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Form Number: OBE/TE/Spring-2026

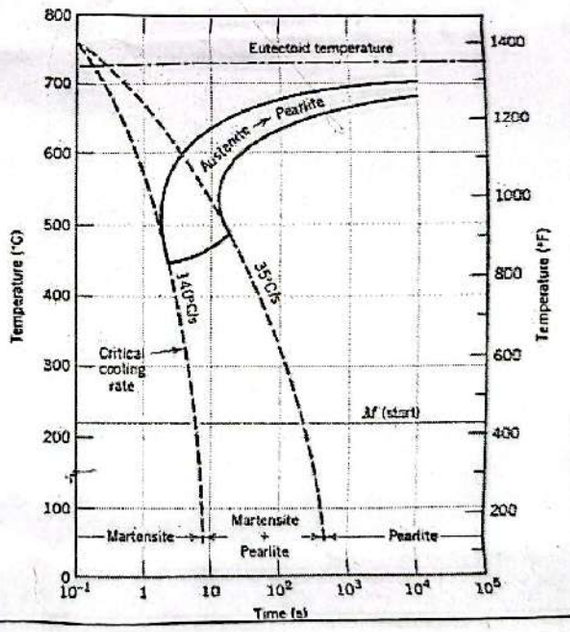
Daffodil International University

Department of Textile Engineering
Faculty of Engineering
Midterm Examination; Spring-2026

Course Code: 0722-221 Course Title: Materials and Manufacturing Engineering
Level & Term: L3T1 Section: F1, F2, F3
Name & Designation of the Course Teacher: Dr. Md. Abdul Gafur (MAG) and Professor

Time: 1.5 hours. **Total Marks: 25**

Answer all the questions:

1.	Analyze by finding i) ferrite and cementite, ii) ferrite and pearlite and iii) eutectoid ferrite, and also providing the microstructure for a 0.30%C steel temperature, just below eutectoid temperature. [CLO3, PO1, C4]	8
2.	Examine the microstructure by estimating %C and tensile strength for steel (hypo-eutectoid steel) having 70%ferrite-pearlite microstructure in annealed condition at room temperature. The steel must be in annealed condition-why? [CLO3, PO1, C4]	8
3.	Distinguish between Annealing and Normalizing. [CLO3, PO1, C4]	4
4.	Analyze the microstructure that will be developed if cooling rate is slower than 140°C/S and faster than 35°C/S by defining critical cooling rate (CCR).[CLO3, PO1, C4] 	5

8
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