C 5252 (Pages : 2) Name.....

Reg. No.....

EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2010

ME/PE/AM 04. 801—QUALITY ENGINEERING AND MANAGEMENT

(2004 admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

1. (a) Explain the concept of TQM.

   (b) What do you mean strategic quality management ? Explain.

   (c) List out the various techniques used to sustain continuous quality improvement and explain any one of its.

   (d) Why is ISO 9000 important ?

   (e) State the benefits (at least five) of process capability analysis.

   (f) In control charts, what are the properties of normal distributions ?

   (g) What are the differences between process control and acceptance sampling ?

   (h) Define the following :—

   (i) AQL ; and

   (ii) AOQL.

($8 \times 5 = 40$ marks)

2. (a) Explain in Juran's ten steps to quality improvement in detail.

Or

   (b) (i) Briefly explain the concept of quality. (9 marks)

   (ii) Explain the difference between the quality control and quality assurance. (6 marks)

3. (a) Explain the techniques used for quality costs analysis in detail.

Or

   (b) Define FMEA. Show a sample of a design FMEA document and explain the various elements used in the document.

4. (a) (i) What is process capability ? (2 marks)

   (ii) Explain High process capability and Low process capability in detail. (8 marks)

   (iii) Explain process capability index with suitable example. (5 marks)

Or

   (b) Write a short note on :

   (i) Variable control charts. (8 marks)

   (ii) Attributes control charts. (7 marks)

Turn over

5. (a) Explain the following in detail :—

(i) System Reliability. (8 marks)

(ii) Multiple and Double sampling. (7 marks)

Or

(b) (i) Define Acceptance sampling and explain its important objectives in detail. (8 marks)

(ii) Explain ATI and AFI in detail. (7 marks)

[4 × 15 = 60 marks]