

Question Bank (G scheme)

Name of subject: METROLOGY AND QUALITY

Subject code: 17530

Semester: V

Unit Test :I

Course : ME

Chapter: 1

3 Marks Question

- Q1. What are the objective of metrology and define metrology? 3
- Q2. State various type of metrology? 3
- Q3. What is need of inspection in industries? 3

4 Marks Question

- Q4. Define a} Accuracy b} Precision c} Sensitivity d} Readability 4
- Q5. Explain Errors_
- a} controllable errors b} calibration errors c} Ambient errors d} stylus errors 4

Chapter- 2

3 Marks Question

- Q1. What is the wringing of slip gauges? State the condition of slip gauges 3
- Q2. Define comparator. State any four characteristic of good comparator 3

4 Marks Question

- Q3.Explain Dial Indicators and state its advantages, disadvantages 4
- Q4. Differentiate between line standard and end standard 4
- Q5.Explain Sigma Comparators and state its advantages, disadvantages 4
- Q6. Explain Pneumatic comparators and construction, working, advantages, and disadvantages 4

Q7. Prepare a stack of slip – gauges for height 34.468 mm by using a normal set of M 45. 4

Range	Step	Pieces
1.001 to 1.009	0.001	9
1.01 to 1.09	0.01	9
1.1 to 1.9	0.1	9
1 to 9	1	9
10 to 90	10	9
Total		45

Q8. List the minimum number of slip gauges to be brought together to produce an overall dimension of 63.975 mm using set of 87 pieces 4

Range	Step	Pieces
1.0005	-	1
1.001 to 1.009	0.001	9
1.01 to 1.49	0.01	49
0.5 to 9.5	0.5	19
10 to 90	10	9
Total		87

Chapter- 3

3 Marks Question

- Q1. Differentiate between Hole basic system and Shaft basis system 3
- Q2. Taylor's principles- i) Go limit ii) No go limit 3
- Q3. Principle of Go and no Go limit 3

4 Marks Question

- Q4. Difference between precision instrument and gauges 4
- Q5. Define the following term with neat sketches-
- a) fits b) clearance fit c) transition fit g) interference fit. 4

Chapter- 4

3 Marks Question

- Q1. What is bevel protractor and explain construction, working and uses 3
- Q2. Explain Construction working principle of sine bar with neat sketches 3
- Q3. Why Sine bar is not preferred for measurement of angle more than 45° ? 3
- Q4. What is clinometer? How it can be used? 3

4 Marks Question

- Q5. Difference between angle gauges and slip gauges 4
- Q6. An angle of $139^\circ 33' 30''$ is to be measured using following set
($1^\circ, 3^\circ, 9^\circ, 27^\circ, 41^\circ$) ($1', 3', 9', 27'$) ($3'', 6'', 18'', 30''$) Sketch the arrangement 4
- Q7. An angle of $33^\circ 10' 12''$ is to be measured using following set
($1^\circ, 3^\circ, 9^\circ, 27^\circ, 41^\circ$) ($1', 3', 9', 27'$) ($3'', 6'', 18'', 30''$) Sketch the arrangement 4