

Q.P. Code : 16301

[Time: Three Hours]

[ Marks:80]

Please check whether you have got the right question paper.

- N.B:
1. Question No.1 is compulsory.
  2. Solve any three out of remaining questions.
  3. Assume suitable data if necessary.
  4. Figures to right indicate marks.

- Q. 1 a) Write a short note on Roughness & Waviness. (05)  
 b) Explain Profile projector with suitable sketch. (05)  
 c) Write a short note on p-Charts & np-Charts. (05)  
 d) Explain the term Quality Planning. (05)
- Q. 2 a) What do you mean the Quality of Design and Quality of Conformance? (10)  
 b) Explain different types of fits. And also explain the Taylor's principle of gauge design. (10)
- Q. 3 a) Explain various modern SQC tools. (10)  
 b) Explain principle, construction and working of optical comparator with neat sketch. And also write advantages and disadvantages of optical comparator. (10)
- Q. 4 a) The following data refer to the production and number of rejects for 15 consecutive days. (10)

Day	Number Inspected	No. of rejects
1	400	2
2	400	5
3	400	0
4	400	14
5	400	3
6	400	0
7	400	1
8	400	0
9	400	18
10	400	8
11	400	6
12	400	0
13	400	3
14	400	0
15	400	6

Plot the percent rejected control charts. Suppose the reasons for out of control point on 9<sup>th</sup> day is found and it's effect on future production is eliminated. What control limits will you adopt for future production?

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- Q. 4 b) Explain principle, working and construction of Parkinson's gear tester with suitable diagram. (10)
- Q. 5 a) Explain briefly OC curve with suitable curve. And also explain single sampling and double sampling plans. (10)  
b) Explain construction and working of Laser interferometer with neat diagram. Also write advantages and (10)  
disadvantages of Laser interferometer.
- Q. 6 a) Explain three wire method used in screw thread measurement. (10)  
b) Explain the random sampling techniques and statistical sampling techniques. (05)  
c) Difference between precision and accuracy. (05)