

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2023
(Fourth Semester)

Branch – **FOOD PROCESSING TECHNOLOGY**

DAIRY PROCESSING

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(5 x 1 = 5)

- 1 Casein exists only in milk and is found in the form of -----.
 (i) calcium chloride complex (ii) calcium caseinate phosphate complex
 (iii) albumin and globulin (iv) calcium insensitive caseinate complex

- 2 Standardization of milk refers to the adjustment of fat and SNF percentage of milk by to conform to the legal requirements.
 (i) Addition of water and cream (ii) Addition of whey protein and cream
 (iii) Addition of milk and cream (iv) All of the above

- 3 refers to a product obtained when butteroil, skim milk powder and water are combined in the correct proportions to yield fluid milk containing 3.0 % fat and 8.5 % solid not fat.
 (i) Reconstituted milk (ii) Toned milk
 (iii) Imitation milk (iv) Recombined milk

- 4 Overrun is usually defined as the volume of ice cream obtained in excess of the volume of the -----.
 (i) Ice cream mix (ii) Air
 (iii) Emulsifier (iv) Solid non fat

- 5 The system of cleaning and sanitization which does not require the daily dismantling of dairy equipment and the process in which the cleaning solution are used once at the lowest strength and discharged into the sewer at the end of each cycle is referred to as -----.
 (i) Out of place CIP system (ii) Single use CIP system
 (iii) Automated CIP system (iv) Reuse CIP system

SECTION - B (15 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks

(5 x 3 = 15)

- 6 a Describe density and specific gravity of milk as important physiochemical properties.
- OR
- b Write the gross composition of milk and its major constituents.

Cont...

- 7 a Explain filtration and clarification as important unit processing steps in the dairy industry.
OR
b Bring out the similarities and differences between toned, double toned and standardized milk.
- 8 a Describe the manufacture of flavored milk.
OR
b Prepare the process flow diagram for manufacture of evaporated milk.
- 9 a Classify cheese and give suitable examples.
OR
b Explain the Ghee manufacturing process.
- 10 a Diagrammatically represent a Tetra Pak and explain the properties of the various layers used in designing this packaging material.
OR
b State the reasons for a Quality control system in the Indian dairy industry.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Trace the role of the National Dairy Development Board on dairy development in India.
OR
b Discuss any five common platform tests conducted on receipt of milk.
- 12 a Elucidate the objective, principle and process of pasteurization with its advantages and disadvantages.
OR
b Infer the role of homogenization in dairy processing and discuss the manufacture of homogenized milk.
- 13 a Develop a flow diagram for skimmed milk powder production and explain the various steps involved in this process.
OR
b Discuss the use of dairy byproduct utilization to prepare whey powder concentrate.
- 14 a Summarise the biochemical changes that occur during conversion of milk to yoghurt.
OR
b Outline the principle and process of cream manufacture.
- 15 a Highlight the novel trends in dairy product packaging.
OR
b Enumerate the hygiene and sanitation requirements to be maintained in a dairy plant.

Z-Z-Z

END