

- Q.25 What is selection criteria of instrument.
- 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
a) Loading effects b) 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.

No. of Printed Pages : 4 181531/121531/031531
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3rd Sem / IC, EI Subject:- Basics of Control System / Const. Sys.

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

(140) (4) 181531/121531/031531
/073641

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- 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 following is static characteristic
 a) Frequency b) Accuracy
 c) Time constant d) Damping ratio
- Q.10 The 741 OPAMP is a _____ device.
 a) 4pin b) 8pin
 c) 6pin d) 9pin

(2) 181531/121531/031531
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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 subtractor.
- Q.24 Describe classification of error.

(3) 181531/121531/031531
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