GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2021
Microbial Technology & Food Biotechnology(Backlog)
FT604

TIME ALLOTTED: 3 HOURS **FULL MARKS: 70**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable

GROUP – A
(Multiple Choice Type Questions)

Answer any ***ten*** from the following, choosing the correct alternative of each question: **10×1=10**

			Marks	CO No
1.	(i)	Coliform bacteria are mainly a) Water borne b) Air borne c) Soil borne d) All of these	1	CO1
	(ii)	Coliform count is an indicator of a) Urine infection b) Malnutrition c) Protein deficiency d) Fecal contamination	1	CO1
	(iii)	Which one is not a food pathogen? a) Pediococcus acidilactici b) Staphylococcus aureas c) Campylobacter jejunii d) Salmonella typhi	1	CO1
	(iv)	Which one cannot be produced by fermentation? a) Lactate b) Acetate c) Tartarate d) Butyrate	1	CO2
	(v)	Yeast is used as a a) Leavening agent b) Baking agent c) Brewing agent d) All of these	1	CO2,CO3
	(vi)	Acetic acid production requires a) Aerobic condition b) Anaerobic condition c) Both d) None of these	1	CO2

vii)	Ethanol content is highest in a) Beer b) Vodka c) Rum d) Wine		1	CO2
viii)	Which one is not a non-distilled alcoholic beverage? a) Wine b) Rum c) Whisky d) Vodka		1	CO2
ix)	In beer fermentation diacetyl reduction takes place during a) Primary fermentation b) Secondary fermentation c) Conditioning d) Aging		1	CO2
x)	Saccharomyces uvarum is used for a) Whisky production b) Ale beer production c) Rum production d) None of these		1	CO2
xi)	The mineral essentially required for vitamin B12 synthesis is a) Manganese b) Zinc c) Magnesium d) None of these		1	CO3
xii)	Production of RNA occurs through a) Transduction b) Transamination c) Transformation d) Transcription			CO4

GROUP – B
(Short Answer Type Questions)

Answer any ***three*** from the following: **3×5=15**

			Marks	**CO No**
2.		What is the significance of vitamins in our body?	5	CO2,CO3
3.		Simply describe the coliform test.	5	CO1
4.	(a)	What is vinegar?	2	CO2
	(b)	What are the differences between acetic acid and lactic acid?	3	CO2,CO3
5.		Discuss about the use of lactic acid.	5	CO3
6.		Mention the differences between prokaryotic and eukaryotic DNA	5	CO4

GROUP – C
(Long Answer Type Questions)
Answer any ***three*** from the following: **3×15=45**

			Marks	CO No
7.	(a)	Describe the process of alcohol fermentation in general (show the metabolic pathway).	10	CO2
	(b)	Discuss about overall role of yeast in alcoholic beverage production (types and their use)	5	CO2
8.	(a)	Describe the two-stage bioprocess for vinegar production in detail.	12	CO2
	(b)	Discuss about rice and balsamic vinegar	3	CO2
9.	(a)	How the propagation of baker's yeast is conducted industrially, describe.	8	CO3
	(b)	Describe the process of SCP production.	8	CO3
10.	(a)	Vitamin B12 is the most important of all vitamins. Explain.	6	CO3
	(b)	Discuss about the process of penicillin production.	9	CO3
11.	(a)	Explain spontaneous and induced mutation.	2	CO4
	(b)	Mention the three types of bacterial reproduction	3	CO4
	(c)	Explain the basic principle of recombinant DNA technology	5	CO4
	(d)	Give your opinion why genetically modified food can take care of food security issues globally.	5	CO4