic, explain the salient features of a 723 IC regulator. Show how it can be connected to function as positive and negative voltage regulator and explain. (08 Marks)
