**BBDNITM**

**MECHANICAL DEPARTMENT**

**SESSION (2018-19)**

**Subject- Material Science [RME-301]**

**Assignment No. - 4**

**Short answer type questions**

1. What is Normalizing?
2. What is tempering?
3. What do you mean by carburizing?
4. What is Age hardening?
5. What is Austempering ?
6. What is super conductor?
7. What is transistor?

**Long answer type question**

1. What are the methods available for surface hardening? Explain any two.
2. What is annealing? How it improves the mechanical properties of materials?
3. What do you understand by Case hardening how its different from Age hardening?
4. Define the critical cooling rate for steel and show the same on the T.T.T diagram.
5. Explain the annealing and normalizing heat treatment processes with their advantages.
6. Differentiate between hardening and tempering?
7. What do you mean by TTT diagram. What is its significance? Draw TTT diagram for Steel.
8. What is super conductivity and super conducting transition temperature? What are possible applications of the super conducting materials?
9. What are differences between intrinsic and extrinsic semiconductors?
10. Explain the P-N junction device and write their applications.
11. Explain the type-I and type-II superconductors.