

**Q.P. Code: 25048****Total Marks: 80****Duration: 3 Hours****N.B.:-**

1. Question No.1 is compulsory
2. Solve any three out of remaining questions
3. Assume suitable data if required and mention it clearly
4. Figures to right indicate full marks

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|-----------|---|-----------|
| <b>Q1</b> | A] How will maintain compromise between quality and cost?                                 | <b>5</b>  |
|           | B] Differentiate between primary and tertiary standards?                                  | <b>5</b>  |
|           | C] Explain concept of flatness.   | <b>5</b>  |
|           | D] Explain importance of surface conditions   | <b>5</b>  |
| <b>Q2</b> | A] Explain construction and working of any one mechanical comparator                      | <b>10</b> |
|           | B] Explain following terms with respect to limit, fit and tolerances:-                    | <b>10</b> |
|           | 1) Upper deviation  |           |
|           | 2) Lower deviation  |           |
|           | 3) Fundamental Deviation  |           |
|           | 4) Tolerance grades   |           |
|           | 5) Clearance Fit  |           |
| <b>Q3</b> | A] Explain Taylor Hobson surface roughness measuring instrument in detail                 | <b>10</b> |
|           | B] Explain different quality costs  | <b>10</b> |
| <b>Q4</b> | A] Explain Principle, Construction and working of Parkinson's Gear tester.                | <b>10</b> |
|           | B] Explain following:-  | <b>10</b> |
|           | 1. Pie Charts   |           |
|           | 2. Bar Charts   |           |
|           | 3. Scatter Diagrams   |           |
| <b>Q5</b> | A] Explain three wire method used in screw thread measurement.                            | <b>10</b> |
|           | B] Explain following:-  | <b>10</b> |
|           | 1. R –Chart   |           |
|           | 2. P-Charts   |           |
|           | 3. np charts  |           |
|           | 4. X bar charts   |           |
| <b>Q6</b> | A] Explain construction and working of Tool Maker's Microscope                            | <b>10</b> |
|           | B] Sketch OC curve and explain various elements of it. Also explain double sampling plans | <b>10</b> |