Q.34 What is thermal drift?

Q.35 Explain active filter and classify them.

SECTION-D

Note : Long Answer type question. Attempt any two questions out of three questions. (2x10=20)

Q.36 How the IC 555 work as as astable multivibrator explain with neat diagram?

Q.37 Draw and explain ADC comparator?

Q.38 Write a Note on :

a) OP-AMP as differentiator

b) Schmitt trigger

Roll No.....

4th Sem / Electronics & Instrumentation

Subject : Linear & Digital Integrated Circuits

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note : Multiple choice questions. All questions are compulsory. (10x1=10)

Q.1 An ideal OP-AMP have

a) Infinite input impedance

b) Zero output impedance

c) Infinite bandwidth

d) All of above

Q.2 A voltage follower _____

a) Has a voltage of 1

b) Is non inverting

c) Has no feedback resistor

d) All of above

Q.3 NAND gate is_____

a) AND gate followed by NOT gate

b) OR gate followed by NOT gate

c) NOT gate followed by AND gate

d) NOT gate followed by OR gate

Q.4 In a multiplexer, if there are 4 input lines and 1 output line, then number of select lines will be

a) 3 b) 0

c) 2 d) 1

Q.5 IC 741 has _____ number of pins.

a) 4 b) 16

c) 8 d) 20

Q.6 An instrumentation amplifier is high

a) Output impedance b) Power gain

c) CMRR d) supply voltage

Q.7 The Common mode gain is

a) Very high b) Very low

c) Always unity d) Unpredictable

Q.8 In a J-K flip flop, when J=1 and K=1 then it will be consider as

a) Set condition b) reset condition

c) No change d) Toggle condition

Q.9 What is a filter

a) Frequency damping circuit

b) Frequency selective circuit

c) Amplitude selective circuit

d) Amplitude damping circuit

Q.10 The input to OP-AMP open loop comparator is sinusoidal signal, the output of comparator is

a) Square wave b) sine wave

c) Cosine wave d) Triangular wave

SECTION-B

Note : Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Expand DAC.

Q.12 Define slew rate.

Q.13 Define Encoder.

Q.14 Expand CMRR.

Q.15 Define open loop gain.

Q.16 IC 555 has _____ no. of pins.

Q.17 Define Thermal drift.

Q.18 Draw symbol of NOR gate.

Q.19 Define Active filter.

Q.20 The unwanted signal is called_____.

SECTION-C

Note : Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain difference between digital and linear ICs.

Q.22 Explain what factors affect the input offset voltage.

Q.23 What is Demultiplexer? Explain.

Q.24 Write the characteristic of an ideal OP-AMP.

Q.25 Draw pin diagram of IC 555.

Q.26 Explain different feedback configurations.

Q.27 Define SVRR and Slew rate of OP-AMP.

Q.28 Describe working of phase lock loop.

Q.29 Explain block diagram of active low pass filter.

Q.30 Draw a basic comparator circuit.

Q.31 How OP-AMP can be used as inverting amplifier? Explain.

Q.32 Draw common mode configuration of OP-AMP.

Q.33 Explain working of Encoder.