TM244685Q

Reg. No :.....

Name :.....

MASTER'S DEGREE (C.S.S) EXAMINATION, MARCH 2024

2022 ADMISSIONS REGULAR

SEMESTER IV - M. Voc. Food Processing Technology

VFPT4E01TM20 - Bioanalysis and Instrumentation

Time : 3 Hours **Maximum Weight : 30**

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. State the effect of addition of an alkali to acidic buffer.
2. Define normality and identify the relationship between normality and molarity.
3. Identify the basic principle of differential centrifugation.
4. Differentiate between ultrafiltration and osmosis.
5. Identify the two types of columns used in gas chromatography.
6. Define the following terms a) Stationary phase b) Mobile phase
7. Recall electroendosmosis.
8. Identify the composition of polyacrylamide gel used in 2 D electrophoresis.
9. List some factors affecting the absorption spectrum of a chromophore.
10. Identify the primary difference between bathochromic and hypsochromic shifts.

Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. Identify the various ways in which concentration can be expressed.
12. Describe some applications of the concept of viscosity in biological system.
13. Draw a well labelled diagram of a rotational viscometer and describe the function of each part.
14. Identify the various types of rotors used in centrifuges.
15. Discuss about ion exchange chromatography,
16. Write a note on the detectors used in gas chromatography.
17. Explain about agarose gel electrophoresis.
18. Explain in detail about colorimeter.

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Explain in detail about types of centrifuge machines and centrifugal separations.
20. Draw a flow chart for the analysis by HPLC and explain in detail about each component.
21. Explain in detail about electrophoresis of proteins.
22. Discuss in detail about Nuclear Magnetic Resonance Spectroscopy.