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

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 Low cost, higher volume items requires (CO1)
- a) No inspection b) Little inspection
 - c) Intensive inspection d) 100% inspection
- Q.2 Which of the following is incorrect about line standard? (CO2)
- a) These are legal standards
 - b) A round recess, half inch away from the ends is cut at both ends
 - c) Slope at the ends in zero
 - d) Points of supports are called 'Airy' points
- Q.3 What does QA and QC stands for? (CO1)
- a) Quality Assurance and Queuing Control
 - b) Quality Adjustment and Quality completion
 - c) Quality Assurance and Quality control
 - d) Quality Adjustment and Queuing control
- Q.4 Which of the following option is incorrect about interchangeability? (CO3)

- a) Increase output
b) Increase cost of production
c) Useful in mass production
d) Assembly timer increases
- Q.5 What is the suitable material for small plain plug gauges? (CO2)
- a) Any type of steel
b) Light metal alloys
c) Non metallic handles may be used
d) Aluminium
- Q.6 A single measureable quality characteristic, such as dimension, weight or volume, is called _____. (CO3)
- a) Variable
b) Attribute
c) Variable and an Attribute
d) Mean and variability
- Q.7 Which of the following is a principles of TQM? (CO6)
- a) Process centered
b) Product centered
c) External customer focus only
d) Internal customer focus only
- Q.8 LVDT is a (CO7)
- a) Resistance transducer
b) Inductive transducer
c) Capacitive transducer
d) None of these transducer

- Q.9 Average is also known as (CO4)
 a) Mode b) Median
 c) Mean d) Distribution

- Q.10 Item by item analysis is a (CO6)
 a) Single sample plan
 b) Double sample plan
 c) Multiple sample plan
 d) Sequential sample plan

SECTION-B

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

- Q.11 Define meter. (CO2)
 Q.12 Define inspection. (CO1)
 Q.13 Define the terms Error. (CO3)
 Q.14 Write the use of profile projector. (CO2)
 Q.15 What is check sheet? (CO5)
 Q.16 Define control chart. (CO4)
 Q.17 What is Kaizen? (CO6)
 Q.18 Write full forms of TQM. (CO6)
 Q.19 What is measuring process? (CO7)
 Q.20 Describe transducers. (CO7)

SECTION-C

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

- Q.21 Explain types of inspection. (CO1)
 Q.22 Explain planning in inspection. (CO1)
 Q.23 Why are electrical measuring instruments more advantageous as compared to mechanical instruments? (CO2)

- Q.24 Write a short note on wire gauge. (CO2)
 Q.25 Define flatness. Describe any one method of testing flatness. (CO3)
 Q.26 Write a short note on profile projector. (CO2)
 Q.27 Describe error and give their effects on quality. (CO3)
 Q.28 Explain the procedure of a alignment test on lathe. (CO3)
 Q.29 What are histograms? Give their applications. (CO4)
 Q.30 What are different sampling methods? Explain any one of them. (CO4)
 Q.31 Explain the methods of taking samples. (CO5)
 Q.32 Write the applications of control charts. (CO5)
 Q.33 Explain the principles and benefits of TQM. (CO6)
 Q.34 What are transducers? Give their classification. (CO7)
 Q.35 Write a short note on measurement of frequency. (CO7)

SECTION-D

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

- Q.36 Explain the working principle & constructional detail of micrometer in detail with help of neat sketch. (CO2)
 Q.37 What is sampling plan? Explain various types of sampling plans. (CO6)
 Q.38 What is ISO-9000? Explain the main functions characteristics and benefits of ISO-9000 (CO6)