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**6th Sem / Mech, T & D, Prod, Mechatronics, GE, CNC,  
CAD/CAM, Found. & Forg., Mech. Engg. (Fabrication  
Tech.), Mech (CAD/CAM Design & Robotics)**  
**Subject:- Inspection and Quality Control / Metrology**

Time : 3Hrs. M.M. : 100

**SECTION-A**

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

Q.1 \_\_\_\_\_ is not a fundamental quantity. (CO1)

- a) Mass
- b) Velocity
- c) Length
- d) Time

Q.2 The difference between the measured value and the true value is known as \_\_\_\_\_ (CO2)

- a) Sensitivity
- b) Error
- c) Variability
- d) Efficiency

Q.3 Which of the following is also known as fraction defective chart? (CO5)

- a) Pareto Chart
- b) Double
- c) R-chart
- d) P-chart

Q.4 The unit of Luminous Intensity is \_\_\_\_\_? (CO1)

- a) Candela
- b) Meter
- c) Kelvin
- d) Mole

Q.5 \_\_\_\_\_ the process of comparing an unknown quantity with a known fixed unit quantity. (CO1)

- a) Kaizen
- b) Calibration
- c) Measurement
- d) Maintenance

Q.6 A device which converts the energy from one form into another is known as \_\_\_\_\_ (CO6)

- a) Sensor
- b) Transducer
- c) Relay
- d) Capacitor

Q.7 Write the full form of ISO. (CO6)

- a) Indian standard organisation
- b) Indian sports organisation
- c) International organisation for standardisation
- d) International space organization

Q.8 Clinometer is used for (CO2)

- a) Angular measurement
- b) Inner diameter
- c) Flatness
- d) Diameter

Q.9 Ring gauge is used for measurement \_\_\_\_\_ (CO2)

- a) Outer diameter
- b) Inner diameter
- c) Angle measurement
- d) Length of shaft

Q.10 LCL for the R chart is given by \_\_\_\_\_ (CO4)

- a) D3R
- b) D2R
- c) R-D3R
- d) d2R

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## **SECTION-B**

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 What is C.G.S system of units. (CO1)  
Q.12 Define inspection. (CO1)  
Q.13 What is national standards? (CO1)  
Q.14 What is the value of least count of vernier caliper. (CO3)  
Q.15 Name any two type of comparators. (CO3)  
Q.16 What is the full form of S.Q.C.? (CO4)  
Q.17 Write the function of Try-square. (CO4)  
Q.18 Define Kaizen. (CO6)  
Q.19 Define 5S? (CO6)  
Q.20 What is passive transducer? (CO7)

## **SECTION-C**

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Write five main objective of inspection. (CO1)  
Q.22 What are the Line Standards and End standards? How do they differ? (CO1)  
Q.23 Enlist any five alignment tests carried on a drilling machine. (CO3)  
Q.24 Why are electrical measuring instruments more advantageous as compared to mechanical instruments. (CO2)  
Q.25 Define construction and working of a vernier height gauge with the help of a neat sketch. (CO3)  
Q.26 Draw the neat sketch of a combination set. (CO3)

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- Q.27 Explain ring gauge with neat sketch?  
Q.28 Write the characteristics of normal distribution curve? (CO4)  
Q.29 Explain Unilateral and Bilateral tolerances.  
Q.30 Enlist any five methods of taking sample? (CO5)  
Q.31 Write any five advantages of LVDT. (CO7)  
Q.32 Explain sine bar with the help of neat sketch. How will you use it for taper measurement? (CO2)  
Q.33 Express any one transducers for the measurement of pressure. (CO7)  
Q.34 Draw labeled diagram of vernier caliper. (CO2)  
Q.35 Explain the construction of profile projector with diagram. (CO2)

## **SECTION-D**

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

- Q.36 Name the various types of comparators? Explain any one with neat sketch? (CO2)  
Q.37 Explain TQM. List its various advantages & application.  
Q.38 Explain the following Statistical terms. (CO4)  
a) Average                          b) Median  
c) Mode                              d) Range  
e) Standard deviation

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