BINDURA UNIVERSITY OF SCIENCE EDUCATION

CHEMISTRY DEPARTMENT

BACHELOR OF SCIENCE IN CHEMICAL TECHNOLOGY PART (II)

CH206: QUALITY MANAGEMENT SYSTEMS   APR 2025

2 HOURS

ANSWER QUESTION 1 AND FOUR (4) OTHER QUESTIONS TWO (2) FROM EACH OF THE SECTIONS "A" AND "B". EACH QUESTION CARRIES 20 MARKS
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1.   Discuss Edward Deming and Joseph Juran's contribution to quality management   [20 marks]

SECTION A : ANSWER <u>TWO</u> QUESTIONS FROM THIS SECTION

2.   The five approaches to quality include global or transcendent, product based, user-based, manufacturing-based, and value-based approaches. Give a detailed discussion of each approach.   [20 marks]

3.   (a)   Discuss the term quality control and the activities associated with it.   [10 marks]

      (b)   Describe the traditional costs of view.   [10 marks]

4.   (a)   Discuss the pillars of Good Laboratory Practices and Good Organisation.   [12 marks]

      (b)   Describe the basic requirements of Good Manufacturing Practices.   [8 marks]

SECTION B : ANSWER <u>TWO</u> QUESTIONS FROM THIS SECTION

5.   (a)   Distinguish between measurand and measurement   [4 marks]

      (b)   State which values need to be compared with inorder to achieve traceability   [6 marks]

      (c)   Outline all that is necessary in order to determine the traceability of a given analytical procedure   [10 marks]

6. (a) Describe the five approaches for uncertainty estimation.

[10 marks]

(b) Illustrate using an Ishikawa diagram, the procedure of preparation of standard solution. [10 marks]

7. (a) The validation process requires the use of various tools. List six tools that may be used. [6 marks]

(b) Distinguish between Limit of detection (LOD) and Method detection limit (MDL) [4 marks]

(c) Graphically illustrate interpretation of linearity, measuring range, limit of detection, limit of quantitation, and sensitivity. [10 marks]

END OF PAPER