

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- I & II (OLD) EXAMINATION – WINTER 2019****Subject Code: 110011****Date: 02/01/2020****Subject Name: Physics****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What are the factor affecting acoustics of a building? Suggest their remedies. **07**
(b) Describe Megnetostriction effect and an ultrasonic generation method. **07**
- Q.2** (a) Define seven crystal systems with suitable diagram. **07**
(b) Draw planes (1 0 0), (1 1 1), (3 2 1) in a separate cubic structure. **07**
- Q.3** (a) Describe applications of LASER in material processing. **07**
(b) List out advantages of optical fiber over a metallic cable. **07**
- Q.4** (a) Derive an expression for Wiedemann-Franz Law. **07**
(b) Differentiate between type-I and type-II superconductor. **07**
- Q.5** (a) Write a short note on metallic glass. **07**
(b) Describe liquid dye penetration method of NDT. **07**
- Q.6** (a) Derive a relation between interplanar distance and cubic edge. **07**
(b) Describe properties of superconductor. **07**
- Q.7** (a) Give a detail about Hall effect and derive a formula for Hall Coefficient. **07**
(b) Write a short note on Bio-materials. **07**
