

Roll No

MMPD-103**M.E./M.Tech., I Semester**

Examination, December 2017

Material Technology And Failure Analysis**Time : Three Hours****Maximum Marks : 70****Note:** i) Solve any five questions.

ii) All questions carry equal marks.

1. Explain imperfection in crystals? What is surface imperfection?
2. Differentiate between conductors, semi conductors and insulators.
3. Discuss followings:
 - a) Thermo elastic effect
 - b) Theories of failure
4. a) Explain Dislocation and Slip phenomenon?
b) Discuss grain Boundary and strain aging.
5. a) Discuss fatigue limit and discuss its significance.
b) How measurement of damping capacity is done?
6. Explain followings:
 - a) Transient creep and viscous creep.
 - b) Creep fractures and creep curves.

7. Enlist and discuss various modes of creep displacement?
8. Write short notes on followings:
 - a) Fracture crack propagation
 - b) Stress intensity factor in finite bodies
 - c) Griffith fracture stress
 - d) Fatigue toughness
