

- Q.5 Explain Principle of Work holding and location.
- Q.6 Explain the steps for automatic tool changing in a CNC machining centre.
- Q.7 Write short note on:
- a) Feedback Devices.
 - b) DNC Machines.
 - c) Swarf removal.

No. of Printed Pages : 4

Roll No.

124652/084652

5th Sem. / CNC

Subject : Basics of CNC Machines / Classification of CNC Tooling M/C

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- a) Numeric Control.
 - b) Write any two application of CNC Machines.
 - c) Name various input devices of CNC machine.
 - d) Function of Tachometer.
 - e) Preset tooling.
 - f) Write function of tool pre setter.
 - g) Name various work holding devices used on CNC machines.
 - h) Transducer.
 - i) Full form of LVDT.
 - j) Encoder.

- k) Pressure mat.
- l) Write composition of HCS.
- m) What are brazed tools.
- n) ATC stands for.
- o) What is parity check?
- p) Machining center.
- q) Main part of MCU.
- r) Repeatability.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- i) Write limitations of DNC machines.
 - ii) Explain axis identification of a NC System.
 - iii) Differentiate between Conventional Machine and CNC machines?
 - iv) Write the advantages of insert bit type tools.
 - v) Enlist various work holding used on CNC machine. Explain any one.
 - vi) Give advantage and limitations of LVDT.
 - vii) Discuss in brief various types of ATCs.

(2) 124652/084652

- viii) Explain close loop control system.
- ix) Differentiate between encoders and decoders.
- x) How tools are classified on the basis of material.
- xi) What are main parameters considered while selecting the tool.
- xii) Write short note on PLC.
- xiii) Discuss any one swarf removal method in CNC machine.
- xiv) Explain briefly on-line Fault finding.
- xv) Explain working principle of servo motor.

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 What are the basic components of an NC system? Explain in detail.
- Q.4 What are the advantages of using recirculating ball screw? Explain with neat sketch working of Recirculating ball screw assembly in a CNC machine.

(3) 124652/084652