BSc DEGREE (CBCS) EXAMINATION, MARCH 2020

Sixth Semester

B.Sc Food Science & Quality Control Model III

Choice Based Core Course - FS6CBT27 - BASIC FOOD ENGINEERING

2017 Admission Onwards

B68037CB

Time: 3 Hours   Marks: 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Differentiate between kinetic energy and potential energy.

2. Explain the importance of fluid flow in food processing.

3. Differentiate between solid density, particle density and bulk density.

4. Differentiate between stagnation pressure and dyanamic pressure in fluid flow measurement.

5. Define Thermal conductivity of food with equation.

6. Differentiate between Steady state and unsteady-state heat transfer

7. Write about ribbon mixers.

8. Explain different factors affecting the power requirement of a mixer.

9. Write a brief note about size reduction of food particles.

10. Classify single screw extruders.

11. Define membrane separation. List out different types of membrane systems.

12. Define quick freezing. List out the advantages.

(10×2=20)

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain the seven base units.

14. Explain the continuity equation.

15. Explain the working of tubular heat exchanger with diagram.

16. Explain conductive heat transfer.

17. Write down the application of centrifugation in food processing.

18. Explain in deatil about solvent extraction.

19. Name the membrane separation process suitable for desalting process. Give the reason.

20. Explain in detail about reverse osmosis.

21. Name the drying process suitable for milk powder. Give the reason.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Derive equation for velocity profile in liquid flowing under fully developed flow condition for laminar flow.

23. Classify heat exchanger and explain different heat exchangers with diagram.

24. Explain differen components of a refrigeration system.

25. Explain in detail about different types of evaporators used to obtain concentrated liquid products.

(2×15=30)