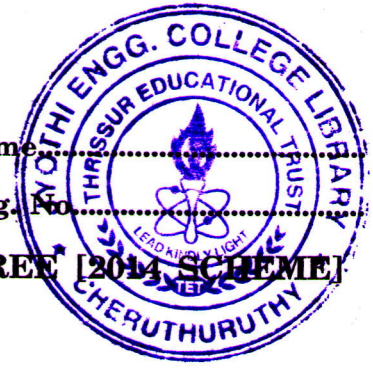


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Name

Reg. No.



**SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE [2014 SCHEME]
EXAMINATION, NOVEMBER 2017**

Electrical and Electronics Engineering

EE 14 704 D—MECHATRONICS

Time : Three Hours

Maximum : 100 Marks

Part A

Answer any eight questions.

1. Draft short notes on NC System and mention some of the advantage.
2. Clarify the special tool holders.
3. Explain about the counting devices in NC System.
4. Write short notes on feedback devices.
5. Compare NC machines with conventional machine.
6. List the steps involved in development of a CNC part program for a machining job.
7. Write any 5 vocabulary words used in APT Programming.
8. Explain the following with suitable application :
 - *Proximity sensor.*
 - *Slip sensor.*
9. Differentiate Online and Offline programming.
10. Define gripper selection and design.

(8 × 5 = 40 marks)

Part B

11. Brief notes on point to point and contouring system with suitable example.

Or

12. Deliberate the design consideration of Machine tools and explain the methods of improving machine accuracy and productivity.

Turn over

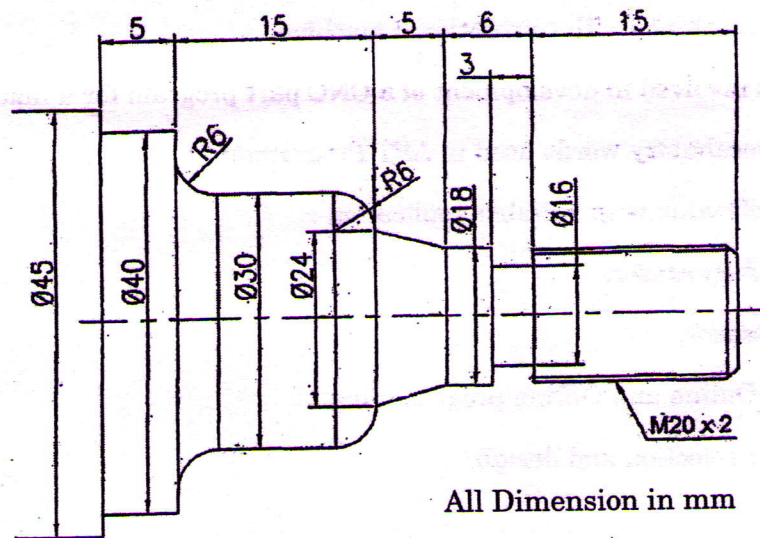
13. Briefly describe the type of Electrical Drive used in CNC Machine tools.

Or

14. Write notes on :

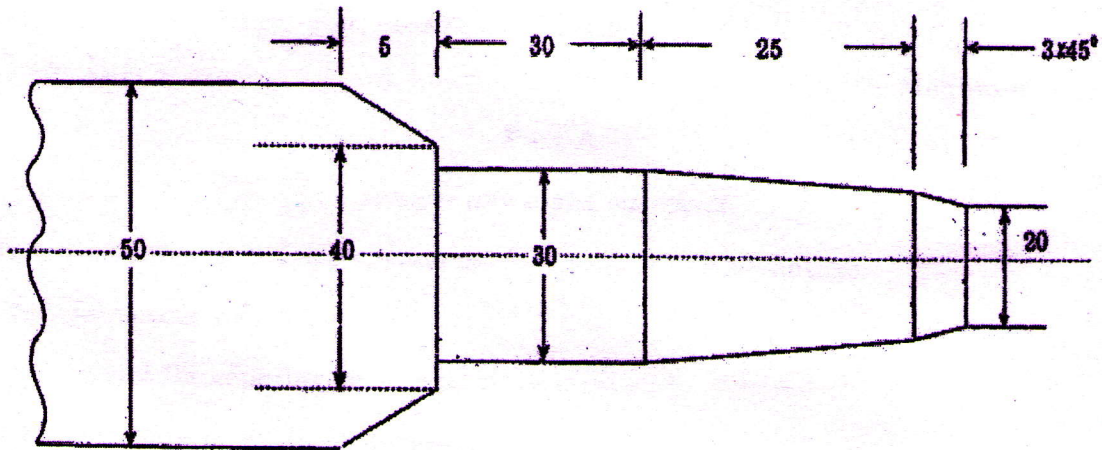
- (a) Linear Interpolation.
- (b) Circular Interpolation.
- (c) Encoder.
- (d) Decoder.

15. Write complete CNC part program for the component shown in below figure.



Or

16. Write a CNC part program for the below figure. Assume spindle speed and feed. Use standard ISO G and M codes.



17. Write a program to pick the part from input chute and place them on a pallet.

Or

18. Explain robot parts and their functions with neat sketch.

(4 × 15 = 60 marks)