



Part B

1. a) State the major types of casein proteins in milk.

.....
.....
.....
.....

(04 marks)

b) Give commercial usage of following enzymes

i. Lactase-

.....

ii. Lipases-

iii. Chymosin-

iv. Polyphenol oxidase-

(08 marks)

c) State three genetically engineered enzymes in food industry.

.....
.....
.....

(03 marks)

2. a) Draw possible structures for the following shorthand notations and briefly explain the characteristics of respective fatty acids.

i. 12:0 -

.....
.....
.....
.....
.....
.....
.....
.....

(05 marks)

ii. 16:1 ω7 -

.....
.....
.....
.....
.....
.....
.....
.....

(05 marks)

lor
°C.
°C.
the
s.
20 marks)



18:2(9C,12C) -

.....

.....

.....

.....

.....

.....

.....

(05 marks)

b) A titration was carried out for two solutions with and without 10 g of X_1 food sample against 0.15 N HCl. At the end point, 6 mL and 12 mL of HCl were required to neutralize the solutions with and without the X_1 food sample respectively. Calculate the saponification value of the X_1 food sample?

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(05 marks)

c) A student found that 20 mL of 0.2 N KOH is required to neutralize free fatty acids in 10 g of X_1 food sample.

i. Calculate the acid value of the food sample X_1

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(05 marks)

ii. Calculate the percentage of glycerin in the food sample X_1

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

(15 marks)

3. a) State the difference between simple carbohydrates and complex carbohydrates.

.....
.....
.....
.....
.....

(05 marks)

b) Draw the structure of maltose and label where the anomeric C is located.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

(10 marks)

c) State two differences between amylose and amylopectene.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

(10 marks)

