BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY

QUESTION BANK

Unit Test-II (Shift:-I & II)

Program: - EJ/IS

Semester: - IV **Course: LIC (22423)**

Unit 3 Linear Applications of Op-Amp (20 M)

2 Marks Questions

1. Draw the circuit diagram for inverting and Non-inverting Comparator.
2. Draw and explain temperature compensated logarithmic amplifier using op-amp.
3. Define UTP, LTP, Hysteresis with respect to Schmitt trigger
4. Draw the circuit diagram of peak to peak detector.

4 Marks Questions

5. Draw the sample and hold circuit using op-amp. Explain its working and show input and output waveforms.
6. With suitable circuit diagram explain Active peak detector.
7. Draw and explain zero crossing detector with input and and output waveforms.

Unit 4 Filters and Oscillators (18 M)

2 Marks Questions

8. Give classification of filter.
9. Draw ideal and practical frequency response of all filters.
10. Draw the circuit diagram for phase shift oscillator.
11. Define Centre frequency, roll off rate, Q factor, cut off frequency w.r.t. filter.
12. Draw the circuit diagram of Wide band Reject (stop) filter.

4 Marks Questions

13. For the first order Butterworth HPF,calculate cut-off frequency fc, ωc and pass band gain, if the values of components are R=15kΩ, C=0.01μf, Rf=10kΩ ,R1=5kΩ.
14. State merits and demerits of active filter over passive filter.
15. Draw the circuit and frequency response of active notch filter. Write the formula for **fn.** Draw the frequency response.
16. Compare between Colpitt's oscillator and Hartley oscillator.
17. Describe the working of Wein Bridge Oscillator using IC 741.

Unit 5 Specialized IC Applications (12 M)
2 Marks Questions

18. Draw pin diagram of IC 565 PLL.
19. Define Lock range, Capture range, Free running state
20. Draw circuit diagram of PLL as multiplier.

4 Marks Questions.

21. Draw pin diagram and internal block diagram of IC 555.
22. Draw and explain block diagram of PLL
23. Explain FM demodulator using PLL with block diagram and waveform.
24. Draw and describe astable multivibrator using IC 555 with waveforms.
25. Draw and describe Schmitt trigger using IC 555 with waveforms.
26. Draw Monostable Multivibrator using IC 555 and determine pulse width if C=0.047μf and R=56KΩ.