

M. Tech.-II (Mechanical CAD/CAM) (CBCS – 2015 Course) :

SUMMER - 2019

SUBJECT : PRECISION ENGINEERING

Day : Saturday
Date : 08/06/2019

S-2019-3415

Time : 11.00 AM TO 02.00 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the **RIGHT** indicate **FULL** marks.
 - 3) Answer to both the sections should be written in **SAME** Answer book.
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SECTION – I

Q.1 Explain in detail, measurement and accuracy in precision engineering and list out elements of part accuracy. **(10)**

OR

Explain the term machine tool accuracy in detail. What are different errors caused due to numerical interpolation?

Q.2 List various types of FITS and Tolerances. Explain the concept of allowances and clearances in precision engineering. **(10)**

OR

Explain the concept of Equalizing Datum with examples.

Q.3 Explain in short dimensional wear of cutting tools and its influence on accuracy. **(10)**

OR

Describe the principle and operation of: Taylor – Hobson Tely surf surface roughness instruments.

SECTION – II

Q.4 Describe LASER micrometer online and in-process measurements of diameter and surface roughness. **(10)**

OR

How to measure straightness and flatness measurement using Optoelectronic Measurement Systems.

Q.5 Describe Nano position systems of Nano accuracy. **(10)**

OR

Explain the Nano physical processing of atomic bit units.

Q.6 Describe briefly Coordinate Measurement Machine (CMM). State the advantages and possible sources of error in CMM. **(10)**

OR

What is quality supply? Explain Poka-Yoke techniques and its applications.

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