Code No. 3147

FACULTY OF ENGINEERING

B. E. 4/4 (M / P) I – Semester (Suppl.) Examination, June / July 2011

Subject: Tool Design (Elective – I)

Time: 3 Hours **Max. Marks: 75**

Note: Answer all questions from Part A. Answer any FIVE questions from Part B.

PART – A (10 x 2.5 = 25 Marks)

1. Describe the characteristic of ceramic tools.
2. Mention the merits of Ultrasonic Maching (VSM)
3. Sketch the single point tool and indicate the various elements.
4. Differentiate between form milling cutter and face milling cutter.
5. Discuss the nomenclature of taping tool.
6. What is scanner? When it is used? Explain.
7. Define: Spinning and forging.
8. What is centre of pressure? What is used?
9. Mention the salient features. Hydraulic clamping and magnetic clamping.
10. Explain fool proofing and stripper in press tool.

PART – B (5x10 = 50 Marks)

11.(a) What are the basic components of oxide cutting tools?

(b) Explain why surface finishing process is important in manufacturing process.

(c) Briefly describe the principle of ECM process?

12.(a) Explain the function of di-electric fluide in EDM.

(b) What is laser? Explain how laser is utilized on machining materials.

(c) What are the various types of PAM? Explain. (Plasma Architecture machining).

13.(a) What are factors to be considered while designing flat form tool? Explain.

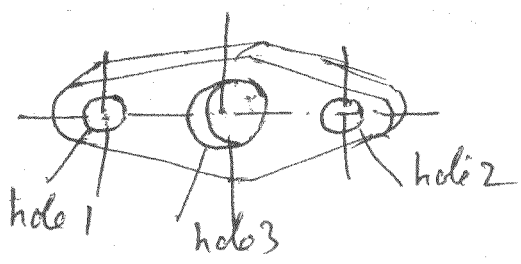
(b) Sketch the geometry of broacher and mention the effect of various tool angles in broacher.

14.(a) Discuss the salient features of chip breaker.

(b) Discuss the design features of reamer.

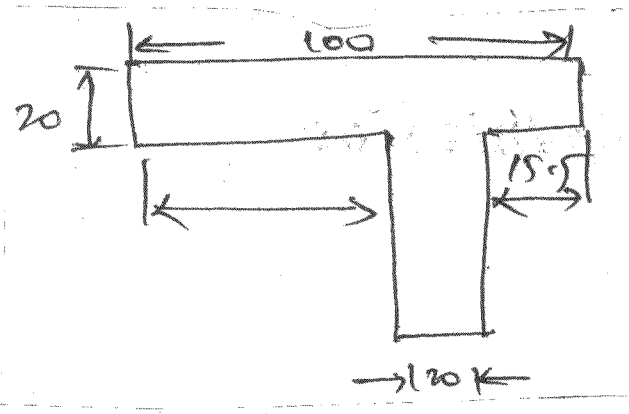
15.(a) Describe the design principle of lath fixture.

(b) Design and draw drilling jig for drilling the holes of figure below. (Assume suitable dimension).



16.(a) Sketch and indicate various element of die set assembly.

(b) Find the centre of pressure of the following blank.



17. Design the press tool set completely to perform blanking operation for following firure. (Assume all data).