

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2023
(Third Semester)

Branch – FOOD PROCESSING TECHNOLOGY

UNIT OPERATIONS IN FOOD PROCESSING

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 Mode of heat without movement of molecules is called -----
(i) Sublimation (ii) Irradiation
(iii) Conduction (iv) Convection
- 2 In sugar manufacturing the ----- effect evaporator is used.
(i) Multiple (ii) Single
(iii) Climbing film (iv) Falling film
- 3 The resultant force caused by the pressure loading of a liquid acting on submerged surface is -----
(i) Buoyant (ii) Gravitational
(iii) Archimedes (iv) Atmospheric
- 4 Addition of new component to generate new boiling point to improve separation is called ----- distillation
(i) Volatile (ii) Azeotropic
(iii) Liquid (iv) Steam
- 5 Porosity of filter cake ----- with cake height.
(i) Expands (ii) Decreases
(iii) Increases (iv) Permeates

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Bring out the modes of heat transfer with examples.
OR
b Classify refrigerants with examples.
- 7 a Differentiate between short tube and long tube evaporators.
OR
b List the factors affecting crystal growth during crystallization.
- 8 a Define Pascal's law and explain how it is applied in pressure measurement.
OR
b Illustrate the principle and working of a venturimeter.

Cont...

- 9 a Interpret the working of a basket extractor.
OR
b Give the pros and cons of vacuum distillation.
- 10 a Describe the types of filter media with examples
OR
b Compose notes on centrifugal separation.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11a Elaborate on cross flow and counter flow heat exchangers.
OR
b Elucidate on the principle and components of vapour compression system.
- 12 a Evaluate the working of multiple effect evaporator with neat diagram.
OR
b Assess the principle and working of Swenson –Walker crystallization equipment.
- 13 a Discuss the physical properties of fluids.
OR
b Explicate on the principle, working and application of a pitot tube
- 14 a Evaluate the mixers used for liquids in food industries.
OR
b Highlight the operational process, advantages & disadvantages of steam distillation.
- 15 a Demonstrate the construction and operation of rotary vacuum filter with neat diagram.
OR
b Define Stoke's law. Expound on the sedimentation of particles in cyclone separator.

Z-Z-Z

END