Q.25 Discuss OP-AMP as adder.

Q.26 Describe building blocks of Instrumentation systems.

Q.27 Discuss various process of calibration.

Q.28 Explain LED with its symbol & construction diagram.

Q.29 Describe various errors & their removal actions.

Q.30 Explain IC-741 with its pin diagram.

Q.31 Write a short note on RS-232C.

Q.32 Define differential voltage gain & CMRR.

Q.33 Discuss printing devices.

Q.34 Discuss calibration & its importance.

Q.35 Explain dynamic characteristics.

SECTION-D

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

Q.36 Explain various testing signals with their graphical & mathematical representation.

Q.37 Describe GPIB Bus with suitable diagram.

Q.38 Discuss OP-AMP as Instrumentation amplifier.

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3rd Sem / IC, EI
Subject:- Basics of Instrumentation / Pr. of Inst.

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Unit of Pressure is_____.

a) Pascal b) Watt
c) Weber d) Henry

Q.2 The first stage of measurement system is known as

a) Intermediate stage
b) Terminating stage
c) Detector Transducer stage
d) None of these

Q.3 RS 232-C operates in which mode

a) Parallel b) Series
c) Both a & b d) None of these

Q.4 IC-741 (OP-AMP) contains_____

a) Transistors
b) Diodes
c) Resistors & Capacitors
d) All of these

Q.5 The turn on time of a LCD is of the order of.

a) 10 ms b) 1 s.

c) 1 ms d) 10 ns.

Q6 Instrumental errors are example of_____

a) Gross error b) Random error

c) Systematic error d) None of these

Q.7 Which one is the dynamic characteristic.

a) Fidelity b) Accuracy

c) Sensitivity d) None of these

Q8 OP-AMPs inverting and non-inverting inputs are connected at pin_____

a) 2 & 3 b) 3 & 4

c) 4 & 5 d) None of these

Q.9 Semiconductor materials used for manufacturing of LED are _____

a) Gallium Arnside phosphide

b) Gallium arsenide

c) Both (a) and (b)

d) None of these

Q.10 How many devices may be connected to one continuous GPIB Bus.

a) 10 b) 6

c) 15 d) 7

SECTION-B

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

Q.11 Step input is a test signal. (True/False)

Q.12 Expand LCD.

Q.13 Voltmeter is an example of Secondary Instruments. (True/False)

Q.14 Define Range.

Q.15 Seven Segment Display contains_____ LEDs.

Q.16 OP-AMP provides very high differential gain. (True/False)

Q.17 Define Precision.

Q.18 LED is made up by semiconductors. (True/False)

Q.19 Expand PSRR.

Q.20 Define Static system.

SECTION-C

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

Q.21 Write a short note on scope and necessity of Instruments.

Q.22 Discuss accuracy and linearity.

Q.23 Discuss working principle of strip chart recorder.

Q.24 Explain grounding.