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221164C

Roll No. ....

**6th Sem.**

**Branch :Food Technology**

**Sub. : Instrumentation & Process Control**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

**Note: Multiple type Questions. All Questions are compulsory. (6x1=6)**

- Q.1 Is the measurement system Measurand is compared with the predefined quantity known as \_\_\_\_\_.  
a) Measurand                      b) Standard  
c) Feed Back                      d) Result
- Q.2 In secondary measurements the number of translations to be done is \_\_\_\_\_.  
a) 0                                      b) 1  
c) 2                                      d) 3
- Q.3 Which measuring instrument make more noise \_\_\_\_\_.  
a) Mechanical                      b) Electrical  
c) Electronic                      d) None of the above
- Q.4 In Bimetallic thermometer metal used as low thermal expansion is \_\_\_\_\_.  
a) Wood                                      b) Plastic  
c) Invar                                      d) Fiber

- Q.5 Bourdon tube is used for the measurement of \_\_\_\_\_.  
 a) Pressure                      b) Temperature  
 c) Viscosity                      d) Flow
- Q.6 Bubble or purge technique is used for the measurement of \_\_\_\_\_.  
 a) Flow                              b) Viscosity  
 c) Density                          d) Level

### SECTION-B

**Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)**

- Q.7 Classify the measurement system.
- Q.8 Draw block diagram of typical tertiary measurement.
- Q.9 House hold cloth iron uses which instruments to control temperature?
- Q.10 Thermocouple is used to measure \_\_\_\_\_.
- Q.11 Range of Reynold number for turbulent flow is \_\_\_\_\_.
- Q.12 Name the instrument used for highly accurate measurement of fluid level.

### SECTION-C

**Note: Short answer type Questions. Attempt any eight questions out of ten Questions. (8x4=32)**

- Q.13 What are the contacting and non-contacting type of instruments?

- Q.14 Define precision with the help of diagram.
- Q.15 Write short note on diaphragm.
- Q.16 What is bimetallic thermometer? Draw its diagram.
- Q.17 Write short note on inclined tube manometer.
- Q.18 Make a list of various restriction flow measurement instruments and describe any one.
- Q.19 Write short note on float and shaft liquid level gauge.
- Q.20 Draw diagram for Bubbler or purge technique for level measurement and label it.
- Q.21 What is humidity and how it is measured?
- Q.22 Define control system and draw diagram for closed loop control system.

### SECTION-D

**Note: Long answer questions. Attempt any two questions out of three Questions. (2x8=16)**

- Q.23 Describe various performance characteristics of instruments.
- Q.24 What are the types of fluid flow? Describe with the help of diagrams.
- Q.25 Make a list of direct liquid level measurement techniques and describe any two.