

W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2020/2021**

**END OF SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY**

**AFS 2303: INSTRUMENTAL METHODS IN FOOD ANALYSIS**

**DATE: AUGUST 2021 TIME: 2 HOURS**

**SECTION A (30 MARKS)**

1. Briefly explain five factors that influence the choice of a method of analysis. (5 marks)
2. Differentiate between the following; (6 marks)
3. Reference standards and check samples
4. Instrument and a machine
5. Qualitative and Quantitative measurements
6. Normal phase columns and reverse phase columns
7. Gas Liquid phase chromatography and Gas solid Chromatography
8. Spectrophotometer and spectrophotometry
9. Explain the meaning of each of the following terms: (5 marks)
10. Limit of detection (LOD)
11. Limit of Quantification (LOQ)
12. Linear dynamic range
13. Beer Lambert’s law
14. Light
15. State the importance of each of the following in analysis of minerals using atomic absorption spectrophotometry. (4 marks)
16. Burner height adjustments
17. Flame smoothness
18. Background correction
19. Hollow cathode lamp
20. Define each of the following;
21. Chromatography (2 marks)
22. Partitioning or distribution coefficient (2 marks)
23. Retention time (1 mark)
24. Peak Resolution (1 mark)
25. Name with a brief explanation FOUR gel systems in electrophoresis. (4 marks)