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(Pages : 2)

SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION DECEMBER 2008

ME 04 705 B—TOOL ENGINEERING AND DESIGN

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

I. (a) How will you estimate the cutting power in drinking operation ?

(b) How tool geometry affect the surface finish in machining ?

(c) What are the important factors should be considered in die designing ?

(d) How will you estimate the pressure tonnage in drawing operation ?

(e) What is quiet acting clamp ?

(f) Explain the principle of location.

(g) What are the advantages of jigs compared with other work holding devices ?

(h) What is indexing ? How this principle using in jig design ?

(8 × 5 = 40 marks)

Part B

II. (a) (i) Explain the different types of tool materials used for turning operation. (7 marks)

(ii) Explain different types of grinding wheels. (8 marks)

Or

(b) (i) Explain in detail about designing of tool holders. (10 marks)

(ii) What are the different type of form tools used in manufacturing industries ? (5 marks)

III. (a) (i) Explain the designing of progressive dies. (7 marks)

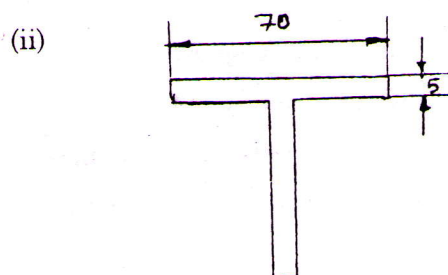(ii) Explain the working principle of multiple draws. (8 marks)

Or

Turn over
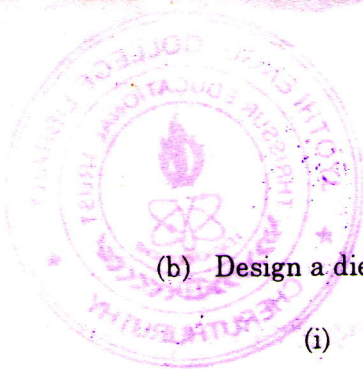
(b) Design a die for the following components :

(i)

(8 marks)

(ii)
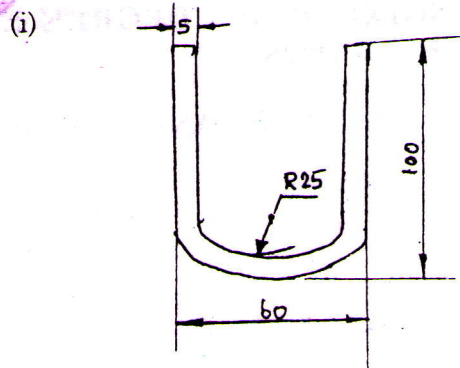
(7 marks)

IV. (a) (i) Explain the elements of fixtures.   (8 marks)

       (ii) Sketch a two-way clamp and also explain its principle.   (7 marks)

Or

(b) Design and sketch a fixture for up milling and down milling operation using *one* example.

(15 marks)

V. (a) Explain the different types of jigs which are suitable for drilling operation.   (15 marks)

Or

(b) Explain in detail about guide bushings.

(15 marks)

[4 × 15 = 60 marks]