Q. Code: 165406

Reg. No. | | | | | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2024

Sixth Semester

BT18603 – TOTAL QUALITY MANAGEMENT FOR BIOTECHNOLOGISTS

(Biotechnology)

(Regulation 2018 / 2018A)

TIME: 3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Illustrate the fundamental principles and practices of quality and performance excellence.	**3**
CO 2	Examine the prominent philosophies of quality management, such as Deming and Juran, which provide a basis for today's quality and performance excellence.	**3**
CO 3	Compare statistical techniques and choose appropriate techniques for improving processes.	**3**
CO 4	Analyze the various tools and techniques for the elimination of wastage and reduction of defects.	**4**
CO 5	Apply the various quality systems in the implementation of Total quality management.	**3**

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Identify the different dimensions of product and service quality.	**1**	**2**
2.	Define the term 'Quality Cost'	**1**	**2**
3.	List the five steps involved in implementing the 5S methodology.	**2**	**2**
4.	Indicate the formula to calculate the Customer retention rate.	**2**	**2**
5.	Define Kaizen.	**3**	**2**
6.	Define benchmarking and give its importance in organizations.	**3**	**2**
7.	Differentiate control limits and specification limits.	**4**	**3**
8.	Assess the role of Quality circles in product quality.	**4**	**3**
9.	Name some important leadership traits.	**5**	**2**

10.	Brief out the purpose of quality auditing in the ISO 9000-2000 system.	**5**	**2**	

PART- B (5 x 14 = 70 Marks)

			Marks	CO	RBT LEVEL
11. (a)	Summarise the TQM principles and framework that an organization can adopt to improve its quality management practices.		**(14)**	**1**	**2**
	(OR)				
(b)	Indicate the various components of the cost of quality with the interrelationship among them in minimizing the total cost of quality.		**(14)**	**1**	**2**
12. (a)	Describe the PDCA cycle and its role in continuous process improvement in an organization.		**(14)**	**2**	**3**
	(OR)				
(b)	Compare the different types of suppliers partnering and explain the process of supplier selection with the criteria in evaluating potential suppliers.		**(14)**	**2**	**3**
13. (a)	Compare the different traditional management tools and analyse their suitability for different industries		**(14)**	**3**	**3**
	(OR)				
(b)	Develop a suitable type of FMEA process for a vaccine manufacturing unit and describe the various stages involved in the process.		**(14)**	**3**	**3**
14. (a)	Define Total Productive Maintenance (TPM) and explain its key concepts, including the eight pillars of TPM.		**(14)**	**4**	**3**
	(OR)				
(b)	Discuss the steps involved in BPR and the challenges organizations may face when implementing BPR initiatives.		**(14)**	**4**	**3**
15. (a)	**(i)**	Explain the role of a quality council in promoting quality management practices within an organization.	**(7)**	**5**	**3**
	(ii)	Discuss the importance of leadership and employee involvement in achieving quality objectives.	**(7)**		

(OR)

(b)	**(i)**	Outline the key concepts and requirements for ISO 14000 certification.	**(7)**	**5**	**3**
	(ii)	Explain how organizations can benefit from implementing ISO 14000	**(7)**		

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Discuss each of Deming's 14 points and explain how they can be applied in modern organizations to improve quality and efficiency.	**(10)**	**1**	**4**

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