

Manufacturing Processes - I

P. Pages : 2

Time : Three Hours



NRT/KS/19/3315/3339

Max. Marks : 80

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- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Due credit will be given to neatness and adequate dimensions.
 9. Diagrams and chemical equations should be given whenever necessary.
 10. Illustrate your answers whenever necessary with the help of neat sketches.
 11. Use of non programmable calculator is permitted.

1. a) Why allowances are provided on pattern? Discuss the importance of shrinkage allowance. 7
b) State the various types of mould. Explain the process of CO₂ moulding with neat sketch. 6

OR

2. a) Discuss shell moulding in detail with neat sketch. 7
b) List out different types of pattern Describe the following with neat sketch. 6
 - i) Tow piece pattern
 - ii) Gated pattern
 - iii) Sweep pattern.
3. a) What are the requirements of an ideal gating system? Explain with neat sketches the different gates used in mould making. 7
b) Compare 'Hot Chamber' Die casting with 'Cold chamber' Die casting' with neat sketches. 6

OR

4. a) State various types of furnaces used in foundry. Describe the working of cupola furnace with neat sketch. 7
b) State the methods of cleaning of casting. Discuss the method used for cleaning small size casting. 6
5. a) Explain gas cutting process. Discuss the term Kerf & Drag with reference to gas cutting with neat sketch. 7

- b) Compare Submerged Arc Welding (SAW) and Shielded Metal Arc Welding (SMAW) with neat sketch. 7

OR

6. a) Explain MIG Welding in details with a neat sketch. 7
- b) Explain with neat sketch TIG Welding. Also give its applications. What is function of inert gas? 7
7. a) Explain principle of forging and explain any one forging process with neat sketch. 7
- b) Explain the "Rolling Process" with neat sketch indicating various zone angles. 7

OR

8. a) Explain the following processes: 7
- i) Drawing
- ii) Forming.
- b) Explain with the help sketches direct extrusion process. Discuss merits and demerits of direct and indirect extrusion process. 7
9. a) Classify press according to type of frame, type of power & type of transmission. 7
- b) Explain with neat sketch, cutting die and press terminology. 6

OR

10. a) Explain various types of dies with its applications. 7
- b) Discuss with neat sketch, Drawing and Bending operation in detail. 6
11. a) How plastics are classified? Differentiate between thermoplastic and thermosetting plastics. 7
- b) Explain screw injection molding process with help of neat sketch. 6

OR

12. a) Discuss with neat sketch compression molding process & transfer molding process. 7
- b) Write short note on: 6
- i) Wire drawing
- ii) Calendering
