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

2023 ADMISSIONS REGULAR

M.VOC F.P.T SEMESTER III - GENERAL

VFPT3G07TM20 - Food Process Engineering

Time : 3 Hours   Maximum Weight : 30

Part A

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

1. State Perfect gas law.

2. 11.11 g of urea (NH_2CONH_2) was dissolved in 100 g of water. Calculate the molarity and molality of the solution. *Given N = 14, H = 1, C = 12, O = 16*

3. Comment on use of pumps in liquid transport system with example.

4. Recall the various types of pumps used in food plants.

5. Write the application of evaporation in food industry.

6. Comment on aseptic processing.

7. Comment on refrigeration load.

8. Recall the principles of refrigeration.

9. Point out the difference between reverse osmosis and ultrafiltration.

10. Recall the term centrifugation in food industry.

Part B

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

11. Derive the work done by an object in a closed system due to (a) gravitational forces (b) change in velocity (c) moving boundary

12. Give a note on (a) Centrifugal pumps (b)Air lift Pumps

13. Point out the differences between Newtonian and Non-Newtonian fluids.

14. Explain principle of convection in heat transfer.

15. Discuss how sterility is achieved in aseptic processing.

16. Point out the relevance of freezing time calculation.

17. Explain the various properties of frozen foods.

18. Explain the process of clarification.

Part C

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

19. Determine velocity of fluid by use of Venturimeter.

20. Illustrate the types and applications of evaporators.

21. Illustrate the working of a mechanical refrigeration system.

22. Discuss the mechanical operation of extrusion.