

B.E. Mechanical Engineering (Model Curriculum) Semester - VI
PCCME307 - Manufacturing Technology

P. Pages : 2

Time : Three Hours



GUG/S/23/14075

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Diagrams and Chemical equation should be given wherever necessary.
 5. Illustrate your answers wherever necessary with the help of neat sketches.
 6. Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10

1. a) Which characteristics are required for the selection of die material? Explain with suitable example. Give a die block dimension for a single impression die. **8**

b) Explain the 'forging die-design' aspects in detail. **8**

OR

2. a) Explain Orbital forging and HERF forging in detail. **8**

b) Write short note on following: **8**

i) Position of impression in dies

ii) Die maintenance

3. a) Classify and explain the presses according to different categories. **8**

b) What are the different types of cutting tools? Explain any two in detail. **8**

OR

4. a) What are the different dies used in press working operations? Explain any two in detail. **8**

b) Write short note on: **8**

i) Piercing operation

ii) Blanking operation

5. a) Compare and contrast between jigs and fixtures. **8**

b) Enlist various types of jigs. Explain any two in detail. **8**

OR

6. a) What are jigs and fixtures? What are important considerations are taken into account while designing jigs and fixtures? **8**

- b) Enlist various types of fixtures. Explain any two in detail. **8**
- 7.** a) What are the various types of comparators? Explain any two in detail. **8**
- b) Explain the techniques used for measuring straightness and flatness. **8**

OR

- 8.** a) What are 'Comparators'? Explain the need and basic features of comparator. **8**
- b) Differentiate between following: **8**
- i) Interchangeability and selective assembly.
- ii) Shaft basis system and hole basis system.
- 9.** a) Explain control charts for variables and attributes. **8**
- b) What is the difference between 'Quality control' and 'Quality assurance'? Explain with suitable example. **4**
- c) Write short notes on : **4**
- i) Quality audit
- ii) Quality of design

OR

- 10.** a) Write short note on following: **8**
- i) ISO 9000
- ii) BIS 14000 series
- b) Define TQM. Briefly explain the six basic concepts of TQM. **8**
