AU – 2650

Fifth Semester B. E. (Mechanical Engineering) Examination

Elective – I

MANUFACTURING TECHNIQUES

Paper – 5 FEME 05

(USC – 10845)

P. Pages : 3

Time : Three Hours] [Max. Marks : 80

Note : (1) Separate answer book must be used for each section in the subject Geology, Engineering material of Civil branch and separate answer book must be used for Section A and B in pharmacy and Cosmetic Tech.

(2) Answer Q. **One** or Q. **Two** and Q. **Three** or Q. **Four** Q. **Five** or Q. **Six** questions from Section A and Q. **Seven** or Q. **Eight** and Q. **Nine** or Q. **Ten** Q. **Eleven** or Q. **Twelve** questions from Section B.

(3) Assume suitable data wherever necessary.

(4) Illustrate your answer wherever necessary with the help of neat sketches.

SECTION A

1. (a) Explain the following :—

(i) Various activities associated with manufacturing.

(ii) Importance of materials to the designer. 8

(b) How are the metals classified ? Describe the important properties and applications of ferrous metals. 5

OR

2. (a) How will you classify the various manufacturing processes ? Explain. 7

(b) As a designer you are required to select material for 'Frying pan with handle'. Justify why and how you selected a particular material. 6

3. (a) What are the major operations that can be performed on lathe ? 7

(b) Explain the working principle and draw neat sketch showing the major parts of planner. 6

OR

4. (a) Explain the working principle and draw neat sketch showing the major parts of Bench Drilling Machine. 6

(b) How will you perform taper turning operation on lathe ? Explain any one method of taper turning. 7

5. (a) Draw neat sketch of press tool showing the various parts. Explain the function of each part. 7

(b) What is wire drawing ? How does it differ from extrusion ? 7

OR

6. (a) What is rolling? How are the rolling mills classified ? Explain with neat sketches. 7

(b) Differentiate between punching and blanking operation with neat sketch. 7

SECTION B

7. (a) How a pattern differs from casting ? What are the important functions of patterns ? What are the common materials used for making patterns ? 7

(b) Explain with neat sketch (sectional view) the different zones in cupola. 7

OR

8. (a) What are the various pattern allowances ? Explain the any three allowances. 7

(b) What is core ? Classify different types of cores. Explain any two with neat sketches. 7

9. (a) What is gas welding ? What are the various flames used in gas welding ? Discuss its applications with neat sketches. 7

(b) Differentiate between soldering, brazing and welding process. 6

OR

10. (a) What is riveting ? How does it differ from welding ? 6

(b) What is resistance welding ? Compare it with other welding processes. 7

11. (a) State and explain the following plastic part manufacturing processes w. r. t. principle of working, advantages, limitations and applications : —

(i) Extrusion

(ii) Injection moulding

(iii) Blow moulding. 13

OR

12. Explain the various steps required to produce a component by PMT with suitable example. 13