TOTAL QUALITY MANAGEMENT
TIME :3 hrs APRIL/MAY 2005
MAX MARKS :100

PART -A (10 X 2 = 20 MARKS)

1. Define quality cost. Mention four categories of quality cost. -1

2. Mention any four principles of TQM -1

3. Name the 5's - 2

4. Define kaizen - 2

5. Mention the measures of central tendency and dispersion. -3

6. Name any four steps involved in six sigma - 3

7. Define bench marking. - 4

8. What does FMEA stands for? - 4

9. What is the equivalent indian standard for ISO:8402? -5

10. Define quality Audit. - 5

PART -B

11(i) A machine shop produces steel pins. The width of 100 pins was checked after machining and the data was recorded as follows. -3

width in mm	Frequency
9.50 -9.51	6
9.52 -9.53	2
9.54 -9.55	20
9.56 -9.57	32
9.58 -9.59	22
9.60 -9.61	8
9.62 -9.63	6

-3

9.94 -9.95 4

1) Find the arithmetic mean,standard deviation and variance - 3

2) What percentage of the pins manufactured has width of 9.52 to 9.63? -3

(ii) Lst the fourteen priciples of Deming's approach. - 2

12 (a) (i) Briefly discuss on : 1) Customer satisfaction 2) Employee involvement -5

(ii) Explain on PDSA cycle - 2

OR

(b) (i) Explain on Juran's ten steps to quality improvement - 2

(ii) Explain continuose process improvement - 2

13 (a) (i) Explain the concept of six sigma with an example - 3

(ii) Assuming that the life in hours of am electric bulb is a random variable following normal distribution with mean of 2000 hours and standard deviation of 400 hours. -3

Find the expected number of bulbs from a random sample of 2000 bulbs having life.

1) more than 3000 hrs 2) between 2600 and 2800 hrs -3

OR

(b) A certain product has been statistically controlled at a process average of 36.0 and a S.D. of 1.00. The product is presently being sold to two users who have different specification requirements. User A has established a specification of 38.0 + or - 4.0 for the product , and user B has specification of 36.0 + or - 4.0 - 3

(i) Based on the present process set up what percent of the product will not meet the specifications set up b the user A? -3

(ii) What percentage of the product will not meet the specifications of user B?

-3

(iii) Assuming that the two users need are equal . A suggestion is made to shift the process target to 37.0 At this suggested value, what percentage of the product will not meet the specifications of user A

(iv) At the suggested process target, what percentage of the product wil not meet the specificatons of user B?

(v) Do you think that this shift to a process target of 37.0 would be desirable ? Explain your answer.

14 (a) (i) Explain quality function deployment with suitable application

(ii) What are the stages of FMEA?

OR

(b)) Write short notes on (i) TPM (ii) Taguchi quality loss function (iii) Bench marking

15 (a) (i) Explain the steps followed to get ISO -9000 certification for educational institute

(ii) What are the elements of ISO-9000:2000 quality system

OR

(b) (i)Define quality system and explain the evolution of ISO-9000.

(ii) Explain ISO 14000 with an industrial application