



**WEST BENGAL STATE UNIVERSITY**

B.Sc. Honours 4th Semester Examination, 2021

**PHYACOR08T-PHYSIOLOGY (CC8)**

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.*

**Answer any five questions from the following**

1. (a) Mention the differences between glucokinase and hexokinase. 3  
(b) Discuss the catalytic activities of debranching enzymes in glycogenolysis. 5
2. (a) Mention the major metabolites that produce feedback inhibition of pyruvate kinase. 4  
Explain the “logic” of these effects.  
(b) Describe the pay-off phase of glycolysis. 4
3. (a) Name the rate-limiting enzymes involved in glycolysis process. 2  
(b) Describe the role of pyruvate dehydrogenase in formation of acetyl CoA. 3  
(c) Write the anaplerotic reactions of TCA cycle. 3
4. (a) State the biological significance of Rapoport-Luebering cycle. 3  
(b) How does Cori cycle connect glycolysis to gluconeogenesis? 3  
(c) Why transamination is called double-displacement bisubstrate reaction? 2
5. (a) Write the significance of pentose phosphate pathway. 4  
(b) Write the name of rate-limiting enzyme of urea cycle. 1  
(c) Describe the rate-limiting step of urea cycle. 3
6. (a) What is transdeamination? 2  
(b) Write briefly about the complete beta-oxidation process of a C14 fatty acid. 4  
(c) Calculate the number of high energy phosphates produced by complete oxidation of one C14 fatty acid. 2
7. (a) Describe the role of carnitine in fatty acid synthesis. 3  
(b) Write a note on specific dynamic action of food. 4  
(c) Define NPU. 1

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| 8. (a) What do you mean by biological value of protein?                | 2 |
| (b) How can you determine biological value of food?                    | 3 |
| (c) Write in brief about protein efficiency ratio and protein spacers. | 3 |

**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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