

Reg. No. :

P 1328

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Fourth Semester

Mechanical Engineering

ME 235 — PRODUCTION TECHNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the requirements of a moulding sand?
2. List any four types of resin used in shell moulding process.
3. What is the die material used for drawing operation?
4. List the functions of Back-up rollers in rolling operation.
5. What is the principle of resistance welding?
6. List any four applications of TIG Welding process.
7. Is flux necessary in Brazing process? If yes why?
8. What are the common explosives used in Explosive forming process?
9. What is Blow moulding process?
10. Which type of plastic is used for manufacturing electrical switches? Why?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain with sketches, how a shell mould is made. List the unique advantages of making casting in shell moulds. (10)
- (ii) What are the main difficulties encountered in Cupola operation? Suggest suitable remedies. (6)

Or

- (b) (i) What are the basic requirements of a core sand? How it differ from the moulding sand? (8)
- (ii) What are the defects that generally occur in casting due to moulding sand. Explain remedial measures to overcome these defects.
12. (a) (i) How the sheet metal forming process differs from metal forming process? Explain in detail. (10)
- (ii) List the examples of the products manufactured by.
- (1) Embossing
 - (2) Nibbing
 - (3) Stretch forming
 - (4) Coining. (6)

Or

- (b) (i) Between forward and Backward extrusion process, which process requires more force? Why? (6)
- (ii) Explain the procedure for making the head of Bolt by Forging operation. (10)
13. (a) What are the common defects in arc welding process? Discuss factors influencing it. Suggest the remedies. (16)

Or

- (b) Distinguish between Laser Beam and Electron Beam Welding process Based on principle, Operation, Application, Limitation and process capability. (16)

14. (a) (i) What is confined and unconfined system in Explosive forming process? Explain with neat sketches. (12)
- (ii) What are the common die materials used for Explosive forming? List their application. (4)

Or

- (b) (i) List the application of electro-hydraulic forming process. (4)
- (ii) What is the Basic Principle of Electro Magnetic forming process? Explain Electro magnetic forming process with neat sketch. (12)
15. (a) (i) Describe with sketch the transfer moulding process. List the specific application. (12)
- (ii) Why screw injection moulding machine is better than a ram type injection moulding machine? (4)

Or

- (b) What are the process used for processing of thermoplastic. Explain any one process with Suitable sketches. (16)
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