

Name and surname:

No:

Quiz-3

Q.1 The average grain diameter for a brass material was measured as a function of time at 650 C, which is tabulated below at two different times:

| <i>Time (min)</i> | <i>Grain Diameter (mm)</i> |
|------------------------------|---------------------------------------|
| 40 | $5.6 \cdot 10^{-2}$ |
| 100 | $8.0 \cdot 10^{-2}$ |

- (a) What was the original grain diameter?
(b) What grain diameter would you predict after 200 min at 650 C

Q.2 A large tower is to be supported by a series of steel wires. It is estimated that the load on each wire will be 11,100 N . Determine the minimum required wire diameter assuming a factor of safety of 2 and a yield strength of 1030 MPa.

Q.3 a)What is the driving force for recrystallization.? b) For grain growth.?

Q.4 Explain the difference between resilience and toughness.