

M.Tech. 1st Semester (ME) CBCS Scheme

Examination, December-2018

MACHINE TOOL DESIGN

Paper- MTME21C4

Time allowed : 3 hours] [Maximum marks : 100

Note: Attempt four questions from Section-I to IV selecting at least one question from each Section. These question shall carry equal marks each. Section-V is compulsory and each question in this Section shall carry 5 marks.

Section-I

1. Explain in detail the General Requirement of Machine Tool Design.
2. Explain in detail regulation of speed and feed rates in Machine Tool Design.

Section-II

3. Explain in detail Machine Tool Structure with its functions and requirements.
4. Explain the basic design procedure for columns and other structural elements.

Section-III

5. Explain in detail the function and types of Guideways and Power screws.

6. Explain in design Procedure for slide ways.

Section-IV

7. Explain in detail bearings selection and bearings design.
8. Explain in detail the functions and requirements of control systems in Machine Tool Design.

Section-V

9. Explain the following:
 - (i) Machine Tool Drives
 - (ii) Static And Dynamic Stiffners
 - (iii) Future trends in development of Machine tools.
 - (iv) Adaptive control systems.