USN | | | | | | | | | | |

18MR36

Time: 3 hrs.　　　　　　　　　　　　　　　　　　　　Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1　a.　Define Metrology. What are the objectives of Metrology?　(08 Marks)
　　b.　With neat sketch, explain International prototype meter.　(08 Marks)
　　c.　What are the needs for inspection?　(04 Marks)

OR

2　a.　With neat sketch, explain the construction and working of sine centre.　(08 Marks)
　　b.　Write a note on wavelength standards.　(06 Marks)
　　c.　Build up a length of 35.4875mm using M112 set. Use two protector slips of 2.5mm each.　(06 Marks)

Module-2

3　a.　Define fit. Explain different types of fit's.　(10 Marks)
　　b.　With neat sketch, explain shaft basis system and hole basis system.　(10 Marks)

OR

4　a.　With neat sketch, explain Johansson's Mikrokator and sigma comparator.　(10 Marks)
　　b.　Sketch and explain LVDT.　(10 Marks)

Module-3

5　a.　Explain how to find effective diameter of the screw thread by two-wire method.1　(10 Marks)
　　b.　Explain with neat sketch tool maker's microscope.　(10 Marks)

OR

6　a.　How to find gear tooth thickness by using gear tooth vernier caliper? Explain with neat sketch.　(10 Marks)
　　b.　Explain with neat sketch gear tooth terminology.　(10 Marks)

Module-4

7　a.　Define: i) Threshold　ii) Hysteresis　iii) Calibration　iv) Repeatability.　(08 Marks)
　　b.　Explain error's in measurement.　(06 Marks)
　　c.　What are transducers? Explain any one type of mechanical transducer.　(06 Marks)

OR

8　a.　With neat sketch, explain cathode ray oscilloscope.　(10 Marks)
　　b.　With schematic diagram explain ballast circuit.　(10 Marks)

Module-5

9　a.　What is a dynamometer? Explain prony brake dynamometer.　(08 Marks)
　　b.　With neat sketch, explain McLeod gauge.　(08 Marks)
　　c.　Write a note on direct method of force measurement.　(04 Marks)

OR

10　a.　Explain with neat sketch optical pyrometer.　(10 Marks)
　　b.　Explain Wheatstone bridge circuit with neat sketch.　(10 Marks)

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