Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

Online End Semester Examination – Dec, 2020

Program: MBA (LSCM) **Semester: III**
Subject/Course: TQM & Six Sigma **Max. Marks: 100**
Course Code: LSCM 8011 **Duration: 03 Hours**

SECTION A

1. **Each Question will carry 5 Marks**
2. **Instruction: Complete the statement / Select the correct answer(s)**

Q.No		COs
1	Mention five process mapping tools- _____, _____, _____, _____ and _____.	CO 1
2	From the following options select the new planning tools; a. Affinity diagram b. Pareto chart c. Matrix diagram d. Control charts e. Process decision program chart (PDPC).	CO 1
3	Mention any five dimensions of defining product quality _____, _____, _____, _____ and _____.	CO 2
4	Select the benchmarking type(s) that is/are not correctly matched; a. Internal - departments within the business b. Competitor - within the same industry sector c. Functional - same function across all industry fields d. Generic - with industry having same operational strategies	CO 3
5	Mention any five tools for six sigma and quality improvement - _____, _____, _____, _____ and _____.	CO 4
6	Write the four types of cost of quality - _____, _____, _____ and _____.	CO 3

SECTION B

1. **Each Question will carry 10 Marks**
2. **Instruction: Write short / brief notes**

7	Discuss in detail about SERQUAL model and mention all the gaps involved.	CO 4
8	Explain how total quality management is different from the traditional approach of quality improvement. Also mention advantages and disadvantages of TQM.	CO 2
9	Discuss the quality loss concept given by Taguchi. Company XYZ received an average of 16 complaints per month last year. In November they received 20 complaints. Management sets an acceptable level (tolerance) at 2. It	CO 2

	costs the company $20 directly per complaint to correct the problems. They determined the cost in lost sales to be $50. Using Taguchi's loss function calculate the loss in the month of December.	
10	Discuss each phase of DMAIC methodology of Six Sigma.	CO 3
11	Explain the origins of ISO 9000 and TQM. How are they different?	CO 1

SECTION C

1. **Each Question will carry 20 Marks**
2. **Instruction: Write long answer.**

12	Bharti Tele-ventures is one of India's leading private sector telecom operators. Its cellular business, Airtel, is a leading mobile telephony brand. Like any telecom organization, Bharti considers information technology as a key business enabler. According to Amrita Gangotra, vice-president of Information Technology at Bharti, IT works as a support system as well as a key business driver. The company has a wide area network (WAN) in place with a mix of leased lines and E1 and E3 lines. The company extends different applications to its dealers and partners through its extranet. The company also has procured a range of high-end servers from Sun and HP. The company also has a storage area network (SAN) in place because its daily storage requirements are in tetrabytes. The main data centre is located in Gurgaon, Haryana. Bharti has procured billing, fraud management, revenue assurance and data warehousing software. **The Case for Customer Relationship Management (CRM)** During the initial stages of its operations, the company's systems were run manually. Only 40 per cent of customer issues were getting resolved. The company decided to equip itself with tools that would help in resolving 90 per cent of its customer issues. The company decided to opt for a CRM solution to manage customer expectations and provide them with innovative products and services. **Oracle CRM Platform** Bharti wanted to fulfill its vision of providing the same quality of services anywhere and at any time. The company was particular that its customers should get the same quality of service no matter which of its call centres he or she contacts. It evaluated many options before choosing its centralized CRM tool. The factors considered were proper workflow automation, facilitation of knowledge sharing and integration with the billing system. After a thorough evaluation exercise, it decided to go ahead with the Oracle CRM platform. **Rolling Out** After the company started its operations in Delhi, it acquired many circles and sought new licenses in other circles. The CRM tool was implemented immediately whenever it obtained a new license. However, the company had to put in place a phased migration strategy in the acquired circles, which had an existing subscriber base. The migration had to be done in such a manner that the existing customer base did not suffer. The migration was completed in a phased manner by the first quarter of 2004. The biggest challenge for Bharti was to have a unified process in place. They also faced the challenge of imparting training. The company was successfully able to overcome the technical difficulties that it	CO 4

faced during implementation.

The CRM strategy at Bharti revolves around two aspects—operational CRM and analytical CRM. Operational CRM revolves around improving the workflow of call centres and helping them in their day-to-day activities. Analytical CRM provides staff with the required information on customers and is used for business development. The company has successfully used its CRM solution to provide products tailor-made to the needs of its customers. Thus, customers receive more value for money. Customers now have access to different schemes and services depending on airtime usage. Bharti has also managed to segregate its workflow with the help of the CRM tool.

Questions;

a) What were the challenges faced by Bharti in its CRM implementation process?
b) Explain the various benefit received by Bharti after implementing CRM.

OR

In a manufacturing industry the plate thickness is one of the important CTQ factor. In Analyze phase the quality control team collected 10 sets of plate with a subgroup size of 4. The data of thickness samples is recorded as follows.

Samples	Subgroups			
	1	**2**	**3**	**4**
1	44	26	24	34
2	50	48	51	43
3	32	28	26	22
4	52	55	56	44
5	16	16	21	26
6	36	36	35	31
7	21	22	18	21
8	29	21	23	22
9	26	46	44	14
10	24	22	22	44

Use this information to construct $\bar{X}$- Chart and determine whether the process is in control. (The value of A_2 in the case of four observations is 0.73).

ANSWERS