

30991 A

Name :

Reg. No:

FIFTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION, OCTOBER 2012

ME 09 506 - METAL CUTTING AND FORMING
(2009 Scheme)



Time : Three Hours

Maximum : 70 Marks

PART-A

Answer all the Questions

(5×2=10 marks)

1. Differentiate between single point and multiple point cutting tool.
2. Define reaming and broaching.
3. Briefly explain micro machining.
4. Differentiate between forming and extrusion.
5. Discuss about the constructional features in forming.

PART-B

Answer any four Questions

(4×5=20 marks)

1. Explain the mechanics of chip formation.
2. Differentiate between cylindrical and surface grinding
3. With a neat diagram explain in detail laser beam machining.
4. With a neat diagram explain in detail abrasive jet machining
5. Explain in detail about the grain flow pattern in forging
6. Explain about the constructional features in dies and punches.

PART-C

(4×10=40 marks)

1. a. Explain in detail about the mechanics of chip formation
b. Explain about orthogonal and oblique cutting

(2×5=10 marks)

(OR)

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. a. Explain about the material removal rate and cutting forces involved in lathe operations
b. Differentiate between cylindrical and surface grinding
- (2×5=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. Electrical discharge machining
b. Laser beam machining
- (2×5=10 marks)
6. Explain in detail with a neat diagram
a. Nano fabrication.
b. Ultrasonic machining.
- (2×5=10 marks)
7. Explain the construction and operations of combination and progressive dies with neat sketches. (10 marks)
- (OR)
8. Explain explosive forming with a neat sketch. (10 marks)