Registration No :

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M.Tech
P2INCC03

2nd Semester Regular / Back Examination 2017-18
QUALITY ENGINEERING & MANAGEMENT
BRANCH : INDUSTRIAL ENGG, INDUSTRIAL ENGG & MANAGEMENT
Time : 3 Hours
Max Marks : 100
Q.CODE : C851
Answer Question No.1 which is compulsory and any FOUR from the rest.
The figures in the right hand margin indicate marks.
Answer all parts of a question at a place.

Q1   **Answer the following questions :** *Short answer type :*   (2 x 10)
   a) Explain Producer's and Consumer's risks.
   b) Why an np-chart is used?
   c) Discuss the significance of normal curve in quality control.
   d) What is Pareto chart?
   e) Describe 5S as base of TPM.
   f) List five benefits that could be realized by implementing an ISO 9000 quality system.
   g) Note down the eight pillars of TPM.
   h) What are the various magnificent quality tools?
   i) Describe the importance of control charts in managing quality.
   j) What are the problems that are encountered during implementation of TQM?

Q2 **a)** Define TQM. What are the Pillars of TQM?   (10)
    b) Discuss the importance of application of TQM in manufacturing and service industry.   (10)

Q3 **a)** Describe the QFD process with the help of a flow diagram.   (10)
    b) Describe how marketing, human resources, and finance/accounting can contribute to the QFD process.   (10)

Q4 **a)** Explain the various steps involved in building house of quality by selecting suitable example.   (10)
    b) Explain traditional and emerging model of cost of quality.   (10)

Q5 **a)** What is Taguchi's robust design? Explain in detail.   (10)
    b) What is six sigma methodology? Describe the DMAIC problem solving methodology.   (10)

Q6 **a)** What are the four components of cost of quality? Explain in detail.   (10)
    b) How does the conceptual approach to ISO 14001 differ from ISO 9001?   (10)

Q7 **a)** A leading computer firm uses a sampling plan of n = 50 and c = 0 regardless of lot sizes. Construct OC and AOQ curves. Graphically determine the AQL value for $\alpha = 0.05$ and the AOQL value.   (10)
    b) A doctor's clinic evaluates incoming disposable cotton-tipped applicators using the single sampling plan N = 8000, n = 62, and c = 1.
    Construct the OC curve using about 7 points.
    Determine the AOQ curve and the AOQL.   (10)