



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35



Accredited by NBA-AICTE and Accredited by NAAC – UGC with A++ Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE NAME: 23EET206/ Measurements and Instrumentation

II YEAR / IV SEMESTER

UNIT 1- FUNDAMENTALS OF MEASUREMENT

Topic 1 – Functional Elements of a Measuring Instrument



SUCCESSFUL STUDENT

Positive
Attitude

Professionally
Groomed

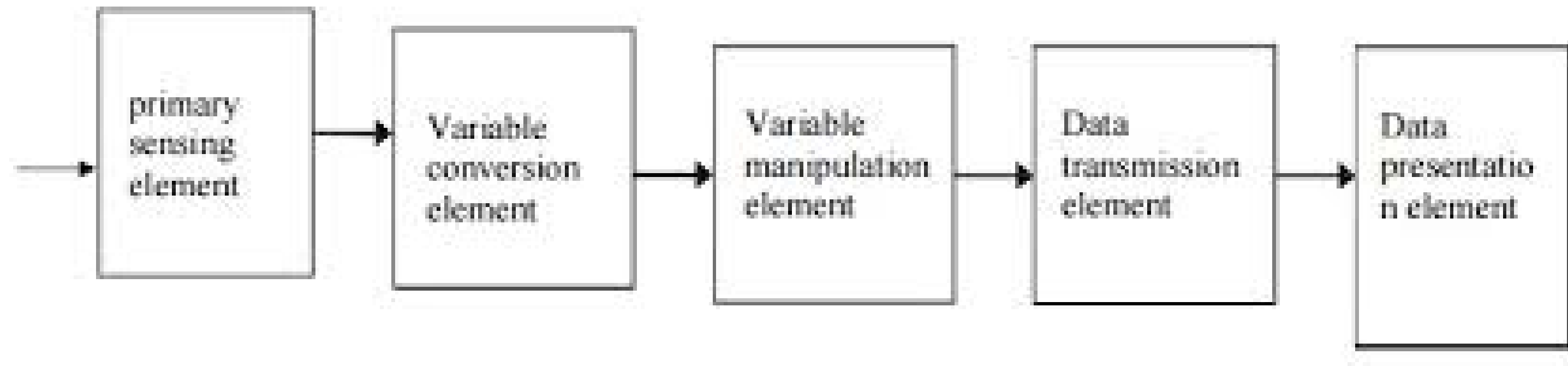
Socially
Interactive

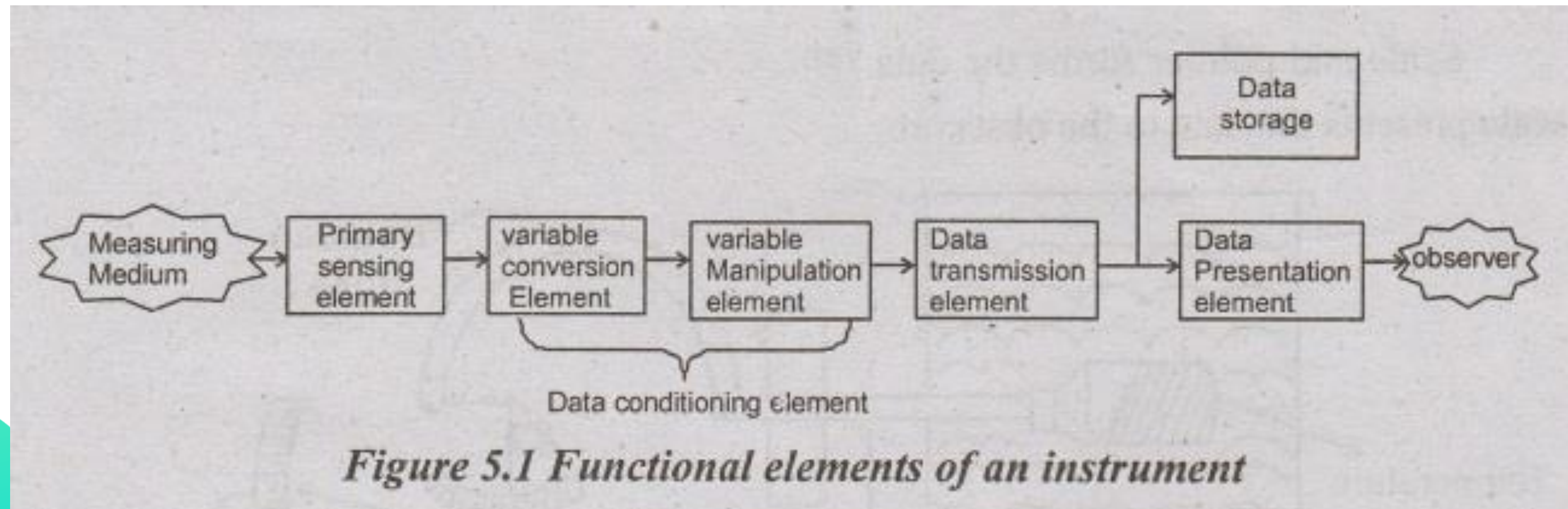
Technically
Skillful



They are:

- i) Primary sensing element
- ii) Variable conversion element &
- iii) Data presentation element.
- iv) Primary sensing element: The quantity under measurement makes its first contact with the primary sensing element of a measurement system.





