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22604

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

- Explain in detail the General Requirement of Machine Tool Design.
- 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.
- Explain the basic design procedure for columns and other structural elements.

Section-III

Explain in detail the function and types of Guideways and Power screws. Explain in design Procedure for slide ways.

Section-IV

- Explain in detail bearings selection and bearings design.
- 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.