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

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

Marking Scheme

End-Sem Examination-II, Winter 2025

Academic Year: 2025-2026	Semester: II
Class: F.Y.	Program: B.Tech
Branch Code:FYE	Pattern:2023
Name of Course: Joining Processes	Course Code: 2300118G

Q. No.	Sub-Q.	Question Description	Marks	Suggested Mark Distribution
1	–	Classify welding processes based on the state of metal during joining.	6	3 marks: Classification (melted / fusion) 3 marks: Classification (not melted / solid-state)
2	–	Explain soldering and its advantages and limitations.	6	2 marks: Definition/Explanation 2 marks: Advantages 2 marks: Limitations
3	a	Apply suitable methods to identify common welding defects on a welded plate. Explain your approach. **OR**	8	4 marks: Methods used 4 marks: Explanation of approach
	b	Apply destructive testing methods to check the quality of a welded specimen.	8	4 marks: Types of destructive tests 4 marks: Application/Explanation
	c	Summarise any four common welding defects and explain their causes and remedies. **OR**	8	2 marks each defect x 4 = 8
	d	Apply NDT techniques to detect internal porosity in welds.	8	4 marks: NDT technique explanation 4 marks: Application to detect porosity
4	a	Apply thread terminology to check bolt-nut fit; what will you check? **OR**	8	3 marks: Thread terminology 3 marks: Parameters to check 2 marks: Justification
	b	Identify and label major, minor, and pitch diameter of a bolt; explain significance.	8	4 marks: Diagram/labeling 4 marks: Significance
	c	Suggest a locking device to prevent bolt loosening in vibrating machine. **OR**	8	4 marks: Suitable device suggested 4 marks: Explanation/working
	d	Compare lap and butt joint with sketch.	8	3 marks: Lap joint explanation 3 marks: Butt joint explanation 2 marks: Sketch
5	a	Explain steps involved in Thermit Welding and its applications. **OR**	8	3 marks: Steps 2 marks dia 3 Applications
	b	Compare Laser Beam Welding and Electron Beam Welding.	8	4 marks: Laser Beam Welding 4 marks: Electron Beam Welding / Comparison

	c	Describe at least four industrial applications of modern welding processes. **OR**	8	2 marks each application (explanation + relevance)
	d	Explain working principle of Electron Beam Welding with neat diagram.	8	4 marks: Working principle 2 marks: Diagram 2 marks: Explanation