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Code No: 55016

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B. Tech III Year I Semester Examinations, December - 2014

METROLOGY AND SURFACE ENGINEERING

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Differentiate between hole basis system and shaft basis system.
- b) Discuss the advantage of interchangeable assembly.
- 2.a) Explain the Taylor's principles of gauge design.
- b) How do you calibrate slip gauges? Explain.
- 3.a) What are the measuring techniques employed in optical projector?
- b) Discuss the most common aberrations found in optical projector?
4. What are the requirements of a good comparator? Explain with the help of a neat sketch how these features are achievable in the "Sigma Comparator".
- 5.a) How is Taylor's principle of limit gauging applicable to gauging of screw threads.
- b) What are the elements required to be measured for determination of the accuracy of screw threads? Explain.
6. Discuss about various numerical assessment techniques applied to surface roughness.
7. Discuss about principles of corrosion and remedial measures.
8. Explain the terms Dip coating and Spray coating. Distinguish between these two processes. Compare the merits and demerits.

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