

Total No. of printed pages = 3

**BBA 18150 E 7**

Roll No. of candidate

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1912 )

2021

ANKA HALKAWAPARA,  
KOLKATA 700017

**B.B.A. End-Term Examination**

**QUALITY CONTROL AND MANAGEMENT**

**(New Regulation)**

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer question No. 1 and any *four* from the rest.

1. Answer the following (MCQ/ Fill in the blanks) : (10 × 1 = 10)
- (i) What do QA and QC stand for?
- (a) Quality Assurance and Queuing Control  
(b) Quality Adjustment and Quality Completion  
(c) Quality Assurance and Quality Control  
(d) Quality Adjustment and Queuing Control
- (ii) What is QA?
- (a) What is the measurement of degree to which a product satisfies the need  
(b) Any systematic process used to ensure quality in the process  
(c) Process of identifying defects  
(d) It is a corrective tool
- (iii) Control limits are \_\_\_\_\_
- (a) Limits defined by customers  
(b) Limits driven by the natural variability of the process  
(c) Limits driven by the inherent variability of the process  
(d) Statistical limits .

[Turn over

- (iv) The natural variability of the process is measured by \_\_\_\_\_
- Process mean
  - Sample standard deviation
  - Process standard deviation
  - Sample mean
- (v) A six sigma process has defect level below \_\_\_\_\_ defects per million opportunities
- 3.4
  - 4.5
  - 5.6
  - 6.7
- (vi) The plan-do-check-Act (PDCA) model is also known as
- Ishikawa cycle
  - Juran Cycle
  - Motorola cycle
  - Shewart cycle
- (vii) The type of variation that is caused by factors outside a system is called
- Common cause variation
  - Input/Output
  - Processes
  - Special cause variation
- (viii) The chart used to monitor attributes is
- Range chart
  - Mean chart
  - P-Chart
  - All of the above
- (ix) Central tendency of a process is monitored in
- Range chart
  - Mean chart
  - P-chart
  - C-chart
- (x) The dividing lines between random and non random deviations from mean of the distribution are known as
- Upper control limit
  - Lower control limit
  - Control limits
  - Two sigma limits
2. (a) Define Quality. Discuss the basic cost of poor quality. (3+4)
- (b) Discuss the concept of Total Quality Management. (8)
3. (a) What is Kaizen? How it is different from innovation? (4+3)
- (b) Distinguish between assignable and common causes of variation. Why is this distinction important in quality control? (4+4)



4. (a) What is the meaning of process capability ratio? Explain  $C_p$  and  $C_{pK}$  indices. (4+4)
- (b) What do you mean by Type I and Type II errors? (7)
5. (a) Briefly discuss contribution of Deming and Juran towards quality. (4+4)
- (b) Discuss Single sampling Plan and Double Sampling Plan. (7)
6. Briefly discuss any *three* from the following. (5+5+5)
- (a) Histogram
- (b) Pareto Chart
- (c) Ishikawa Diagram
- (d) Check sheet

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7. (a) Below table refers to data on visual defects found in the inspection of the first 10 samples of size 400. Use the data to obtain upper and lower control limits for percentage defectives in samples of size 400. Draw an np-chart. (8)

Table: Data showing number of non-conformities.

1	2	3	4	5	6	7	8	9	10
17	15	14	26	09	04	19	12	09	15

- (b) Surface defects have been counted on 10 rectangular steel plates and the data are shown in table below. Draw a C-chart for non-conformities using this data. (7)

Sheet Number	1	2	3	4	5	6	7	8	9	10
No. of defects	2	3	1	4	4	0	2	1	4	2