

# TDM71 - Forging Dies, Die Casting dies & Die Maintenance

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REG. NO

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
  2. Answer any ONE question from each unit in PART-B (3 marks each)
  3. Answer any ONE question from each unit in PART-C (10 marks each)
  4. The question paper contains TWO Pages

## PART-A (1x10=10)

1. What is hammer dies for preparatory work? Mention its type.
2. State essential features of Forging dies.
3. What is die locking?
4. What are the characteristics of tools die steel?
5. What is segregation?
6. Why porosity occurs in die cast parts?
7. What is shimming die components?
8. Write any three good practice for die maintenance.
9. State any three advantages of die maintenance.
10. What is draw beads?

## PART-B (3x5=15)

### UNIT-I

11. Explain the element of Multi Impression die blocks.
12. Explain the causes of Forging defect [Cracks] and state the remedies.

### UNIT-II

13. What are the reasons for making products by Aluminium based alloys?
14. Compare hot chamber and cold chamber die casting processes.

### UNIT-III

15. Explain the characteristics of die steel used for Die casting dies.
16. Explain the causes of Die casting defect & state the remedies.

### UNIT-IV

17. What is ball lock punches with die button ?
18. What are document to be recorded for systematic die maintenance?

### UNIT-V

19. What efforts should take for tracking the cost of maintenance & down time?
20. What is systematic approach to die try out.

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PART-C (10x5=50)

UNIT-I

21. Explain the essential features of forging die.
22. Explain the laws governing die designs for forging machine.

UNIT-II

23. Explain the melting and casting procedure and application of magnesium base alloys.
24. Write short notes on (i) Interlock & safety devices (ii) Automatic cycle control.

UNIT-III

25. Sketch and explain ring ejection system used in die casting die.
26. Explain the causes and remedies for the followings: (a) cold shuts (b) Hard spots (c) Porosity (d) Flow lines and blooms.

UNIT-IV

27. Sketch and explain ball lock punches and buttons.
28. Briefly explain the record causal factors in die maintenance.

UNIT-V

29. Sketch and explain forming ribs and Embossments.
30. Write short notes on (a) Draw ~~beads~~ *beads* (b) Electrical welding repair.

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