Total No. of Questions : 10]

SEAT No. :

PD-433

[Total No. of Pages : 2

[6409]-268
S.E. (Robotics & Automation) (Insem.)
METROLOGY AND QUALITY ASSURANCE
(2019 Pattern) (Semester - IV) (211511)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates :

1) ***Attempt Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6, Q. 7 or Q. 8, Q. 9 or Q. 10.***
2) ***Assume suitable data if necessary.***
3) ***Figures to the right indicate full marks***
4) ***Draw neat figures whenever necessary.***
5) ***Use of scientific calculators is allowed.***
6) ***Use of cell phone is prohibited in the examination hall.***

Q1) Define Metrology and enumerate the objectives of metrology **[5]**

OR

Q2) Explain briefly : line standard and end standard. **[5]**

Q3) What is sine bar? Explain with diagram the uses of sine bar and sine centre. **[5]**

OR

Q4) Explain with neat sketch the construction and working of Auto-collimator. **[5]**

Q5) Differentiate between Hole Basis and Shaft Basis system **[5]**

OR

Q6) Explain with neat sketch Construction of Sigma Comparator. **[5]**

Q7) Show schematically difference between Allocation of gauge tolerance and wear allowance for plug and ring limit gauges. **[7]**

OR

Q8) State Taylor's principle of gauge design. List out types of limit gauges used in industry. **[7]**

P.T.O.

Q9) Design workshop type limit gauges for checking $70H_8$. **[8]**

Given i) diameter 70 lies in 50-80

ii) IT8 = 25i

OR

Q10)Design limit gauges for checking 100 h_9 shaft. **[8]**

Given i) diameter 95 lies in 80-100

ii) IT9 = 40i

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