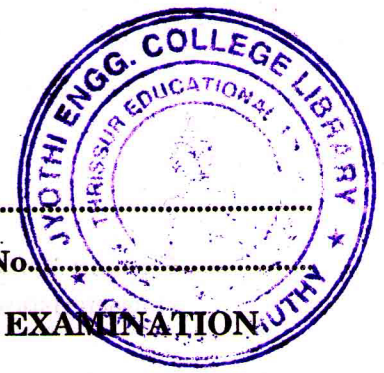


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Reg. No.....



**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
DECEMBER 2011**

ME 04 505—METAL CUTTING AND FORMING

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

- I. (a) What are the different types of fits ? Explain.
(b) What is meant by interchangeability ?
(c) What are the factors affecting tool life ?
(d) Explain the importance of economies of machining.
(e) Explain any two dies used for forging operation.
(f) Discuss the various types of locators.
(g) Explain process characteristics of EDM.
(h) Explain ultrasonic machining process.

(8 × 5 = 40 marks)

- II. (a) Explain mechanical drive mechanisms. Compare it with hydraulic drive mechanisms.

(15 marks)

Or

- (b) (i) Explain ray diagram for overlapping speeds. (9 marks)
(ii) Explain gauging of threads. (6 marks)

- III. (a) (i) Discuss the characteristics of flank wear and crater wear. (10 marks)

(ii) Explain various types of chips. (5 marks)

Or

- (b) (i) Explain the tool nomenclature of a milling cutter. (10 marks)
(ii) Explain about grinding wheel designation. (5 marks)

- IV. (a) (i) What are the essential characteristics in the proper design of jigs and fixtures.

(10 marks)

(ii) What is meant by 3–2–1 principle of location ?

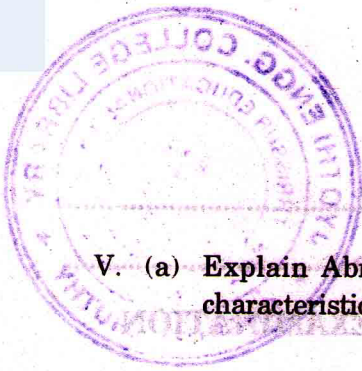
(5 marks)

Or

- (b) Explain in detail about different types of presses for sheet metal working operations.

(15 marks)

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V. (a) Explain Abrasive jet machining process. Also mention its applications and process characteristics. (15 marks)

Or

(b) (i) Explain plasma arc machining process. (9 marks)

(ii) Explain cavity sinking process. (6 marks)

(4 × 15 = 60 marks)