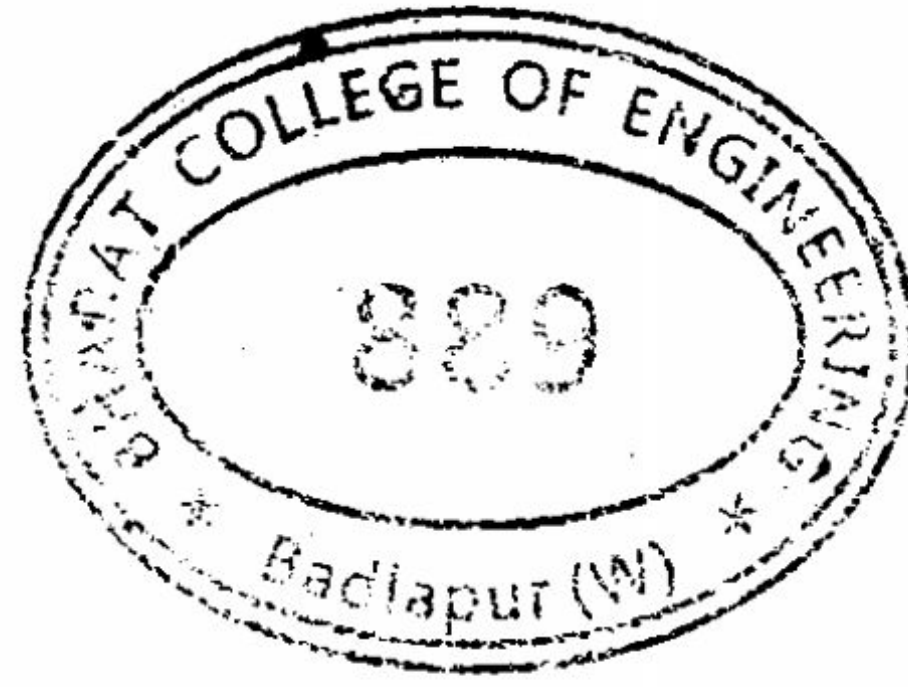


19/11/15

MELH - VIth Sem - MQE (CBIS)

19 NOV 2015



QP Code : 6254

Total Marks:80

Duration:3 Hours

N.B:-

1. Question No.1 is compulsory
2. Solve any three Questions from remaining questions
3. Assume suitable data if required and mention it clearly

- Q1 A] Differentiate between precision and accuracy. [5]
B] What do you mean by quality of design? [5]
C] What do you mean by waviness and roughness? [5]
D] Explain advantages and limitations of pneumatic comparators. [5]
- Q2 A] Explain Taylors Principle of Gauge design with suitable example. [10]
B] Explain principle, construction and working of Parkinson's Gear Tester. [10]
- Q3 A] Explain principles of interference. How flatness can be checked with the help of optical interferometer. [10]
B] How will compromise between quality and cost. Explain different types of cost of quality with suitable examples [10]
- Q4 A] Explain following terms with respect to surface roughness parameters - [10]
i. R_a
ii. R_z
iii. RMS

B] Control Chart for \bar{X} and R are kept on the weight in kilograms of a colour pigment for a batch process. After 25 subgroups with subgroup size of 4

$$\sum \bar{X} = 52.08 \text{ kg}$$

$$\sum R = 11.82$$

Assuming process is in state of control, Compute the \bar{X} and R chart central line and control limits.

(For subgroup size of 4, $A_2=0.729$ $D_4=2.282$ $D_3=0$ $d_2=2.059$) [10]

- Q5 A] Explain two wire method used in screw thread measurement [10]
B] Explain various modern SQC tools. [10]
- Q6 A] Explain single and double samplings plans. Also Explain concept of OC curves [10]
B] Explain construction and working and applications of 3D coordinate measuring machine. [10]

MD-Con. 7325-15.