2020 FOOD AND NUTRITION (Honours) Paper Code : X - A & B (Nutritional Biophysics & Biochemistry) (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				
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। 				

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Paper Code : X - 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. $2\frac{1}{2}$ page of an A4 paper (including figure / diagram, if any), should be used.

- 1. Na+ glucose transporter is an example of
 - (A) Symporter
 - (B) Antiporter
 - (C) Facilitated diffusion
 - (D) ATP driven active transport
- 2. In which of the following transport process a cell expels large molecules out of it?
 - (A) Phagocytosis
 - (B) Exocytosis
 - (C) Endocytosis
 - (D) Diffusion
- 3. Vitamin A deficiency is responsible for ----
 - (A) Nyctalopia
 - (B) Cirrhosis
 - (C) Scurvy
 - (D) Pelegra
- 4. The protein part of an enzyme is called
 - (A) Apoenzyme
 - (B) Cofactor
 - (C) Prosthetic group
 - (D) None of the above

- 5. Glycogen is stored in --
 - (A) Brain
 - (B) Liver
 - (C) Kidney
 - (D) Pancreas
- 6. Pernicious anaemia is caused by the deficiency of ----
 - (A) Vitamin A
 - (B) Vitamin B1
 - (C) Vitamin B12
 - (D) Vitamin C
- 7. Which of this vitamin is associated with the coenzyme Biocytin?
 - (A) Nicotinic acid
 - (B) Thiamine
 - (C) Biotin
 - (D) Pyridoxine
- 8. EMP pathway occurs in ---
 - (A) Cytosol
 - (B) Mitochondria
 - (C) Plasma Membrane
 - (D) None of the above
- 9. Which of the following is a reducing sugar?
 - (A) Dihydroxyacetone
 - (B) Sucrose
 - (C) Glucose
 - (D) All of the above
- 10. The dietary fiber is also known as ----
 - (A) Roughage
 - (B) Rhodopsin
 - (C) Pepsin
 - (D) Opsin

Turn Over

- 11. Which of the following enzyme catalyzes the first step of glycolysis?
 - (A) Hexokinase
 - (B) Pyruvate kinase
 - (C) Citrate synthase
 - (D) Phosphofructokinase-1
- 12. Butyric acid is -
 - (A) Unsaturated fatty Acids
 - (B) Saturated Fatty Acids
 - (C) Both A & B
 - (D) None of the above
- 13. Colloids are translucent because of the ----
 - (A) Henderson effect
 - (B) Stark effect
 - (C) None of the above
 - (D) Tyndall effect
- 14. The pH of blood is
 - (A) 7.35
 - (B) 7.50
 - (C) 7.25
 - (D) 7.0

2020 FOOD AND NUTRITION (Honours) Paper Code : X - B (Nutritional Biophysics & Biochemistry)

(New Syllabus)

Full Marks : 36

Time : One Hour Forty Minutes

The figures in the margin indicate full marks.

1.	. Answer any <i>four</i> of the following :		
	(a)	Mention the principle of electrophoresis. What is buffer? Give an exbiological buffer.	$\begin{array}{l} \text{xample of} \\ 2+1+1=4 \end{array}$
	(b)	Write a flow chart of the enzymatic steps involved in glycolysis.	4
	(c)	How do antioxidants protect our body from oxidative damage?	4
	(d)	Write briefly on the chemical preservatives used for food preservation.	4
	(e)	Differentiate between active and passive transport.	4
	(f)	State the nutritional significance of dietary fibers.	4
	(g)	Which types of fatty acid is good for our health and why?	4
2.	Ans	wer any two of the following :	10×2=20
	(a)	Briefly describe the significance of water activity in food preservation canned foods be avoided during pregnancy? Mention the essentials of in pregnancy. 5	2
	(b)	Schematically represent the TCA cycle with enzymes and mention its e	nergetics. 7+3=10
	(c)	Discuss briefly the urea cycle with a diagram. Mention its importance.	7+3=10
	(d)	Mention the properties of enzymes. Define isozyme, holoenzyme and al $4+2$	llozyme. +2+2=10

(6)