

B.E. (Mechanical Engineering) Model Curriculum Semester-VI  
**PCC-ME307 - Manufacturing Technology**

P. Pages : 2

Time : Three Hours



**GUG/W/24/14075**

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. 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) Draw a conceptual figure of 'Forging die design assembly' and explain 'forging die-design' aspect in detail. 8
- b) 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

**OR**

2. a) How do you define 'Forging operation'? Compare and contrast between hydraulic forging equipment and mechanically operated forging equipment. 8
- b) What are the various influencing variables which causes die failure in forging operation? Explain in detail. 8
3. a) What are the different forces acting on the cutting tool? Explain the importance of negative, neutral and positive rake angle with neat sketch. 8
- b) Classify the 'Presses' based on different criteria in detail. 8

**OR**

4. a) What are the types of deformation zones formed during cutting operation? Explain Flank wear and crater wear in detail. 8
- b) What are the different dies used in press working operations? Explain any two in detail. 8
5. a) Enlist various types of fixtures. Explain any two in detail. 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) Compare and contrast between jigs and fixtures. 8

7. a) What are “comparators”? Explain ‘Mechanical comparator’ in detail with neat sketch. 8
- b) How do you define ‘Fits’? Classify ‘fits’ and explain any two in detail with neat sketches. 8

**OR**

8. a) With the help of neat sketch, explain ‘Gear Tooth Profile’ terminology. 8
- b) With the help of neat sketch, explain Taylor’s principle for design of limit gauges. 8
9. a) What do you mean ‘Variable and attribute chart’? Compare and contrast between them. 8
- b) Write short notes on: 8
- i) O.C. curves ii) Quality of conformance

**OR**

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

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