Q.26 Draw and explain unit step and ramp test signal.

Q.27 Explain the needs of instrumentation.

Q.28 What are merits and demerits of strip chart recorder?

Q.29 Explain the importance of calibration.

Q.30 write short note on building blocks of instrument.

Q.31 Write short note on GPIB.

Q.32 Explain various sources of error .

Q.33 Write pin configuration of IC-741.

Q.34 Explain following terms briefly

1) Loading effects

2) Precision

Q.35 Draw and explain seven segment display.

SECTION-D

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

Q.36 Explain working principle and construction of XY recorder.

Q.37 Draw and explain dynamic characteristic of instrument in detail.

Q.38 Explain the characteristic of ideal OPAMP and its block diagram in details.

3rd Sem / Branch: Instrumentation and control

Subject:- Basic of Instrumentation

Time : 3Hrs.   M.M. : 100

SECTION-A

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

Q.1   Undesirable property in measurement system

a)   Accuracy   b)   Sensitivity

c)   Drift   d)   Reproducibility

Q.2   Bar is the unit of

a)   pressure   b)   Flow

c)   level   d)   Temperature

Q.3   LED stands for

a)   Liquid Emitting display

b)   Liquid Emersing Display

c)   Light Emitting Diode

d)   Light Emitting Display

Q.4   RS-232 bus has _ number of pin

a)   25   b)   26

c)   24   d)   21

Q.5 Misuse of instrument is known as

a) Gross error   b) Instrumental error

c) Random error   d) None of above

Q.6 The input impedance of ideal OPAMP should be

a) 0   b) ¥

c) 10   d) 100

Q.7 Errors are categorized in

a) 2   b) 5

c) 7   d) 3

Q.8 Which of the following is not test signal

a) Impulse   b) unit step

c) Exponential   d) ramp

Q.9 Which of the following is static characteristic.

a) Frequency   b) Accuracy

c) Time constant   d) Damping ratio

Q.10 The 741 OPAMP is a _____ device .

a) 4 Pin

b) 8 Pin

c) 6 Pin

d) 9 Pin

SECTION-B

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

Q.11 Define input offset current .

Q.12 Explain dead time.

Q.13 Define error.

Q.14 The unit of power is kelvin (T/F)

Q.15 Define scanning.

Q.16 Expand CMRR

Q.17 Name any two types of measurement.

Q.18 The switching time of LED is of the order of_____.

Q.19 The ratio of maximum displacement deviation to full scale deviation of the instrument is called_____.

Q.20 Draw the symbol of OPAMP.

SECTION-C

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

Q.21 Explain basics of printing devices.

Q.22 Write short note on slew rate.

Q.23 Explain OPAMP as substracter .

Q.24 Describe classification of error .

Q.25 What is selection criteria of instrument ?