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**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY,
ODISHA, GUNUPUR**

Ph. D. (First Semester- Winter) Examinations, June – 2025

23WPPEME1013 – Advanced Welding Technology

(Mechanical Engineering)

Time: 3 hrs

Maximum: 70 Marks

The figures in the right hand margin indicate marks.

Answer ANY FIVE Questions

(14 x 5 = 70 Marks)

	Marks
1.a. Explain Brazing with neat sketch	8
b. Explain Soldering with neat sketch	6
2.a. Explain Brazing with neat sketch	7
b. Explain Remote welding	7
3.a. Explain temperature distribution in linear butt wells	7
b. Explain Continuous - Cooling - Transformation diagram (CCT curves)	7
4.a. Explain heat flow in Upset butt welding	7
b. Explain temperature distribution in welding	7
5.a. Explain zone of spherodized carbides	6
b. Write short notes on:	
i. Explain normalizing	8
ii. Explain quench hardening	
6.a. Explain Austempering and martempering	6
b. What is Residual stresses? Explain causes of the development of residual stress	8
7.a. Explain VSR procedure and its uses in Vibratory stress	8
b. Explain destructive measuring methods in weldments	6
8.a. Explain power sources and temperature control in preheat and postweld heat treatments	7
b. Explain the advantages and limitations of different pre heating methods	7

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