

**BV(2/CBCS) FPM/FPT-VC-2026/22**

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**FOOD PROCESSING MANAGEMENT /  
FOOD PROCESSING TECHNOLOGY**

**QP : Plant Baker**

Paper : FPM/FPT-VC-2026

**( Food Chemistry )**

*Full Marks : 60*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

**1. Answer the following as directed : 1×7=7**

Choose the correct answer :

(a) Oleic acid can be transferred into its  
trans forms upon

(i) cooling

(ii) heating

(iii) solidification

(iv) hydrogenation

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(b) The basic compound involved in Maillard reaction is

- (i) fat and sugar
- (ii) sugar and vitamins
- (iii) sugar and amino acids
- (iv) fat and amino acids

Fill in the blanks :

(c) The example of one simple sugar is \_\_\_\_\_.

(d) The another name of vitamin C is \_\_\_\_\_.

(e) The bond that links amino acids to form protein is \_\_\_\_\_ bond.

(f) Cellulose is the example of \_\_\_\_\_ carbohydrate.

(g) The sugar present in milk is \_\_\_\_\_.

2. Very short answer-type questions :  $2 \times 4 = 8$

(a) What are the two types of water present in foods?

(b) Define water activity.

(c) What is hardness of water?

(d) What is the difference between the Maillard reaction and Caramelization?

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3. Short answer-type questions (any three) :

$5 \times 3 = 15$

(a) What are fatty acids? Write the difference between saturated and unsaturated fatty acids. Write two example of PUFA.

(b) Classify lipids. List the physical and chemical properties of lipids. What does iodine value of a fat indicate?

(c) What is protein? What are essential and non-essential amino acids? Give one example each. Write the common sources of protein for vegetarian and non-vegetarian people.

(d) Define enzyme. Write the functions of enzyme. Classify enzyme.

(e) What is moisture content of food? Write the two basis of determination of moisture content followed by their formula.

4. Essay-type questions (any three) :  $10 \times 3 = 30$

(a) Define carbohydrates. Classify them with proper definition and examples. Write down the differences between amylose and amylopectin with proper diagram.  $2+4+4=10$

- (b) Define vitamin. Classify vitamins and write their different food sources along with the deficiency diseases caused by those vitamins.  $2+2+6=10$
- (c) Write down the difference between reducing and non-reducing sugar. What is gelatinization and retrogradation? Write any three functions of carbohydrates.  $3+4+3=10$
- (d) What is mineral? Write down the functions of minerals and illustrate on any six minerals and their specialized functions.  $2+2+6=10$
- (e) What is omega-3 and omega-6 fatty acid? Give example with proper structure. Define rancidity and reversion with proper classification of rancidity.  $2+3+3+2=10$

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