

Total No. of Questions :10]

SEAT No. :

P3998

[4959]-1186

[Total No. of Pages :3

B.E. (Chemical Engineering)

FOOD TECHNOLOGY

(2012 Pattern) (Elective - III) (409351)

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Assume suitable data, if necessary.*
- 2) *Neat figures to the right indicate full marks.*
- 3) *Use of scientific calculator is allowed.*
- 4) *Attempt Q.1 or 2, Q.3 or 4, Q.5 or 6, Q.7 or 8 and Q.9 or 10.*

- Q1)** a) Explain the theory of evaporation alongwith its equipment used in food processing. Also explain how it affects on food. [5]
- b) Explain how following techniques are used in food preservation with suitable examples. [5]
- i) Frying.
 - ii) Extrusion.

OR

- Q2)** a) Enlist and differentiate between dairy and non dairy products with suitable examples. [5]
- b) Write short note on. [5]
- i) Free Drying.
 - ii) Microwave heating.

- Q3)** a) Enlist and explain various fruit and vegetable storage techniques. Explain any two of them in detail. [5]
- b) Enlist various chemical, physical and biological properties of fruit and vegetable. Explain any two of them. [5]

OR

P.T.O.

- Q4)** a) What are various tests to be performed on raw milk before its approval for further processing? [3]
b) Enlist various fruit and vegetable products. [2]
c) Explain theory and process of chakka and shrikhand making. [5]

- Q5)** a) Define and explain in short following size reduction laws. [10]
i) Bonds law.
ii) Rittingers law.
iii) Kick's law.
b) Explain construction and working of [8]
i) Ball mill.
ii) Hammer mill.

OR

- Q6)** a) Enlist various size reduction equipment alongwith type of forces acting in them. Also mention at least three examples of each. [8]
b) Write short note on [10]
i) Baking.
ii) Roasting.

- Q7)** a) Enlist and explain in short various functions of packaging. [6]
b) What are various factors that influence the success of packaging in advertising the food products? [5]
c) Differentiate between shipping and retail containers. [5]

OR

- Q8)** a) Explain how following factors cause deterioration in food products during its storage. [8]
i) Light.
ii) Heat.
iii) Moisture and gasses.

- b) Write short note on following food packaging materials. [8]
- i) Textiles and wood.
 - ii) Metal.

- Q9)** a) Explain importance and objectives of quality control in food processing. [6]
- b) Write short note on. [10]
- i) HACCP in food processing.
 - ii) Importance of Safety, good manufacturing practice and quality assurance in food processing.

OR

- Q10)**a) Explain Hurdle technology in detail with suitable examples. [8]
- b) Enlist and explain various physical and physico - chemical hurdles in food processing. [8]

