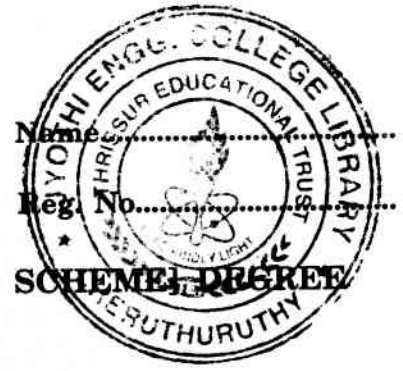


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**EIGHTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE
EXAMINATION, APRIL 2016**

EE 09 804 L 24—MECHATRONICS

Time : Three Hours

Maximum : 70 Marks

Answer all questions.

Part A

1. What is the scope of mechatronics ?
2. List out the advantage of NC system.
3. What is meant by pulse digitizers ?
4. Define absolute and incremental programming.
5. Differentiate contact and non-contact sensor.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. Write short notes on mechatronics in products.
7. Discuss the features of NC machine tools.
8. Explain interpolation and its types.
9. Write a note on spindle drives and feed drives of CNC machines.
10. Describe the basic components of a tape-operated NC machine tool.
11. Explain on line and offline programming.

(4 × 5 = 20 marks)

Part C

Answer all questions.

12. (a) Explain about the design process of mechatronics system.

Or

- (b) Explain the control of contouring system in CNC with neat block diagram

13. (a) Explain the following in CNC machining :

- (i) Linear interpolation.
- (ii) Circular interpolation.

Or

- (b) Explain digital to analog converters.

Turn over

14. (a) Briefly discuss the APT programming with example.

Or

(b) Briefly discuss the post processor programming language with example.

15. (a) Discuss the basic types of robot configurations. Bring out the relative merits and demerits of each type.

Or

(b) Using suitable example discuss the point-to-point and continuous path control in robots

(4 × 10 = 40 marks)