

SECTION-C

No. of Printed Pages : 4

Roll No.

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

- Q.3 Explain in detail working of CNC machine with help of a neat sketch.
- Q.4 Explain with neat sketch working of ball screw assembly in a CNC machine.
- Q.5 Explain different type automation along with advantages and limitation.
- Q.6 What are main problems in mechanical components of a CNC machine. Also give their remedies.
- Q.7 Explain subroutine with an example. Also give benefits using subroutines.

6th Sem. / EI

Subject : CNC Machines & Automation

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 a) Write any two features of CNC Machines?
- b) What do you mean by BTR?
- c) DNC stands for _____.
- d) Define Numeric control.
- e) Group Technology.
- f) Function of opto interrupter.
- g) G90 stands for.
- h) Write functions of M-codes.
- i) Preset tooling.

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- j) Name any two controller used on CNC machines.
- k) Define Transducer.
- l) Full form of LVDT.
- m) Define Automation.
- n) Write NC word use for feed rate with example.
- o) Define robot.
- p) Write any two advantages of automation.
- q) List different component of a FMS.
- r) Repeatability.

SECTION-B

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

- Q.2
- i) Write limitation of CNC machines.
 - ii) What is the principle of axis identification of a CNC system?

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- iii) Differentiate between Conventional Machine and DNC machines?
- iv) Write the advantages of qualified tools.
- v) Discuss briefly the working of potentiometer.
- vi) Give common problem encountered in CNC machines.
- vii) Explain close loop control system.
- viii) Differentiate between encoders and decoders.
- ix) Write NC word format of part programming.
- x) Discuss any one swarf removal method in CNC machine.
- xi) What is a canned cycle?
- xii) Explain briefly on-line fault finding.
- xiii) What are benefits of FMS?
- xiv) What do you mean by group technology?
- xv) Write advantages and disadvantages of Robots.

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