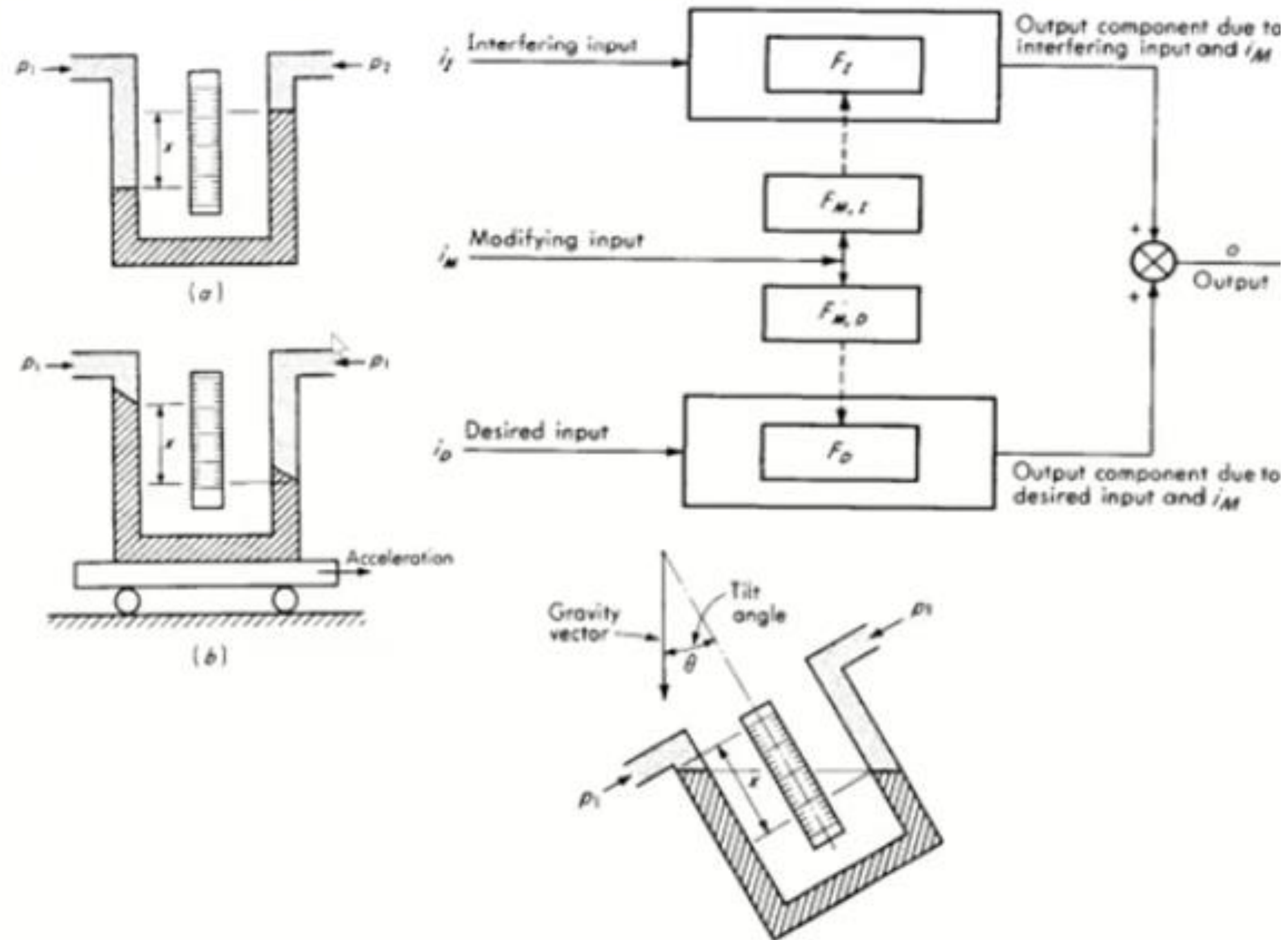


DEFINITIONS

- *Desired inputs:* represent the quantities that the instrument is specifically intended to measure.
- *Interfering inputs:* represent the quantities to which the instrument is unintentionally sensitive.
- *Modifying input:* are the quantities that cause a change in the input output relations for the desired and interfering inputs.



UNWANTED INPUTS FOR MANOMETER





ASSESSMENT



©
publicdomainvectors.org





REFERENCE

TEXT BOOKS

- T1 A. K. Sawhney, “A Course in Electrical & Electronic Measurements & Instrumentation”, Dhanpat Rai & CO., New Delhi, 2022.**
- T2 S. Gupta and J. John , "Virtual Instrumentation using Lab VIEW", Tata McGraw-Hill Publishing Company Limited, New Delhi, 2010.**

REFERENCES

- R1 David A.Bell, "Electronic Instrumentation and Measurements”, Oxford Higher Education, 2013**
- R2 Bouwens A J, “Digital Instrumentation”, Tata Mc Graw Hill, New Delhi2016**
- R3 Martin U. Reissland, “Electrical Measurement – Fundamental Concepts and Applications”, New Age International (P) Ltd., 2015**
- R4 J. B. Gupta, “A Course in Electronic and Electrical Measurements and Instrumentation”, S. K. Kataria & Sons, Delhi, 2013**
- R5 M. S. Anand, “Electronics Instruments and Instrumentation Technology”, Prentice Hall India, NewDelhi, 2012.**

WEB REFERENCES

- W1 https://pasargadabzar.com/wp-content/uploads/2022/04/Morris_Langari-1.pdf**
- W2 https://www.vssut.ac.in/lecture_notes/lecture1423813026.pdf**
- W3 <https://hombredelamancha.com/products/ebook-electrical-and-electronic-measurements-and-instrumentation?srsId=AfmBOorTb5k9Ga1rsImj69-l3SximYYra7U8VhGcqYahqsfk9BR9rC7k>**



THANK YOU!!