B.Sc. (Part—III) Semester—VI Examination

6S : MICROBIOLOGY

(Industrial Fermentations Food Microbiology and Metabolism)

Time : Three Hours] [Maximum Marks : 80

Note :— (1) **All** questions are compulsory.

(2) Draw neat and labelled diagrams wherever necessary.

1. (a) Fill in the blanks :

(i) _____ invented the process of Pasteurization.

(ii) Full form of WSL _____.

(iii) EMP Pathway is also known as _____.

(iv) Cheddar Cheese is a _____ type of cheese. 2

(b) Choose the correct alternative :

(i) What is meant by SCP ?

(a) Social Cell Programme (b) Single Cell Protein

(c) Standard Cuid Procedure (d) None of these

(ii) The temperature for HTST method is :

(a) 62.8°C (b) 71.5°C

(c) 71.1°C (d) 50.4°C

(iii) Test performed for examination of milk :

(a) MBRT (b) CRT

(c) Coagulase (d) Ames Test

(iv) The end product of glycolysis is :

(a) Lactic acid (b) Citric acid

(c) Pyruvic acid (d) Acetic acid 2

(c) Answer the following in **one** sentence each :

(i) Define Fermentation

(ii) Define Molasses

(iii) Define antifoaming Agent

(iv) Define Canning. 4

2.	(a)	Define Industrial Microbiology and write its scope.	4
	(b)	Describe in brief Secondary Screening.	4
	(c)	What are ideal characteristics of production strain ?	4
		OR	
	(d)	Draw well labelled diagram of fermentor.	4
	(e)	Describe inoculum build up.	4
	(f)	Explain sterilization of fermentation medium.	4
3.	(a)	Explain the working of Fringe generator.	4
	(b)	Give some important industrial uses of citric acid.	4
	(c)	What is malt ? How it is prepared ?	4
		OR	
	(d)	Draw a flow-sheet diagram for industrial production of ethyl alcohol from Molasses.	4
	(e)	Give various types of Vinegar.	4
	(f)	Explain various defects of Wine.	4
4.	(a)	Draw flow-sheet diagram for Penicillin production.	4
	(b)	Define active dry yeast. How does it differ from compressed yeast ?	4
	(c)	Explain in brief Microbial production of Vit. B_{12}.	4
		OR	
	(d)	Give any six applications of amylase.	4
	(e)	Explain in brief recovery and purification of Penicillin.	4
	(f)	Describe in brief bacterial single cell protein.	4
5.		Explain in detail the manufacturing process of Milk Powder.	12
		OR	
		What is Pasteurization ? Describe in detail methods of Pasteurization process.	12
6.	(a)	Describe in brief food intoxication.	4
	(b)	Describe in brief Sauerkraut Production.	4
	(c)	Describe in brief preservation of foods by radiation.	4
		OR	
	(d)	What is botulism ? Describe in brief.	4
	(e)	Describe in brief production of Idli.	4
	(f)	Discuss in brief sources of food contamination.	4
7.		Describe in detail classification of enzymes by IUB system.	12
		OR	
		Discuss in detail the Tricarboxylic Acid Cycle (TCA).	12