

IV B.Tech I Semester Supplementary Examinations, April/May 2005
PRODUCTION TECHNOLOGY-III

(Common to Mechanical Engineering and Production Engineering)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What is hole based system? Explain briefly.
(b) Discuss the I.S codes of tolerances required for manufacturing accuracy grades.
2. (a) With the help of neat sketches, explain how a sine bar is used to determine the taper angle of an inclined surface.
(b) Sketch the bevel protractor and explain the various elements of it.
3. (a) Explain the following terms with respect to surface measurements.
 - i. Lay
 - ii. CLA
 - iii. Waviness
 - iv. Surface plate
(b) Describe the Tomlinson surface meter with the help of neat sketch. Explain their advantages over other types of surface measuring instruments.
4. (a) What is the importance of gauge makers tolerance? Explain clearly with the help of neat sketch.
(b) What are optical flats? How these optical flats are used in torferometer?
5. (a) Explain the principle and working of pneumatic comparator.
(b) Discuss the application of various comparators.
6. (a) Explain how the effective diameter of a screw thread can be measured using three-wise method.
(b) What are the features of a gear tooth form that should be checked with inspection instruments? Explain.
7. (a) With the help of neat sketch, explain the methodology for measuring the flatness of work table of a milling machine.
(b) What is the importance of alignment tests on machine tools? Discuss briefly.
8. Write short notes on any three of the following:-
 - (a) Interchangeability
 - (b) Dial indicators
 - (c) Surface finish symbols

(d) Taper plug gauge.
