

2020

FOOD AND NUTRITION (Honours)

Paper Code : IX - A & B

(FOOD MICROBIOLOGY)

(New Syllabus)

Full Marks : 50

Time : Two Hours

**Important Instructions
for Multiple Choice Question (MCQ)**

- Write Subject Name and Code, Registration number, Session and Roll number in the space provided on the Answer Script.

Example : Such as for Paper III-A (MCQ) and III-B (Descriptive).

Subject Code :

III	A	&	B
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Subject Name :

- Candidates are required to attempt all questions (MCQ). Below each question, four alternatives are given [i.e. (A), (B), (C), (D)]. Only one of these alternatives is 'CORRECT' answer. The candidate has to write the Correct Alternative [i.e. (A)/(B)/(C)/(D)] against each Question No. in the Answer Script.

Example — If alternative A of 1 is correct, then write :

1. — A

- There is no negative marking for wrong answer.

মাল্টিপল চয়েস প্রশ্নের (MCQ) জন্য জরুরী নির্দেশাবলী

- উত্তরপত্রে নির্দেশিত স্থানে বিষয়ের (Subject) নাম এবং কোড, রেজিস্ট্রেশন নম্বর, সেশন এবং রোল নম্বর লিখতে হবে।

উদাহরণ — যেমন Paper III-A (MCQ) এবং III-B (Descriptive)।

Subject Code : III A & B

Subject Name :

- পরীক্ষার্থীদের সবগুলি প্রশ্নের (MCQ) উত্তর দিতে হবে। প্রতিটি প্রশ্নে চারটি করে সম্ভাব্য উত্তর, যথাক্রমে (A), (B), (C) এবং (D) করে দেওয়া আছে। পরীক্ষার্থীকে তার উত্তরের স্বপক্ষে (A) / (B) / (C) / (D) সঠিক বিকল্পটিকে প্রশ্ন নম্বর উল্লেখসহ উত্তরপত্রে লিখতে হবে।

উদাহরণ — যদি 1 নম্বর প্রশ্নের সঠিক উত্তর A হয় তবে লিখতে হবে :

1. – A

- ভুল উত্তরের জন্য কোন নেগেটিভ মার্কিং নেই।

Turn Over

Paper Code : IX - A

Full Marks : 14

Time : Twenty Minutes

Choose the correct answer.
Each question carries 1 mark.

Instruction to students for Page Limitation

For all MCQs, students should answer within 1 page of an A4 paper; for each four marks (04) question: Max. 1 page of an A4 paper (including figure / diagram, if any) and for 10 marks (10) question: Max. 2½ page of an A4 paper (including figure / diagram, if any), should be used.

1. Which of the following produces citric acid?
 - (A) *Aspergillus*
 - (B) *Pseudomonas*
 - (C) *Saccharomyce*
 - (D) *Clostridium*
2. Which of the following is an algal biofertilizer?
 - (A) *Rhizobium*
 - (B) *Azotobacter*
 - (C) *Nostoc*
 - (D) *Azospirillum*
3. Yeast is used for the production of —
 - (A) Tetracycline
 - (B) Butanol
 - (C) Ethanol
 - (D) Citric Acid
4. The principal microorganism for yogurt is —
 - (A) *Streptococcus thermophilus*
 - (B) *Leuconostoc citrovorum*
 - (C) *Lactobacillus acidophilus*
 - (D) *Streptococcus lactis*

Turn Over

5. Which one of the following acids will have a higher bacteriostatic effect at a given pH?
- (A) Maleic acid
 - (B) Citric acid
 - (C) Acetic acid
 - (D) Tartaric acid
6. What are the intrinsic factors for microbial growth?
- (A) pH
 - (B) temperature
 - (C) nutrients
 - (D) All of the above
7. The time-temperature combination for HTST pasteurization of 72°C for 15 sec is selected on the basis of —
- (A) *E. coli*
 - (B) *Coxiella burnetii*
 - (C) *C. botulinum*
 - (D) *B. subtilis*
8. NaCl can act —
- (A) in transport nutrients
 - (B) as antagonist at above optimal concentrations
 - (C) Both (A) and (B)
 - (D) None of the above
9. Cholera can be prevented by —
- (A) Purified water supply
 - (B) Environmental sanitation
 - (C) Immunization with killed vaccines
 - (D) All of the above
10. At higher concentration, salt and sugar preserve foods because they —
- (A) Make them acid
 - (B) Produce a hypotonic environment
 - (C) Deplete nutrients
 - (D) Produce a hypertonic environment

Turn Over

11. *E. coli* was first discovered by —
- (A) Louis Pasteur
 - (B) Theodor Escherich
 - (C) Kiyoshi Shiga
 - (D) Robert Koch
12. The important virulence factors of pathogenic microbes are —
- (A) Adhesions
 - (B) Invasiveness
 - (C) Hydrolytic enzymes
 - (D) All of the above
13. Tuberculosis is a —
- (A) Viral disease
 - (B) Bacterial disease
 - (C) Parasitic disease
 - (D) None of the above
14. Most spoilage bacteria grow at —
- (A) Acidic pH
 - (B) Alkaline pH
 - (C) Neutral pH
 - (D) Any pH
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Turn Over

2020

FOOD AND NUTRITION (Honours)

Paper Code : IX - B

(FOOD MICROBIOLOGY)

(New Syllabus)

Full Marks : 36

Time : One Hour Forty Minutes

The figures in the margin indicate full marks.

1. Answer any *four* of the following : 4×4=16
- (a) Which dyes are used in Gram staining? Explain the significance of Gram staining? 2+2=4
 - (b) Write the four characteristics of fungi. 4
 - (c) Differentiate between pili and flagella? 4
 - (d) What are the primary sources of microbial contamination in food? Define sterilization? 2+2=4
 - (e) Write a short note on “canned food preparation”. 4
 - (f) Briefly mention the necessities of kitchen hygiene. 4
 - (g) Distinguish between mixed culture and pure culture with examples. 4
2. Answer any *two* of the following : 10×2=20
- (a) “Food as a substrate for microorganisms” — Comment on the statement. Classify culture media with special reference to the nature of nutrients present in it. 5+5=10
 - (b) What are the causative agents of food spoilage? How does fruit spoilage occur and mention its remedies. 3+5+2=10
 - (c) What are the nutritive attributes of milk products? How the milk products are preserved? 5+5=10
 - (d) Discuss briefly on the primary fermenting microorganisms of food. Write on the role of fermentation in nutritive and food preservation. 3+7=10
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