D 20940

(Pages : 2)
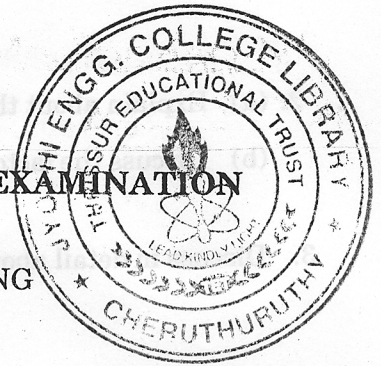
Name.

Reg. No

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION OCTOBER 2011

ME/PTME 09 506—METAL CUTTING AND FORMING

(2009 Admissions)

Time : Three Hours

Maximum : 70 Marks

Part A

Answer **all** *the Questions.*
Each question carries 2 marks.

1. What are the different types of chips produced during metal cutting ?

2. Differentiate between orthogonal and oblique cutting.

3. Name the different lathe operations.

4. Briefly explain electro chemical machining.

5. Discuss about the constructional features in forming.

(5 × 2 = 10 marks)

Part B

Answer any **four** *Questions.*
Each question carries 5 marks.

1. Explain the mechanics of chip formation.

2. Differentiate between up and down milling in detail.

3. With a neat diagram explain in detail laser beam machining.

4. With a neat diagram explain in detail plasma arc machining

5. Explain in detail about open and closed die forging.

6. Differentiate between explosive forming and electro-hydraulic forming.

(4 × 5 = 20 marks)

Part C

1. (a) Differentiate single and multiple point tools in detail.

   (b) Explain how the tool geometry affects metal cutting.

(2 × 5 = 10 marks)

Or

Turn over

2. (a) Explain about the different factors which determine the selection of cutting tool material

   (b) Discuss the factors which determine the tool wear and life.

(2 × 5 =10 marks)

3. Discuss in detail about the parameters, power, torque and cutting forces involved in milling.

(10 marks)

Or

4. Discuss in detail about the various processes that can be carried out with drilling machines.

(10 marks)

5. Explain with a neat diagram:

   (a) Wire Electrical discharge machining.

   (b) Water jet machining.

(2 × 5 = 10 marks)

Or

6. Explain in detail with a neat diagram.

   (a) Nano fabrication.

   (b) Ultrasonic machining.

(2 × 5 = 10 marks)

7. Explain the construction and operation of open and closed die forging with neat sketches.

(10 marks)

Or

8. Explain explosive forming with a neat sketch.

(10 marks)