24-04-2023

Reg. No.												

Question Paper Code	11797

B B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Fifth Semester

Production Engineering

(Common to Sixth Semester Mechanical Engineering)

PR8592 - WELDING TECHNOLOGY

(Regulations 2017)

Duration: 3 Hours

Max. Marks: 100

PART -A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Classify the welding process.	*2,K2,CO1*
2.	Define shielded metal arc welding process.	*2,K1,CO1*
3.	Define resistance welding process.	*2,K1,CO2*
4.	List out the advantages and disadvantages of percussion welding.	*2,K1,CO2*
5.	Write down the applications of cold pressure welding.	*2,K1,CO3*
6.	Define forge welding.	*2,K1,CO3*
7.	Define electron beam welding.	*2,K1,CO4*
8.	Write down the principle of LBM.	*2,K1,CO4*
9.	Classify non-destructive testing.	*2,K2,CO5*
10.	List out the welding defects.	*2,K1,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Explain the working of Tungsten Inert Gas Welding and their components.	*13,K2,CO1*
		OR	
	b)	Explain Carbon arc welding process and their equipment's, advantages, disadvantages and applications.	*13,K2,CO1*
12.	a)	With a neat sketch explain the construction and working of resistance butt welding with their advantages and limitations.	*13,K2,CO2*
		OR	
	b)	Describe the construction and working of low frequency resistance welding with a neat sketch.	*13,K2,CO2*

13. a) Explain the principle of Solid-State Welding process and briefly explain anyone type with a neat sketch. *13,K2,CO3*

OR

b) Discuss the working principle of cold pressure welding process with a neat sketch. *13,K2,CO3*

14. a) Explain Wet Underwater Welding with a neat sketch. Give its advantages and disadvantages. *13,K2,CO4*

OR

b) Describe all the structural features in Friction Stir Welding. *13,K2,CO4*

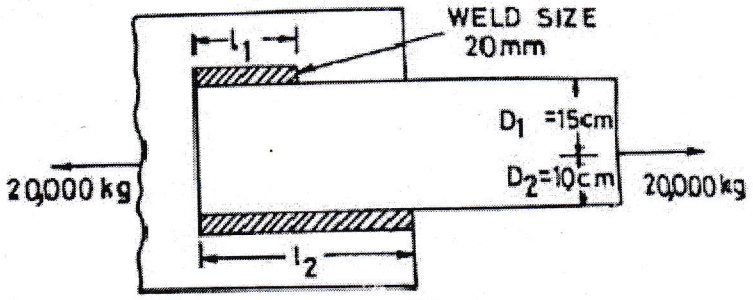
15. a) Discuss the liquid penetrant testing and eddy current testing with suitable sketch. *13,K2,CO5*

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) For the structure shown in fig. determine the two fillet weld lengths L_1 and L_2.Assume working stress in shear in fillet weld as 800kg/cm^{2}and size of the fillet as 20mm. *15,K3,CO6*



OR

b) Enumerate the principle of performing magnetic particle inspection on weld joints also list down the advantages and disadvantages. *15,K3,CO6*