

TV  
A2  
NT-T

462

April 2014

Time - Three hours  
(Maximum Marks: 75)

[N.B: (1) Answer any fifteen questions in PART - A and division (A) or division (B) of each question in PART - B.

(2) Each question carries 1 (one) mark in PART - A and 12 (twelve) marks in PART - B.]

PART - A

1. What is casting?
2. Name two materials used for making pattern.
3. Name any two types of pyrometer.
4. Name the two main types of die casting.
5. Name two basic types of welding process.
6. Name two types of brazing.
7. State two advantages of gas welding.
8. State any two welding defects.
9. Write down any two advantages of hot working.
10. Specify two purposes of hardening.
11. State two merits of nitriding.
12. Define forging.
13. State the major classification of plastic.
14. Name any two methods of manufacturing metal powders.
15. What is elastomer?
16. Give two applications of powder metallurgy.
17. List out two principal parts of centre lathe.
18. State the two types of semi-automatic lathe.
19. State any two advantages of automatic lathe.
20. State any two methods used for taper turning.

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PART - B

21. (A) (i) What are the properties of good moulding sand? Explain any one property.  
(ii) Explain the tumbling process with a neat sketch.

(Or)

- (B) (i) State the various factors to be considered for choosing pattern materials.  
(ii) State the principle of operation of induction furnace.
22. (A) (i) Explain thermit welding process with a neat sketch.  
(ii) Write briefly about hard facing bronze welding process with a neat sketch.

(Or)

- (B) (i) Name the three kinds of gas flame and show them by simple sketches.  
(ii) Describe briefly X-ray test of welded joint.
23. (A) (i) What are the effects of annealing process on steel?  
(ii) Briefly describe any two hot working operations.

(Or)

- (B) (i) Explain with sketch the process of cyaniding.  
(ii) Explain with sketches, drawing down and swaging operations.
24. (A) (i) Explain with sketch, atomisation process of metal powder manufacture.  
(ii) Explain with sketch any one injection moulding.

(Or)

- (B) (i) Describe gas injection moulding with line sketch.  
(ii) Write notes on the following applicable to powder metallurgy:  
(1) Pressing (2) Sintering.
25. (A) (i) State the different works holding devices used in lathe and explain any one device with neat sketch.  
(ii) List out the principal parts of capstan lathe and explain any one part.

(Or)

- (B) (i) Explain with sketch the working of air operated chuck.  
(ii) Explain with sketch the tumbler gear mechanism.

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