

Roll No.

22233

**M. Tech. 2nd Semester Mechanical Engg.
(Machine Design) Examination – May, 2016**

PRINCIPLES OF MACHINE DESIGN

Paper : M-806-A

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions. Each question carry equal marks.

1. Explain fits and tolerances; Hole base system; Shaft base system with neat sketches. 20
2. General procedure in Machine Design; General considerations in Machine Design; classification of machine design. 20
3. List the factors that are important in developing a new technologically oriented product. 20

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4. Decide what performance and design characteristics and features you want the product to have. 20
5. Explain the terms : 20
- (i) Detail design
 - (ii) Life cycle
 - (iii) Optimization
 - (iv) Analog model
6. Explain : 20
- (a) Notch sensitivity
 - (b) Methods of reducing stress concentration
 - (c) Factor of safety for fatigue loading
 - (d) Endurance limit
7. Disassemble a small appliance or hand tool. Create a detail chart how the product is decomposed in the physical domain. 20
8. Explain the problem solving tools in detail. 20
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