

B.E DEGREE EXAMINATIONS: NOV/DEC 2014

(Regulation 2009)

Seventh semester

AUTOMOBILE ENGINEERING

AUE125: Measurements and Metrology

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

- The Spring Calipers are made of alloy steel of hardness
 - 650±50 HV
 - 620±40 HV
 - 650±30 HV
 - 630±50HV
- The number of divisions in the thimble of a micrometer is:
 - 26
 - 23
 - 25
 - 28
- Frequency is given by
 - $\frac{C}{4L}(2n-1)$
 - $\frac{C}{L}(2n-1)$
 - $\frac{4C}{L}(2n-1)$
 - $\frac{4C}{L}(n-1)$
- Operation of McLeod gage is based on
 - Boyle's relation
 - Dalton's law of partial pressure
 - Charles' law
 - Newton's law
- The light and dark interference fringes produced at
 - Focal point
 - Cross over point
 - Doppler Shift
 - Beam splitter
- Diameter of wire coated in smoke wire visualization
 - 0.01 cm
 - 0.1 nm
 - 0.01 mm
 - 0.001mm
- The term pyrometry is derived from Greek word
 - Pyros
 - pyron

23. a) Sketch and explain various obstruction type flow meters.

(OR)

b) Describe with neat Sketches the working principle of Laser Doppler anemometry.

24. a) Explain various principles of pyrometry in detail.

(OR)

b) Discuss in details the Linear Quartz thermometer with neat diagram.

25. a) With neat illustrative sketches explain the concept of Ballistic weighing.

(OR)

b) Enumerate various torque measurement techniques and explain them in detail.
