K. K. Wagh Institute of Engineering Education & Research, Nashik

(An Autonomous Institute From A.Y. 2022-23)

WINTER-2025	
Exam Seat No.:	
Academic Year:2025-2026	Semester:II
Class:FY	Program:B.Tech
Branch Code:FYE	Pattern:2023
Name of Course:Joining Processes	Course Code:2300118G
Max. Marks:60	Duration:2.30 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 02 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome of the Question/sub-question.

		Marks	CO
Question No. 1			
1a)	**Classify** welding processes based on the state of the metal during joining (melted / not melted).	(6)	JPCO1
Question No. 2			
2a)	**Explain** soldering and its advantages and limitations.	(6)	JPCO2
Question No. 3			
3a)	**Apply** suitable methods to identify common welding defects on a welded plate. Explain your approach	(8)	JPCO3
	OR		
3b)	**Apply** destructive testing methods to check the quality of a welded specimen	(8)	JPCO3
3c)	**Summarise** any four common welding defects and explain their causes and remedies	(8)	JPCO3
	OR		
3d)	**Apply** NDT techniques to detect internal porosity in welds.	(8)	JPCO3
Question No. 4			
4a)	**Apply** thread terminology to check whether a bolt fits properly in a nut. What will you check?	(8)	JPCO4
	OR		
4b)	**Identify** and **label** major, minor, and pitch diameter of a bolt in a given diagram. **Explain** their significance in threaded joints.	(8)	JPCO4
4c)	**Suggest** a suitable **locking device** to prevent loosening of a bolt in a vibrating machine.	(8)	JPCO4
	OR		
4d)	**Compare** lap joint and butt joint with suitable sketch	(8)	JPCO4
Question No. 5			
5a)	a) **Explain** the steps involved in **Thermit Welding** and its main applications	(8)	JPCO5

OR

5b)	**Compare Laser Beam** Welding and **Electron Beam** Welding.	(8)	JPCO5
5c)	**Describe** at least four industrial applications of modern welding processes.	(8)	JPCO5

OR

5d)	**Explain** the working principle of **Electron Beam Welding (EBW)** with a neat diagram.	(8)	JPCO5

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