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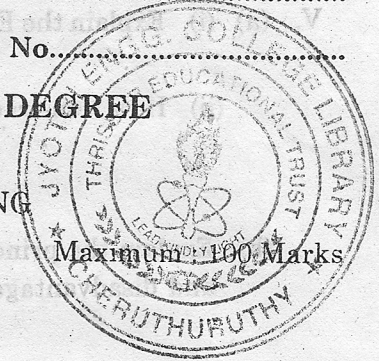
Reg. No.....

**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, DECEMBER 2010**

ME 04 505—METAL CUTTING AND FORMING

Time : Three Hours

Maximum 100 Marks



Part A

- I. 1 Explain the concept of ray diagram.
2 What is meant by tolerance ? Compare tolerance with fits.
3 Compare orthogonal cutting with oblique cutting.
4 What are the different types of cutting fluids used in machining and mention the advantages of cutting fluids ?
5 Write short notes on progressive dies.
6 Explain the basic principle of fixtures.
7 What is the principle of spark generator ?
8 What are the process characteristics of Travel wire EDM ?

(8 × 5 = 40 marks)

Part B

- II. (a) Explain the hydraulic drive mechanism with neat sketch and compare with mechanical drive mechanism.

Or

- (b) Explain the optical measurement method for threads and gears.

- III. (a) (i) Explain in detail about merchant's cycle.

(12 marks)

- (ii) What is machinability ?

(3 marks)

Or

- (b) Explain the different types of milling operations and its related milling cutters.

(15 marks)

- IV. (a) (i) Explain about scrap-strip layout.

(8 marks)

- (ii) Write merits and demerits of Press working operations.

(7 marks)

Or

- (b) Explain the different types of presses for sheet metal operation.

(15 marks)

Turn over

V. (a) (i) Explain the Electrolyte systems in Electro chemical process.

(8 marks)

(ii) How Non-traditional machining process helps in surface super finishing ?

(7 marks)

Or

(b) Explain the principle of Abrasive Jet Machining (AJM) process and discuss its advantages and disadvantages.

(15 marks)

[4 × 15 = 60 marks]

Part B

II. (a) Explain the hydraulic drive mechanism with neat sketch and compare with mechanical drive mechanism.

Or

(b) Explain the optical measurement method for threads and gears.

III. (a) (i) Explain in detail about merchant's cycle.

(12 marks)

(3 marks)

(ii) What is machinability ?

Or

(b) Explain the different types of milling operations and its related milling cutter.

(15 marks)

IV. (a) (i) Explain about scrap-strip layout.

(8 marks)

(7 marks)

(ii) Write merits and demerits of Press working operations.

Or

(b) Explain the different types of presses for sheet metal operation.

(15 marks)