

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA – SEMESTER 4 – EXAMINATION – SUMMER 2019

Subject Code: 3549273

Date: 08/05/2019

Subject Name: Six Sigma and Lean Manufacturing

Time: 10:30 AM To 01:30 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** Briefly discuss the following: **14**
- (a) Process capability
 - (b) Value of Six Sigma
 - (c) DPMO
 - (d) Project storyboard
 - (e) Tools of lean manufacturing
 - (f) Process mapping
 - (g) Benefits of 5s
- Q.2** (a) Discuss FMEA process briefly. **07**
- (b) Which activities are required to be done in defining phase of six sigma project? Explain. **07**
- OR**
- (b) A fast food restaurant wants to improve the service quality with the help of six sigma. As a management consultant guide the firm for improvement. **07**
- Q.3** (a) What are the 5 steps of 5S? How w a company can improve its operations by 5s principles? **07**
- (b) How can a service organization develop Standard Operating Procedures (SOPs)? Discuss in relation with a software development company. **07**
- OR**
- Q.3** (a) How can a firm gain competitive advantage by utilizing six sigma and lean manufacturing concept? **07**
- (b) Depict your understanding for Force field analysis and Risk Priority Number (RPN). **07**
- Q.4** (a) Discuss the analysis phase of six sigma project. **07**
- (b) Risk assessment is very crucial in six sigma project implementation. Discuss with real life example. **07**
- OR**
- Q.4** (a) What is DMAIC process? For which situation this concept is more suitable? **07**
- (b) Depict your understanding for process performance v/s specification. **07**

- Q.5** BC corporation, a manufacturer of heavy trucks had a long, sad and bitter history of employee relations. Engineers and technicians dominated the culture. One of the company's assembly plant devoted major resources to statistical process control. An entire department staffed with engineers justified its existence by keeping control charts. The engineers collected and stored data on a computer and posted the charts in every production department once each week. They also posted lists of problems and defects attributable to each department. Another department kept itself busy with "work redesign" and "assembly line balancing". The plant was highly product focused. Material moved smoothly from one operation to the next. Subassemblies flowed into assemblies like the tributaries of a river, all moving towards the final assembly line. Despite this effort, quality was mediocre at best. BC corporation devoted more factory space to rework and repair operations than to the original assembly. The individual and social aspects of the system were largely ignored. People lacked interpersonal skills, common goals and trust and they could not hope to attain these qualities under the existing power structure and reward system. **14**

Summarize the case and answer the following questions:

- A. Quality management is always critical for all the organizations. How six sigma will help the firm in maintaining quality?
- B. Do you think that the system developed by the firm is good? Support your answer with reasons.

OR

- A. Comment on the human resource management of BC corporation
- B. If you take over as CEO of this firm, what changes would you like to make? How would you begin?
