

***B. Tech Degree VIII Semester (Supplementary)
Examination, September 2008***

**ME 804 PRODUCTION TECHNOLOGY III
(1999 Scheme)**

Time : 3 Hours

Maximum Marks : 100

- I. A 4-stage, 16-step, speed box with $N_{min} = 32$ rpm and $\phi = 1.41$ is powered by a two speed (1500/750) ac motor. Draw the structural diagram and speed chart of the speed box. (20)
- OR**
- II. (a) Explain the classification of speed and feed boxes. (10)
(b) With the aid of necessary sketches explain stepless regulation of speed. (10)
- III. (a) With neat sketches explain the different types of locating pins. (10)
(b) What are the functions of jigs and fixtures? (10)
- OR**
- IV. (a) With necessary sketches explain briefly on the various types of clamps. (10)
(b) Explain in detail the design consideration common to jigs and fixtures. (10)
- V. (a) State the principle of operation of presses. (5)
(b) Enumerate the criteria considered in the selection of a press. (5)
(c) Compare fixed and spring loaded strippers. (10)
- OR**
- VI. Write short notes on the following:
(i) Deep Drawing (ii) Spring back in bending
(iii) Bending allowances (iv) Curling and Plunging (5 x 4 = 20)
- VII. (a) What are hydraulic motors? How is it different from hydraulic cylinder? (10)
(b) Draw the hydraulic circuit of a shaper machine and explain. (10)
- OR**
- VIII. (a) Explain the classification of fluidic elements. (10)
(b) With a neat sketch explain the hydraulic circuit of a Grinding Machine. (10)
- IX. (i) What is estimation? What are the constituents of estimation? (8)
(b) How will you estimate the following :
(i) Direct material cost
(ii) Direct Labour cost
(iii) Indirect expenses or overheads (12)
- OR**
- X. (a) Explain the estimating and costing done in a welding shop. (10)
(b) Explain the terms
(i) Fixed Expenses (ii) Variable Expenses
which type of items go into each of these. (10)

