Total No. of Questions :6]

SEAT No. :

P5664

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TE/INSEM./OCT.-110

T.E. (Mechanical Engg.)

METROLOGY AND QUALITY CONTROL

(2015 Pattern) (Semester - I) (302045)

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

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Assume suitable data if necessary.***

Q1) a) Differentiate between Precision & Accuracy with Suitable examples. **[4]**

b) Write short note on **[6]**

i) Straightness

ii) Flatness

iii) Roundness

OR

Q2) a) Design a workshop type progressive type, Go-No Go plug gauge suitable for 25 H_7 with following information. **[6]**

i) 25 mm lies in diameter step of 18-30 mm

ii) $i=0.45\sqrt[3]{D}+0.001D$

iii) IT7= 16i

b) Define Limit, Fit, Tolerance & Allowance. **[4]**

Q3) a) Explain with suitable diagram construction and working of sigma mechanical comparator. **[5]**

b) Explain the method of measuring effective diameter using two wires with neat sketch. **[5]**

OR

P.T.O.

Q4) a) Describe with neat sketch a gear tooth vernier caliper. **[6]**

b) Define the following in connection with surface texture assessment. **[4]**

i) Roughness

ii) Waviness

iii) Lay

iv) Sampling length

Q5) a) Describe briefly Co ordinate Measuring Machine. **[5]**

b) Explain working of machine vision system with neat sketch. **[5]**

OR

Q6) a) Describe with neat sketch NPL flatness interferometer. **[5]**

b) Explain use of lasers in metrology. **[5]**