

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
(For candidates admitted during the academic year 2016-17& thereafter)

**SUBJECT CODE: 16VF/VM/AT46**

**B.Voc. DEGREE EXAMINATION, APRIL 2021**  
**FOOD PROCESSING AND QUALITY CONTROL.**

**COURSE : MAJOR CORE**  
**PAPER : ANALYTICAL TECHNIQUES IN FOOD QUALITY ASSURANCE**  
**TIME : 90 MINUTES** **MAX. MARKS: 50 MARKS**

**SECTION – A**

**(20 X 1 = 20)**

**ANSWER ALL QUESTIONS:**

**I Choose the Correct answer:**

- Beer's law states that the intensity of light decreases with respect to \_\_\_\_\_  
a. Concentration b. Distance c. Composition d. Volume
- The unit of absorbance which can be derived from Beer Lambert's law \_\_\_\_\_  
a. L mol<sup>-1</sup> cm<sup>-1</sup> b. L gm<sup>-1</sup> cm<sup>-1</sup> c. Cm d. None of the above
- Chromatography is a physical method that is used to separate and analyse \_\_\_\_\_  
a. Simple mixtures b. Complex mixtures c. Viscous mixtures d. Metals
- In Flame emission photometers, the measurement of \_\_\_\_\_ is used for qualitative analysis.  
a. Colour b. Intensity c. Velocity d. Frequency
- Abbes refractometer is a \_\_\_\_\_ type of refractometer.  
a. Handheld b. Benchtop c. Traditional d. None of the above

**II Fill in the blanks:**

- The substance moisture exerts equilibrium vapour pressure equals to vapour pressure of liquid is \_\_\_\_\_
- Softener is used for removal of \_\_\_\_\_.
- The most widely used technique for determining the concentration of biochemical compounds is \_\_\_\_\_.
- Using Chromatogram as detector in Chromatography, a graph is obtained between \_\_\_\_\_ and time.
- Laminar flow burner used in Flame photometers is also known as \_\_\_\_\_

**III State whether True or False:**

11. Colorimeters are used in applications where great accuracy is required.
12. Chromatography cannot be used to purify volatile substances.
13. The stationary phase could be a viscous liquid coated over a surface of solid particles.
14. Phototubes are more sensitive than photovoltaic cells.
15. Sodium chloride has a higher water activity than sucrose.

**IV Answer in a sentence:**

16. Galvanometer
17. Monochromator
18. Carrier Gas
19. Specific Gravity
20. TDS

**SECTION – B****(6×3 = 18)****ANSWER ANY SIX QUESTIONS:**

21. Depict the process flow of flame photometer with a diagram
22. Difference between BOD and COD.
23. List out the importance of water in food processing
24. Explain the principle and applications of spectrophotometer.
25. How does water quality monitoring have an impact on food safety? Explain.
26. Give a block diagram for instrumentation and working of UV spectrophotometer
27. Explain the principle and applications of column chromatography
28. What is use of benchtop refractometer? Explain
29. Explain the procedure for estimation of moisture content
30. Explain the method used to estimate the hardness of water.

**SECTION – C****(2×6 =12)****ANSWER ANY TWO QUESTIONS:**

31. Give an experimental procedure for estimation of Vitamin A.
32. Explain the principle working and application of paper chromatography.
33. Explain the principle and instrumentation of fluorimetry and also give the procedure for estimation of thiamine.
34. Give in detail the principle and working of flame photometry and explain the procedure for estimation of sodium.