

- Q.26 What is the difference between threshold and resolution.

Q.27 Write short note on bimetallic thermometer.

Q.28 What is optical thermometry? Draw diagram for disappearing filament thermometer.

Q.29 Draw diagram showing different types of pressure and label it.

Q.30 Write short note on C type bourdon tube.

Q.31 Classify the fluid flow and define any one.

Q.32 Write short note on orifice meter.

Q.33 Write short note on dip stick method of liquid level measurement.

Q.34 Write five examples of automatic control system.

Q.35 Write short note on RTD's.

## **SECTION-D**

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

- Q.36 Make a list of various static characteristics of instruments and briefly describe any two.

Q.37 Name the various temperature measuring instruments and describe any one with help of diagram.

Q.38 Describe the construction and working detail of U tube manometer with help of diagram

No. of Printed Pages : 4 181154/121154/031154  
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**5th Sem / Branch : Food Tech.  
Sub.: Instrumentation and Process Control**

Time : 3Hrs. M.M. : 100

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## **SECTION-A**

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

- Q.1 Mercury in glass thermometers are used for the measurement of \_\_\_\_\_

a) Weight                      b) Velocity  
c) Flow                        d) Temperature

Q.2 Tertiary measurement involves \_\_\_\_\_ translations on the quantity to be measured.

a) 1                              b) 2  
c) 3                              d) 0

Q.3 The matching of two lengths, such as when determining the length of an object with a metre rod is known as \_\_\_\_\_.

a) Primary Measurement  
b) Secondary Measurement  
c) Tertiary Measurement  
d) None

Q.4 The part of the instrument used to convert the quantity to be measured into the measurable form is known as \_\_\_\_\_.

- a) Intermediate transfer device
  - b) Standard
  - c) Result
  - d) Feed Back
- Q.5 The fixed value that is used for comparison purposes in measurement system is known as \_\_\_\_\_
- a) Measurand
  - b) Feed Back
  - c) Standard
  - d) All of the above
- Q.6 Unit of weight is \_\_\_\_\_.
- a) Kilogram
  - b) Meter
  - c) Kelvin
  - d) Mass/Volume
- Q.7 In electronic devices, the only movement involved is that of \_\_\_\_\_
- a) Electrons
  - b) Gears
  - c) Plates
  - d) None of the above
- Q.8 \_\_\_\_\_ is defined as the ability of the instrument to reproduce a repeated set of readings with in a given accuracy.
- a) Accuracy
  - b) Precision
  - c) Durability
  - d) Dependability
- Q.9 Select the correct formula
- a)  $F = 32 + 9/5 {}^{\circ}\text{C}$
  - b)  $F = 32 + 5/9 {}^{\circ}\text{C}$
  - c)  $F = 32 - 9/5 {}^{\circ}\text{C}$
  - d)  $F = 32 - 5/9 {}^{\circ}\text{C}$
- Q.10 Boiling point of water in \_\_\_\_\_  ${}^{\circ}\text{K}$ .
- a) 373.15
  - b) 100
  - c) 273
  - d) None of the above

## SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Name two liquid flow measurement instruments.
- Q.12 Give the full form of WBT.
- Q.13 Bimetallic thermometer are used to measure the range of \_\_\_\_\_ to \_\_\_\_\_  ${}^{\circ}\text{C}$
- Q.14 The higher temperature limit for mercury is \_\_\_\_\_.
- Q.15 Write down the equation used to convert the degree Celsius into degree Kelvin.
- Q.16 Draw simple block diagram for process control.
- Q.17 Name three types of measurement systems.
- Q.18 Instrumentation is defined as the science of \_\_\_\_\_.
- Q.19 Write the names of three types of instruments.
- Q.20 What is measured with Ventury Meter?

## SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Define direct and indirect type of measurement.
- Q.22 Draw block diagram for secondary measurement system and label it.
- Q.23 Write short note on mechanical instruments.
- Q.24 Write short note on null and deflection type of instruments.
- Q.25 Make a list of all the performance characteristics of instruments.