



UNIVERSITI KUALA LUMPUR
ROYAL COLLEGE OF MEDICINE PERAK

FINAL EXAMINATION
MARCH 2026 SEMESTER

COURSE CODE : RCB31303
COURSE NAME : TOTAL QUALITY MANAGEMENT
PROGRAMME NAME : BACHELOR IN PHARMACEUTICAL TECHNOLOGY
(HONOURS)
DATE : 22 JUNE 2026
TIME : 2.30 PM – 4.30 PM
DURATION : 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read **CAREFULLY** the instructions given in the question paper.
2. This question paper has information printed on both sides of the paper.
3. This question paper consists of **TWO (2)** sections; Section A and Section B.
4. Answer **ALL** questions in Section A. For Section B, answer **THREE (3)** questions **WITH AT LEAST ONE (1)** question from question 3 or question 4.
5. Please write your answers on the OMR answer script and answer booklet provided.
6. Answer all questions in English language **ONLY**.

THERE ARE 11 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 40 marks)**I) MULTIPLE CHOICE QUESTIONS (20 marks)****INSTRUCTION: Answer ALL questions.****Use the OMR sheet provided.**

1. Identify the dimension of quality referring to the drug product expiry date.
 - A. Aesthetic
 - B. Reliability
 - C. Durability
 - D. Performance
 - E. Reputation

2. A patient is prescribed a combination drug product that, in addition to its primary therapeutic effect, also includes added benefits such as extended-release formulation and improved taste for better compliance. The doctor explains these additional attributes to the patient.
Which dimension of quality is being referred to?
 - A. Features
 - B. Aesthetic
 - C. Durability
 - D. Performance
 - E. Reliability

3. Identify the principle of Total Quality Management (TQM) that refers to the act of changing production process to reduce product variations.
 - A. Employee empowerment
 - B. Continuous improvement
 - C. Customer focus
 - D. Leadership and communication
 - E. Factual decision making

4. Choose the **CORRECT** concepts of TQM.
- I. Involvement of all levels of people
 - II. Customer centered
 - III. Beneficial relationship with supplier
 - IV. Process approach management
- A. I and II
B. I and III
C. I, II, and III
D. II, III, and IV
E. I, II, III, and IV
5. Choose the main purposes of quality improvement.
- I. Reduce rework
 - II. Greater uniformity of product
 - III. Increase output with increased cost
 - IV. Prevent mistake
- A. I and III
B. I and IV
C. I, II, and IV
D. II, III, and IV
E. I, II, III, and IV
6. Identify the attributes of those who manage conflicts through a win-win perspective.
- I. Firm
 - II. Integrity
 - III. Maturity
 - IV. Abundance mentality
- A. I and II
B. I and III
C. III and IV
D. II, III, and IV
E. I, II, III, and IV

7. Effective mentors support team members by _____.
- I. embedding the organization's culture within them
 - II. building their competency for their jobs
 - III. building character
 - IV. teaching them how to get things done in the organization
- A. I and II
 - B. III and IV
 - C. I, II, and III
 - D. II, III, and IV
 - E. I, II, III, and IV
8. Which of the following represents the concern of an organization has for its employees, customers, and investors?
- A. Beliefs
 - B. Culture
 - C. Climate
 - D. Values
 - E. Productivity
9. Which of the following are examples of "know yourself" from the leadership attributes?
- I. Developing morale of the team
 - II. Coordinating and evaluating the team activity
 - III. Knowing your character strengths
 - IV. Knowledge and skills
- A. I and II
 - B. II and III
 - C. III and IV
 - D. I, II, and III
 - E. II, III, and IV

10. Identify the statements that correctly describe the nature of culture.
- I. Culture stems from long-standing formal and informal systems and rules.
 - II. Culture emerges from enduring traditions and customs.
 - III. Culture is a short-term construct shaped by current leadership.
 - IV. Culture reflects temporary values and beliefs that define an organization's identity.
- A. I and II
B. II and III
C. III and IV
D. I, II, and III
E. I, II, III, and IV
11. Identify the traits that best represent effective teamwork.
- I. Honesty and integrity
 - II. Selflessness
 - III. Independence
 - IV. Enthusiasm
- A. I and II
B. II and III
C. III and IV
D. I, II, and IV
E. I, II, III, and IV

12. Select the statements that accurately reflect the principles of visionary leadership.
- I. Senior leaders of an organization should define direction, foster customer focus, and establish clear values.
 - II. Organizational direction, values, and expectations should consider and balance the needs of all stakeholders.
 - III. Leaders should delegate the creation of strategies, systems, and methods entirely to middle management.
 - IV. Values and strategies should serve as a guide for all organizational actions and decisions.
- A. I and III
 - B. I and IV
 - C. I, II, and IV
 - D. II, III, and IV
 - E. I, II, III, and IV
13. Choose statements on how traps can serve as root causes of unethical behavior.
- I. Depending on their context, traps may be benign.
 - II. Traps can even exert a positive influence on our lives.
 - III. Empathy is considered cornerstone of good ethics but can overpower the sense of fairness.
 - IV. Traps can make people become blind to other behavioral options.
- A. I and III
 - B. II and IV
 - C. III and IV
 - D. I, III, and IV
 - E. I, II, III, and IV

