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(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID : 199372 | Roll No. 1 2 2 8 4 1 0 0 8 7

B.TECH

(SEM. VII) THEORY EXAMINATION, 2015-16

QUALITY MANAGEMENT

[Time:3 hours] **[Total Marks:100]**

Section-A

1. **Note:Attempt all questions.** (2×10=20)

(a) What do you mean by quality?

(b) How excellence can be achieved by an organisation?

(c) Explain CL, UCL and LCL.

(d) What is failure cost?

(e) What do you mean by AQL?

(f) What is the use of C-chart?

(g) What is reliability product?

(h) Define mean time between failures.

(i) What is ISO?

(j) Give some demerits of JIT.

Section-B

Note: Attempt **any five**. (10×5=50)

2. What do you understand by quality and quality characteristics?

3. Discuss the role of quality management implementation.

4. Describe the evaluation of suppliers.

5. Explain the economics of quality value and its contribution.

6. Explain the role of operator in quality.

7. What are the advantages and applications of FMEA/ FMECA?

8. Explain the evaluation of reliability.

9. What is the function of quality circles?

Section-C

Note: Attempt any two (15×2=30)

10. What are the basic concepts of TQM? What is the role of top management?

11. Describe the various types of quality costs. What are hidden costs?

12. (a) What is ISO? What is ISO: 9000 quality system?

    (b) Discuss types of quality audits.

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EOE-072

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 199752

Roll No. 1 1 0 1 0 3 1 0 2 9

B. Tech.

(SEM. VII) (ODD SEM.) THEORY EXAMINATION, 2014-15

QUALITY MANAGEMENT

Time : 3 Hours] [Total Marks : 100

Note : Attempt **all** Questions and each question carry equal marks.

1. Attempt any **four** parts of the following: **5x4=20**
   (a) Explain the concept of quality. How does this concept changed during recent years?
   (b) Explain why is customers focuses so important in TQM ?
   (c) What is the difference between quality planning, control and improvement?
   (d) Explain the use of fishbone diagrams and Pareto chart.
   (e) Explain the Malcolm Baldrige National Quality Award in terms of eligibility and criteria of evolution.
   (f) What is after sales services? How claim analysis is done.

2. Attempt any **two** parts of the following : **10x2=20**

(a) Explain the 7 QC Tools and their importance in TQM.

(b) What are the costs of quality? Explain each component of cost of quality.

(c) Explain the basic steps to design and factors to be considered for organisational structure for quality management.

(d) What corrective methods can be adapted to improve quality due to human factor?

3. Attempt any **two** parts of the following : **10x2=20**

(a) "An ISO certified company is a TQM company". Explain the statement.

(b) What is the bath tub curve in detail?

(c) What are elements of quality systems?

(d) What is Taguchi's Quality loss function?

4. Attempt any **two** parts of the following : **10x2=20**

(a) Explain the JIT Implementation and production system process.

(b) Explain the process of bench marking. Is it effective in bringing organisational changes, justify.

(c) Explain operating characteristic of quality curves.

(d) Describe one maintenance organisation and administration with the help of neat sketch and show how they are interrelated.

5. Attempt any four parts of the following: **5x4=20**

(a) What is value Engineering(VE)?Describe steps in VE

(b) Explain SWOT analysis? Discuss the benefits of SWOT analysis.

(c) What are the Kaizen concept and its application?

(d) Explain objectives of PPC and how it is related with other departments.

(e) Define AQL, AOQ, AOQL & LTPD.What does an AOQ curve indicate to users.

(f) Establish the relationship between reliability, failure rate and MTBF.

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2785 Roll No. | | | | | | | | | | |

B.Tech.

(SEM. VII) ODD SEMESTER THEORY EXAMINATION 2013-14

QUALITY MANAGEMENT

Time : 3 Hours *Total Marks : 100*

Note :– Attempt **all** questions. Marks allotted are indicated against every part of each question.

