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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 Which of the following is not a physical quantity? (CO1)

a) Time b) Electric current
c) Amount of substance d) Linear momentum

Q.2 Full form of TQM (CO6)

a) Technical Quality management
b) Total Quality material
c) Total Quality management
d) Total Quality measurement

Q.3 _____ Transducers don't develop their own voltage or current (CO2)

a) active b) passive
c) digital d) analog

Q.4 The square of standard deviation is known as (CO4)

a) mode b) range
c) dispersion d) variance

Q.5 The phenomenon of change in path of light as it goes from one medium to another (CO7)

a) Refraction b) Reflection
c) Interference d) Diffraction

Q.6 A gauge determines the (CO2)

a) Actual dimension
b) Dimension within specified limits
c) Both a & b
d) None of the above

Q.7 Average is also known as (CO4)

a) mean b) median
c) mode d) distribution

Q.8 Normal distribution is also known as (CO4)

a) Poissons distribution
b) Gaussian distribution
c) Binomial distribution
d) None of the above

Q.9 KAIZEN means (CO6)

a) Continuous production
b) Continuous inspection
c) Continuous improvement
d) Continuous supply of raw material

Q.10 Principle of operation of LVDT is based on (CO7)

a) Mutual Inductance b) Self Inductance

c) Permeance d) Reluctance

SECTION-B

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

Q.11 Define Inspection. (CO1)

Q.12 Define Single sampling plan (CO5)

Q.13 Cause and effect diagram is also known as _____ (CO4)

Q.14 Define Transducer. (CO7)

Q.15 Define Error. (CO1)

Q.16 Define Histogram. (CO4)

Q.17 Name any two devices for temperature measurement. (CO7)

Q.18 Define least count. (CO2)

Q.19 Name two Instruments used for measuring Flatness. (CO3)

Q.20 What is the use of Talysurf? (CO3)

SECTION-C

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

Q.21 Explain straightness and flatness. (CO3)

Q.22 What is Tolerance. Explain its types. (CO3)

Q.23 What are the various advantages of using gauges for inspection. (CO2)

Q.24 Explain Bevel Protractor with the help of neat sketch. (CO3)

Q.25 Discuss various sampling methods briefly. (CO5)

Q.26 Explain Sine bar with the help of neat sketch (CO2)

Q.27 Discuss the various factors which affect the quality of a product. (CO6)

Q.28 Explain the standards of measurement. (CO2)

Q.29 Write a short note on QC tools. (CO6)

Q.30 Write a short note on Acceptance Sampling. (CO5)

Q.31 Explain Poisson's distribution with its characteristics and benefits. (CO5)

Q.32 Write a short note on working of Variable reluctance transducers. (CO7)

Q.33 Explain $\overline{X}$ and $\overline{R}$ charts. (CO5)

Q.34 Explain 5S in detail. (CO7)

Q.35 Explain GO and NO Go Gauges. (CO2)

SECTION-D

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

Q.36 What are the Comparators? Explain Mechanical comparators in detail with diagram. (CO3)

Q.37 Explain ISO 9000 concept with its objectives. Also state its advantages. (CO6)

Q.38 Explain Control charts for attributes with examples. (CO5)