# 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 5 - INSTRUMENTATION SYSTEMS

Topic 2 – Advantages, Architecture of a virtual instrument,

# SUCCESSFUL STUDENT

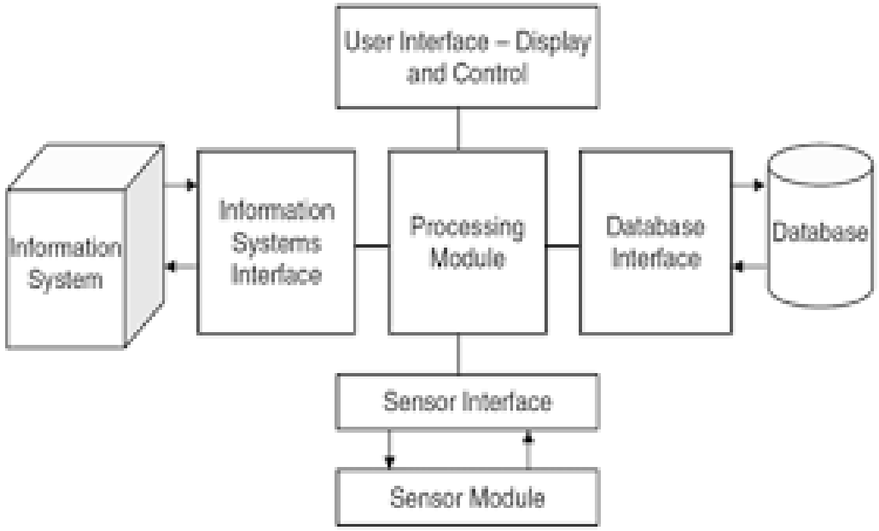
Positive Attitude

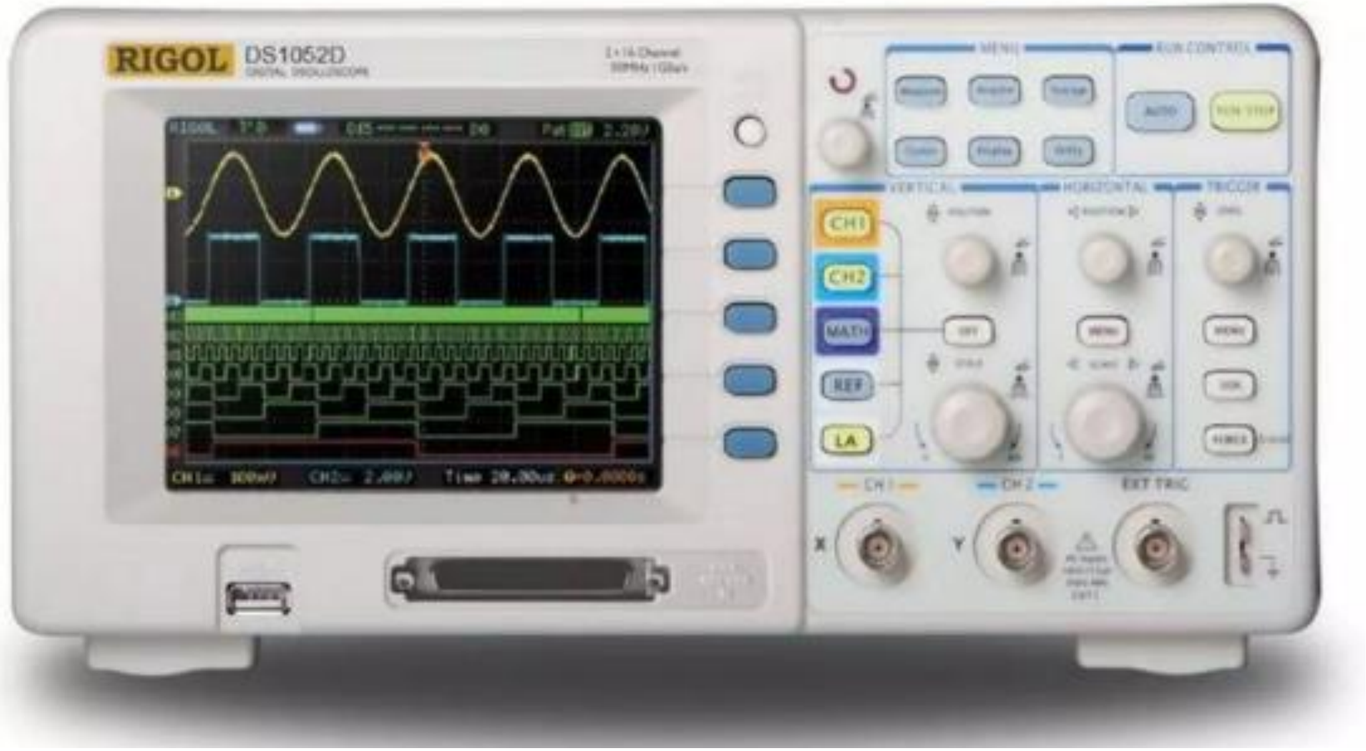
Professionally Groomed

Socially Interactive

Technically Skillful

Virtual instruments offer several advantages over traditional, physical instruments, including lower costs, increased flexibility and customization, and the ability to leverage the latest technology.

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## *The Second phase*

- It is started in 1950s, as a result of demands from the industrial control field.
- Instruments started to digitalize measured signals, allowing digital processing of data.

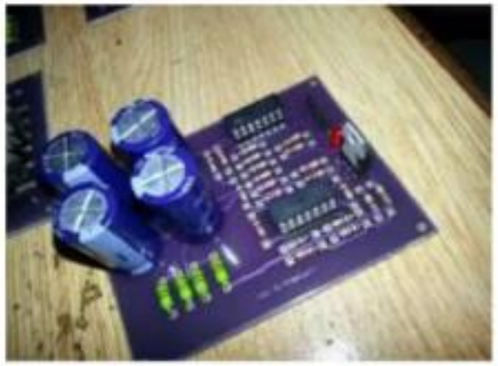
## *The third phase*

- Measuring instruments became computer based.
- They  begun to include interfaces that enabled communication between the instrument and the computer.

# VIRTUAL INSTRUMENT ARCHITECTURE

**A virtual instrument is composed of the following blocks:**

- **Sensor module**
- **Processing Module**
- **Output**



SENSOR MODULE

# INPUT

- **Real World Data.**

- **According to the type of connection, sensor interfaces can be classified as *wired* and *wireless*.**

  - ***Wired Interfaces* are usually standard parallel interfaces, such as General Purpose Interface Bus**

  - ***Wireless Interfaces* are increasingly used because of convenience.**

# ASSESSMENT


# 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?srsltid=AfmBOorTb5k9Ga1rsImj69-l3SximYYra7U8VhGcqYahqsfk9BR9rC7k**

# THANK YOU!!