

**October 2018**

Time - Three hours  
(Maximum Marks: 75)

*[N.B: (1) Q.No. 8 in PART - A and Q.No. 16 in PART - B are compulsory.  
Answer any FOUR questions from the remaining in each PART - A  
and PART - B*

*(2) Answer division (a) or division (b) of each question in PART - C.*

*(3) Each question carries 2 marks in PART - A, 3 marks in Part - B  
and 10 marks in PART - C.]*

PART - A

1. Define split piece pattern.
2. Name any two crucible furnaces.
3. Name the three types of gas flames.
4. State any two limitations of gas welding.
5. Define powder metallurgy.
6. Name the two types of semi automatic lathes.
7. Define metrology.
8. What is the use of cupola?

PART - B

9. Sketch and explain the sweep pattern.
10. Sketch and explain any one type of core.
11. Sketch and explain seam welding.
12. Explain soldering.
13. Explain sizing in powder metallurgy.
14. Name any four tool holders of semi-automatic lathes.
15. Sketch and explain inside caliper.
16. Explain the principle of resistance welding.

PART - C

17. (a) Explain any four properties of the moulding sand.  
(Or)  
(b) Sketch and explain the continuous casting process. State its applications.
18. (a) Sketch and explain the friction welding process. State its applications.  
(Or)  
(b) Sketch and explain the oxy-acetylene flame cutting process.
19. (a) Explain the hot rolling and cold rolling processes with sketches.  
(Or)  
(b) Sketch and explain the atomisation and electrolysis deposition processes.
20. (a) Sketch and explain the facing, chamfering and grooving operations in centre lathe.  
(Or)  
(b) Sketch and explain the bar feeding mechanism.
21. (a) Sketch and explain the nomenclature of twist drill.  
(Or)  
(b) Sketch and explain any two comparators.

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