

28 DEC 2022

Reg. No.																			
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Question Paper Code	11522
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022

Sixth Semester

Production Engineering

(Common to Mechanical Engineering)

PR8592 - WELDING TECHNOLOGY

(Regulations 2017)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. Define welding process. | 2,K1,CO1 |
| 2. Define flux and main functions. | 2,K1,CO1 |
| 3. List down the various types of resistance welding. | 2,K1,CO2 |
| 4. Write down the various metal joining process. | 2,K1,CO2 |
| 5. Define solid state welding. | 2,K1,CO3 |
| 6. What is diffusion welding? | 2,K1,CO3 |
| 7. Write down the advantages of wet under water welding. | 2,K1,CO4 |
| 8. What are the various welding method used for aerospace industry? | 2,K1,CO4 |
| 9. List out the various type of destructive testing. | 2,K1,CO5 |
| 10. Define weldability. | 2,K1,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain gas welding process and their equipment's, advantages, disadvantages and applications. 13,K2,CO1
- OR**
- b) Briefly explain the working principle of Metal Inert Gas Welding and their components with a neat sketch. 13,K2,CO1
12. a) Explain the working of Resistance spot welding (RSW) and their advantages and limitations. 13,K2,CO2
- OR**
- b) Describe the construction and working of high frequency resistance welding with a neat sketch. 13,K2,CO2

13. a) Describe the working principle of diffusion welding process, and give its advantages, disadvantages & applications. 13.K2.CO3

OR

- b) Write the advantages, disadvantages, applications and working principle of explosive welding. 13.K2.CO3

14. a) Draw a neat sketch and explain Friction Stir Welding (FSW) and the steps involved. 13.K2.CO4

OR

- b) What is electron beam welding? Explain it with a neat sketch. Also mention the advantages, disadvantages and applications. 13.K2.CO4

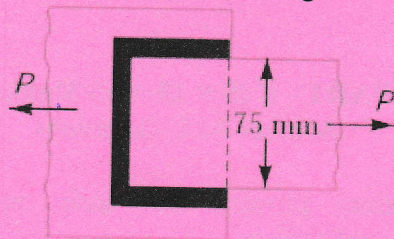
15. a) Draw neat sketches and explain liquid penetrate testing and magnetic particle testing with its advantages, disadvantages and applications. 13.K2.CO5

OR

- b) With neat sketch explain the working of radio graphic testing with its advantages, disadvantages and applications 13.K2.CO5

PART - C (1 × 15 = 15 Marks)

16. a) A plate 75mm wide and 12.5 mm thick is joint with another plate by a single transverse weld and double parallel fillet weld as shown in fig. The maximum tensile and shear stresses are 70 MPA and 56 MPa respectively. Find the length of each parallel fillet weld if the joint is subjected to both static and fatigue loading. 15.K3.CO6



OR

- b) Explain the working of Ultrasonic Welding and their equipments in detail. Write down the process parameters involved in ultrasonic welding and explain them in details. 15.K3.CO6