1. Attempt any **four** parts of the following : **(5×4=20)**
   (a) How the concept of quality changes ? Explain in short.
   (b) What do you mean by design review ?
   (c) Explain evolution of prototype.
   (d) Explain the contribution of any two of following in quality improvement : Joseph M. Juran, Philip B. Crosby, W. Edwards Deming's, Armand V. Feigenbaum, Dr. Kaoru Ishikawa, Dr. Genichi Taguchi.
   (e) What is EFQM ? Explain in short.
   (f) What are the different methods of development of sources ?

2. Attempt any **four** parts of the following : **(5×4=20)**
   (a) Explain organisation structure and its design.
   (b) Explain the attitude of top management, operator attitude and responsibility toward quality improvement.
   (c) Explain how the cost of quality should be optimum with sketch of different costs.

(d) What do you mean by quality costs ? Explain different components of it.

(e) What should be the operator attitude for improvement in quality ?

(f) What do you mean by quality of conformance and quality costs ?

3. Attempt any **two** parts of the following : **(10×2=20)**

(a) What do you mean by control chart for variable and attributes ? Explain in detail about $\bar{X}$ charts and its construction and analysis.

(b) What is process capability ? Explain in detail, the improvement in quality with the help of control charts.

(c) Write short notes on :

(i) Defect and defectives

(ii) Weighted defect control charts.

4. Attempt any **two** parts of the following : **(10×2=20)**

(a) What is MTTF ? Explain in detail the methods of identification and analysis of defect and also its corrective measure.

(b) What is reliability ? What are the different factors which affect reliability ? Explain the methods of calculation of reliability with an example.

(c) Write short notes on :

(i) Building reliability in a product

(ii) Design of reliability.

Attempt any **four** parts of the following : **(5×4=20)**

a) What do you mean by Taguchi methods ?

(b) Explain a cause-and-effect (Ishikawa) diagram to identify a process defect.

(c) Explain the concept of ISO 9001 and its implementation.

(d) Explain quality circle in brief.

(e) Discuss JIT in manufacturing organisation.

(f) Explain life cycle curve of a product/component.

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PAPER ID : 2785 Roll No. | | | | | | | | | | |

B.Tech.

(SEM. VII) ODD SEMESTER THEORY EXAMINATION 2012-13

QUALITY MANAGEMENT

Time : 3 Hours *Total Marks : 100*

Note : *Attempt all FIVE questions. Choice and marks are given.*

1. Attempt any **TWO** of the following : **(2×10=20)**

   (a) What are the basic concept of TQM ? What is the role of Top Management ?

   (b) What is prototype inspection ? How is quality built into the product during design stage ?

   (c) How is quality maintained during procurement ? How are the suppliers evaluated ?

2. Attempt any **TWO** of the following : **(2×10=20)**

   (a) Briefly describe the various techniques of manufacturing. What is 'patrolling inspection' as referred to manufacturing ?

   (b) What is "customer feedback" ? How does it affect quality of a product during sales and service ?

   (c) What is 'quality function deployment' ? Briefly describe about 'House of Quality'.

3. Attempt any **TWO** of the following : **(2×10=20)**

(a) What are control charts ? How do they help to reduce rejection rate ?

(b) Describe the various types of quality costs. What are hidden costs ?

(c) What are the various modern methods for improvement of quality ?

4. Attempt any **TWO** of the following : **(2×10=20)**

(a) What are the duties of 'defect monitoring cell' in a quality organisation ?

(b) What steps you would take to enforce zero defect concept in an existing system of quality ?

(c) What are 'Quality Circles' ? How are they used to solve a problem ?

5. Attempt any **TWO** of the following : **(2×10=20)**

(a) If ISO 9000 Quality System is to be enforced in an organisation, what preparations are required ?

(b) What are process capability studies ? Define C_p and C_{pk}.

(c) Write short notes on any **TWO** :—

(i) JIT

(ii) Taguchi methods

(iii) Human factors in quality.

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2981 Roll No. | | | | | | | | | | |

B.Tech.

