



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours/Programme 2nd Semester Examination, 2020

**MCBHGE02T/MCBGCOR02T-MICROBIOLOGY (GE2/DSC2)**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

**Question No. 1 is compulsory and answer any *four* from rest**

1. Answer any *four* questions from the following: 2×4 = 8
- (a) What is scale up process?
  - (b) Name one protease producing organism. What is its application?
  - (c) What do you mean by ropiness of milk?
  - (d) Why are antibiotics called secondary metabolites?
  - (e) Define corn steep liquor.
  - (f) Why is lactose the preferred carbon source for production of penicillin?
  - (g) Why is glycerol used in cryopreservation?
  - (h) What would you mean by cold sterilisation?
2. (a) Using which process will you screen the following organisms? 2
- (i) Antibiotic producers
  - (ii) Growth factor producers
- (b) Differentiate between primary screening and secondary screening. 2
- (c) What is black strap molasses? 2
- (d) How are Actinomycetes preserved? 2
3. (a) Name one citric acid producing organism. Mention the by-products obtained in citric acid production. 1+1
- (b) How are enzymes recovered? 2  $\frac{1}{2}$
- (c) Name one fungus and one bacteria that produce  $\alpha$ -amylase. 1+1
- (d) What is the function of an anti-foam agent in fermentation? Give an example of an anti-foam agent. 1+  $\frac{1}{2}$
4. (a) Name one source of  $\gamma$  radiation. 1
- (b) Explain the principle of food preservation using low temperatures. 3
- (c) Give examples of two organic and two inorganic preservatives. 1+1
- (d) What is HACCP? 2

5. (a) What is the producer organism of ethanol? Name one bacteria that produce ethanol. 1+1  
(b) What is denatured alcohol? 2  
(c) Why cannot absolute alcohol be obtained by fractional distillation? 2  
(d) Mention the uses of amylase. 2
6. (a) What is the difference between food borne intoxication and food borne infection? 3  
(b) Give an example each of a food borne intoxication and food borne infection along with their causative agent. 2+2  
(c) Name the predominant organism in yoghurt. 1
7. (a) What is food spoilage? 2  
(b) Name the predominant spoilage organism found in vegetables. 1  
(c) Why does egg white have antibacterial property? 3  
(d) What are the reasons for the spoilage of canned food? 2
8. (a) What are probiotics? Mention the significance of probiotics. 2+2  
(b) What do you mean by ripening of cheese? 2  
(c) Give an example of mold ripened cheese and bacteria ripened cheese. 2
9. (a) Why is milk considered as an excellent growth medium for microbes? 2  
(b) Why is milk Pasteurised and not sterilised? 2  
(c) Name two desirable and two undesirable microbes present in milk. 2+2

**N.B. :** Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.

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