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Register Number :

7856

Name of the Candidate :

DIPLOMA EXAMINATION DECEMBER 2013.

(WELDING ENGINEERING AND TECHNOLOGY)

120 — RESISTANCE AND SOLID STATE WELDING PROCESSES

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions. (5 × 20 = 100)
All questions carry equal marks.

1. (a) Explain the principle and process variables incurred in electric resistance welding.
(b) Explain the variants of resistance Spot welding and explain any one detail.
2. (a) Explain in detail about various types of wheel electrodes used in seam welding.
(b) Discuss cycle time for projection welding with a neat sketch.
3. (a) With a neat sketch, explain flash butt welding and their real time applications?
(b) What are the advantages, limitations and future scope of flash butt welding?
4. (a) Briefly discuss the various methods of achieving diffusion bonding.
(b) Explain the operating principle of ultrasonic welding and its applications in industries.
5. (a) Explain a process with a neat sketch to weld ductile metal.
(b) Write short notes for friction welding :
 - (i) Axial pressure
 - (ii) Heating time and
 - (iii) Rotational speed.

6. (a) Write short notes on :
 - (i) Heat Shrinkage in spot welding and
 - (ii) Heat balance in spot welding
 - (b) What is upset butt welding? What are the advantages, limitations and applications?
 7. (a) Discuss the equipment details and principle involved in explosive welding.
 - (b) Briefly discuss the various applications of projection welding and its limitations.
 8. (a) Explain the principle involved in friction welding. List the materials that can be mated by friction welding.
 - (b) Compare spot welding and seam welding processes.
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