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Question Paper Code : 91208

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022

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 is the process used in gas welding?
2. Write the disadvantages of plasma arc welding.
3. List down the applications of spot welding.
4. Write down the application of resistance welding.
5. Define diffusion welding.
6. State the limitations of friction welding.
7. Mention the applications of LBM.
8. Define atomic hydrogen welding.
9. Why non-destructive testing, is used?
10. List out any four welding defects.

PART B — (5 × 13 = 65 marks)

11. (a) Draw a neat sketch and explain the working of Electro slag and Electro gas welding.

Or

- (b) Explain about the Oxyacetylene Gas Welding process and also list its advantages.

12. (a) Describe the construction and working of Flash Butt Welding with a neat sketch.

Or

- (b) Explain the working of Resistance Spot Welding (RSW) and their advantages and limitations.

13. (a) Discuss the working principle of Cold Pressure Welding process with a neat sketch.

Or

- (b) Explain the principle of Solid State Welding process and briefly explain any one type with a neat sketch.

14. (a) Draw a neat sketch and explain the steps involved in Friction Stir Welding(FSW) process.

Or

- (b) Explain Wet Underwater Welding with a neat sketch. State its advantages and disadvantages.

15. (a) Discuss the liquid penetrant testing and eddy current testing with suitable sketch.

Or

- (b) Draw neat sketches and explain the welding symbols and Sectional representation and form of weld.

PART C — (1 × 15 = 15 marks)

16. (a) (i) Write the problems and precautions/steps/solutions to be taken for
(1) Welding of cast irons and
(2) Welding of stainless-steels (7)
(ii) Explain the process of Needle Arc Micro Plasma Welding. (8)

Or

- (b) (i) Can ordinary light be used instead of laser in laser welding? Explain. (6)
(ii) What precautions should be taken for welding high reflective materials using laser welding? (4)
(iii) Whether welding of plastics are possible by laser welding? Explain. (5)