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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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