

7. Calculate the quantizing error for an 8 bit A/D convertor with full scale input voltage of 2.55 V.
8. What is a sample and hold circuit? Mention any two applications.
9. What is a stagger tuned amplifier?
10. What is the need for using switched capacitor filters in MOS technology?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Discuss the ideal characteristics of an opamp. Compare with practical opamp. (6)
- (ii) Briefly explain different types of frequency compensation techniques applied to opamp circuits. (10)

Or

- (b) (i) Explain the concept of Wildhar current source used in opamp circuits. (10)
- (ii) For the noninverting opamp shown in figure, find the output voltage V_0 . (6)

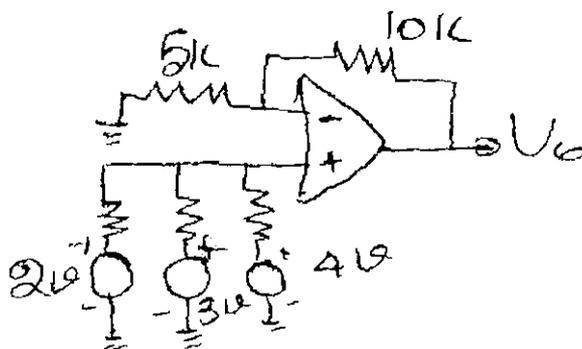


Fig Qn. 11 (b) (ii)

12. (a) (i) Design a second order Butterworth active high pass filter for a cut off frequency of 5 kHz. (10)
- (ii) What is a precision diode? With circuit schematic explain the working principle of full wave precision rectifier. (6)

Or

(b) (i) With diagram explain the working principle of ICL 8038 function generator. (10)

(ii) Explain how a compander can be used as a zero crossing detector. (6)

13. (a) (i) Briefly explain variable transconductance amplifier. (10)

(ii) How a PLL used as voltage multipliers? (6)

Or

(b) (i) Write a note on compander ICs. (8)

(ii) How a PLL used as frequency synthesizer? (8)

14. (a) (i) With circuit schematic explain analog switches using FET. (8)

(ii) Explain the working principle of dual slope A/D converter. (8)

Or

(b) (i) Write short notes on voltage to time converters. (10)

(ii) What are the different sources of error in D/A converter? (6)

15. (a) (i) Briefly explain LM 380 audio amplifier. (10)

(ii) Discuss about protection circuits used in IC regulators. (6)

Or

(b) (i) What are the design consideration of video amplifier? (6)

(ii) Briefly explain the working principle and the frequency response characteristics of video amplifier IC. (10)