14. Select the **CORRECT** statements about problem solving method.
- I. The best solution is the one that satisfies everyone's interest.
 - II. Listen to one another with the goal of understanding.
 - III. Omit pinpointing the issue's underlying causes.
 - IV. It is not compulsory to find the root cause of problem.
- A. I and II
B. III and IV
C. II and IV
D. I, II, and IV
E. I, II, III, and IV
15. Identify the approach of Six Sigma.
- I. Defined
 - II. Unquantified
 - III. Analyzed
 - IV. Improved
- A. I and II
B. II and III
C. III and IV
D. I, III, and IV
E. I, II, III, and IV
16. Select the main requirements for continuous process improvement.
- I. Formalized
 - II. Adaptive
 - III. Informal
 - IV. Rigid
- A. I and II
B. I and III
C. II and III
D. I, II, and III
E. I, II, III, and IV

17. Choose the principles to ensure the quality of products and services.
- I. The supplier is responsible for providing the quality that will satisfy the customer and submitting necessary data upon the customer's request.
 - II. The customer and supplier should work interdependently to achieve quality.
 - III. Both customer and supplier should not enter a non-adversarial contract with respect to quality.
 - IV. Only suppliers are responsible for quality control.
- A. I and II
 - B. II and III
 - C. III and IV
 - D. I, II, and III
 - E. I, II, III, and IV
18. Select the **CORRECT** statement about partnering.
- A. Benefits from partnering include improved quality, increased efficiency, and opportunity for continuous improvement.
 - B. The relationship is not based on each party's expectations and beliefs.
 - C. By partnering, the cost of purchasing raw materials, components, and services will be increased.
 - D. Only the suppliers agree on the end-user's satisfaction.
 - E. Two or more businesses form a short-term partnership to accomplish certain business goals and objectives.
19. Identify the **CORRECT** statements regarding supplier.
- I. It consists of the organization's customers.
 - II. It supplies the financial and human resources required by the company.
 - III. It supplies raw materials, components, and systems.
 - IV. It provides other goods and services.
- A. I and II
 - B. II and III
 - C. III and IV
 - D. I, II, and III
 - E. I, II, III, and IV

20. Choose the **CORRECT** statements about just-in-time concept.
- I. Inventory related costs are kept to a minimum.
 - II. Procurement lots are in large volume.
 - III. Raw materials and components reach the production operations in small quantities when needed.
 - IV. The supplier must drastically reduce setup time.
- A. I and II
 - B. II and III
 - C. III and IV
 - D. I, III, and IV
 - E. I, II, III, and IV

II) SHORT ANSWER QUESTIONS (20 marks)**INSTRUCTION: Answer ALL questions in the answer booklet provided.****Each question carries TWO (2) marks.**

1. Describe **FOUR (4)** common barriers in implementing TQM.
2. State **FOUR (4)** potential causes of manufacturing failures based on cause-and-effect diagram.
3. State **TWO (2)** key characteristics shown by effective quality leaders.
4. List **TWO (2)** examples of ways leaders can impact on the working environment.
5. Identify **TWO (2)** key principles of empowering employees.
6. List **FOUR (4)** habits commonly practiced by highly effective leaders.
7. State **FOUR (4)** roles senior leaders play in promoting conduct and engagement within an organization.
8. Define defects in the context of lean manufacturing.
9. List **TWO (2)** criteria used for supplier quality certification.
10. State **FOUR (4)** criteria an organization may use to assess potential suppliers.

SECTION B: MODIFIED ESSAY QUESTIONS (Total: 60 marks)

INSTRUCTION: This section consists of **FOUR (4)** questions.

You are required to answer **THREE (3)** questions in the answer booklet provided.

Question 1 and 2 are COMPULSORY.

Answer EITHER Question 3 OR 4.

Question 1

- (a) Explain **FIVE (5)** strategies to implement TQM in a company. (10 marks)
- (b) Explain Juran quality trilogy with an appropriate illustration. (10 marks)

Question 2

- (a) Explain reengineering project guidelines. (10 marks)
- (b) A pharmaceutical company is evaluating the quality performance of a tablet manufacturing process. The assay specification limits are 90% (LSL) and 110% (USL). A sample of 5 batches produced over time shows the following assay (%) results: 92, 95, 97, 93, 96. Assume the data is normally distributed. Calculate Cpk, Ppk and stability index. d_2 constant is 1.128 (10 marks)

Question 3

- (a) Explain Kano model with an appropriate illustration. (10 marks)
- (b) Explain Deming's points 6 and 7. (10 marks)

Question 4

- (a) Explain **FIVE (5)** types of customer loyalty. (10 marks)
- (b) Explain Deming's points 12 and 13. (10 marks)

END OF EXAMINATION PAPER