Day : Monday

Time : 10:00 AM-01:00 PM

Date : 1/8/2022

S-14204-2022

Max. Marks : 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION – I

Q.1 What is Part Accuracy? Explain all its elements in detail with suitable examples. **(10)**

OR

What do you mean by error? List down various types of errors? Explain significance of spindle rotation error for basic machine tool.

Q.2 What is Form Tolerance? Explain its types and give applications. **(10)**

OR

Explain the unilateral and bilateral systems of writing tolerance with suitable examples. Which system is preferred in inter changeable manufacture?

Q.3 Enumerate the different modes of defining surface texture. Describe with a neat **(10)** sketch. Construction and working of an instrument used for measurement of surface texture.

OR

Define flatness, waviness and cylindricity. What are the effects of vibrations on waviness of surface?

SECTION – II

Q.4 How micro holes and topography measurement is performed? **(10)**

OR

Discuss in detail Optoelectronic devices contact and non-contact types and its applications.

Q.5 Explain how Servo motor can be used for Nano-positioning control systems. **(10)**

OR

Discuss in detail ultra-precision position control.

Q.6 Describe the features of a flexible inspection system in quality control. **(10)**

OR

How is post process metrology incorporated in CNC machines?

* * * * *