

Q. P. Code: 25438

Time: 3 Hours

Marks: 80

- **Attempt any FOUR questions out of SIX questions.**
- **Assume suitable data wherever required.**
- **Illustrate answers with sketches wherever required.**

- Q1 Answer any four questions 20**
1. Write short note on gearing diagram
 2. Classify speed and feed boxes
 3. List out and explain different acceptance tests of Machine tools
 4. Explain Functions of spindle unit and its requirements
- Q2 (i) Design procedure of sliding friction power screws based on wear resistance, strength, stiffness, buckling stability 10**
- (ii) Explain gearing diagram and their analysis to select the possible version 10**
- Q3 (i) Testing of spindle axis parallel to bed 10**
- (ii) Derive optimum spacing between spindle supports 10**
- Q4 (i) Explain structural diagram and their analysis to select the possible version 10**
- (ii) Explain Mechanisms involves in stepless regulation of speed and feed rates 10**
- Q5 Minimum Speed 150rpm, Maximum Speed 900rpm, Motor 10HP, Motor Speed =1400 rpm Draw 1. Structural Diagram 2. Optimal Ray diagram 3. Deviation Diagram 4. Gearing Diagram 20**
- Q6 Answer any two questions 20**
- (i) Parallelism of tailstock guideways with the movement of carriage
 - (ii) Derive the deflection of spindle axis due to compliance of spindle supports
 - (iii) How to carryout procedure of Level installation of machine tools with instruments
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