

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 41179

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Fifth/Sixth/Seventh Semester

Production Engineering

PR 8592 – Welding Technology

(Common to : Mechanical Engineering / Mechanical Engineering (Sandwich))

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the limitations of Oxyacetylene gas welding as compared to Carbon arc welding?
2. Write two application of TIG and MIG welding processes.
3. What are the differences between spot welding and seam welding?
4. State how Resistance butt welding is different from the Flash butt welding process.
5. What is cold welding?
6. What are the limitations of Ultrasonic welding?
7. What is the composition of thermit in thermit welding?
8. What are the limitations of the Underwater welding process?
9. What is weld decay?
10. Classify various weld joints.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the working principle of TIG welding with a neat sketch and also state its limitations.

Or

- (b) Explain the working principle of Oxyacetylene gas welding with a neat sketch and also state its applications.

12. (a) Compare Projection welding and Percussion welding and also state their advantages and limitations.

Or

- (b) Explain the working principle of Resistance butt welding with a neat sketch and also state its applications.

13. (a) Discuss in detail how the weld joint is prepared using Ultrasonic welding technique and also state its applications.

Or

- (b) Compare Friction welding and Forge welding processes in terms of working principle, applications, advantages and limitations.

14. (a) Describe in detail the working principle of Friction stir welding (FSW) process with a neat sketch and also state its applications.

Or

- (b) Compare Electron beam welding and Laser beam welding processes. Explain their applications.

15. (a) Discuss in detail any one of the non-destructive testing methods used for testing of weldments.

Or

- (b) Name any four welding defects and explain the causes for their occurrence and also suggest suitable remedies.

PART C — (1 × 15 = 15 marks)

16. (a) Analyze limitations of Electroslag welding process and suggest a suitable alternative solutions.

Or

- (b) Analyze and explain the procedure that can be adopted for optimal weld joint designs.