(SEM. VII) THEORY EXAMINATION 2011-12

TOTAL QUALITY MANAGEMENT (TQM)

Time : 3 Hours *Total Marks : 100*

Note :– Attempt **all** questions. Marks allotted are indicated against every part of each question.

1. Attempt any two parts of the following :

(a) (i) Discuss the journey of quality program from "inspection and testing" era to today's most merdern era. **(7)**

(ii) Explain term "TQM". **(3)**

(b) (i) Enlist different methods to evaluate supplies. Explain any one in detail. **(6)**

(ii) Explain how to assess the quality in sales and services. **(4)**

(c) (i) What do you mean by capacity of a supplier ? What are the different measure to assess it ? **(3+4)**

(ii) What do you mean by warranty and guarantee ? How are they being analysed and set ? **(3)**

2. Attempt any two parts of the following :

(a) (i) What do you mean by quality loss function ? How does it explain the effect of quality and associated decisions on the life of common people as well as industrial personnel ? **(6)**

(ii) Working as an individual, determine different obstacles to implement TQM in a manufacturing organization. **(4)**

(b) What are different types of organizational structures ? Compare them on the basis of inventories, quality, production planning and control, set-up and throughput issues with suitable examples. **(10)**

(c) Discuss the different causes of operator errors and managerial approaches to overcome the same. **(10)**

3. Attempt any **two** parts of the following :

(a) (i) What do you mean by process capability index ? **(2)**
The specification from the manufacturing of a particular type of metal coating call for the temperature of the drying oven to be $380 \pm 15°F$. The company that is considering using coating run tests by taking a large number of reading about mean temperature setting was found to be 2.06°F. What is the process capability index ? **(4)**

(ii) Explain different situation that may appear in a control chart while ploting data of samples on control limits. **(4)**

(b) (i) Show relationship between sample and population. Also explain how this relation help us to develop control charts. **(4)**

(ii) What are α and β in relation to type I and type II error ? **(3)**

(iii) Standard deviation for three samples are 9.6, 10.2, 9.8. If all these three samples are drawn as single sample, what will be the standard deviation ? **(3)**

(c) The following table gives the average and range in Kg^0 for tensile tests on an improved plastic cord. The subgroup size is 4. Determine the trial control limits. If points are out of control, assume assignable causes and calculate revised limits and central line.

Subgroup Number	$\overline{X}$	R	Subgroup Number	$\overline{X}$	R
1	476	32	14	482	22
2	466	24	15	506	23
3	484	32	16	496	23
4	466	26	17	478	25
5	470	24	18	484	24
6	494	24	19	506	23
7	486	28	20	476	25
8	496	23	21	485	29
9	488	24	22	490	25
10	482	26	23	463	22
11	498	25	24	469	27
12	464	24	25	474	22
13	484	24			

(10)

4. Attempt any **two** parts of the following :

(a) Explain :

(i) Fault isolation and self diagnostics;

(ii) Parts standardization and interchangeability;

(iii) Modularization and accessibility ; and

(iv) Repair and /or replacement. **(2.5×4)**

(b) A component has the following linear hazard rate, where t is in years :

$\lambda(t) = 0.4\ t, t \geq 0$

(i) Find R(t) and determine the probability of component failing with in the first month of its operation.

(ii) What is design life if a reliability of 0.95 is desired ?

(2×5)

(c) (i) What do you mean by orthogonal array ? Explain its properties.

(ii) What is the concept of JIT ? Explain its genesis.

(iii) What do you mean by Six Sigma ? Explain how six sigma is different from TQM. **(10)**

5. Attempt any **four** parts of the following : **(5×4)**

Explain :

(i) MTTF and MTBF, with example.

(ii) Explain quality planning.

(iii) What do you mean by empowerment ? How does job enlargement and job enrichment improves quality ?

(iv) What is the role of value engineering in evaluating design to improve quality ?

(v) Explain continuous improvement and innovation.

(vi) Explain internal and external customers in relation to ISO 9000.