

**M.Tech. (Cosmetics Technology) Semester-I Examination**  
**PRODUCT DEVELOPMENT AND FORMULATION**  
**(Common for all Branches)**  
**Paper-1T3**

Time : Three Hours]

[Maximum Marks : 80

**INSTRUCTIONS TO CANDIDATES**

- (1) **All** questions carry equal marks.
- (2) Answer **five** questions.
- (3) Use pen of Blue/Black ink/refill only for writing the answer book.

1. Explain in detail about development of new cosmetics and add a note on Skin toxicity test. 16

**OR**

Explain in detail about generation of laboratory data during development of new cosmetics and add a note on regulatory requirements as per WHO. 16

2. Explain in detail about product development of antiperspirants and deodorants. 16
3. Explain in detail about concept of nanotechnology and then discuss about Liposomal delivery of cosmetics. 16

**OR**

Explain in detail about stability of a cosmetic product. How chemical properties of ingredients from formulation affects stability of cosmetic product ? 16

4. Explain the concept, purpose and functions of pilot plant scale up technique and add a note on organisation of it. 16
5. Write notes on (any **two**) :
  - (a) Preformulation studies and its importance
  - (b) Controlled release cosmetics
  - (c) Formulation and Development of aerosols. 16

