

00481

**B.Tech. MECHANICAL ENGINEERING
(BTMEVI)**

Term-End Examination

December, 2013

BIMEE-006 : TRIBOLOGY

Time : 3 hours

Maximum Marks : 70

Note : Answer any five of the following questions. Each question contain equal mark.

1. Describe the term "Tribology". Explain, with the help of suitable examples, its significance in economical, scientific and multi disciplinary aspects. 14
2. Discuss laws of rolling function. Compare rolling friction and sliding friction. 14
3. Enumerate the importance of wear in engineering applications. Explain the quantitative laws of wear. 14
4. Derive an expression for load carrying capacity of hydrodynamic journal bearing. Also state the assumptions made for the derivation. 14

5. Explain hydrodynamic lubrication. Also discuss important properties of lubricant. **14**
6. Explain elastic contact between metallic surfaces. Derive an expression for pressure distribution over elastic contact of two curvilinear bodies. **14**
7. Write short notes on *any two* of the following : **14**
- (a) Practical considerations in bearing design
 - (b) Additives used in lubricating oils
 - (c) Types of wear
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