

PG/FNCT/1st Sem/21(CBCS)

2021

FOOD AND NUTRITION

Paper : FNCT - 101

[Human Physiology]

(CBCS)

Full Marks : 40

Time : Two Hours

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

Instruction to students for Page Limitation :

For each **two marks (02)** question: **Max. 1/3 page of an A4 paper;**
for each **five marks (05)** question: **Max. 1^{1/2} page of an A4 paper**
(including figure / diagram, if any); **for 10 marks (10)** question:
Max. 2^{1/2} page of an A4 paper (including figure/diagram, if any).

1. Answer any *five* questions of the following : 2×5=10
- (a) What are the roles of cholesterol in plasma membrane ?
 - (b) Differentiate between a symporter and an antiporter.
 - (c) Where are ribosomes formed ? What is the main function of ribosome in the cell ? 1+1
 - (d) What is post-translational modification?
 - (e) Why IgM is first expressed on the outer surface of B lymphocyte ?

(f) Mention the types of noncovalent interaction that occur between antibody and antigen.

(g) What is autoimmune disease? Give an example.

2. Answer any *four* questions of the following : 5×4=20

(a) Explain secondary active transport with example.

(b) What is second messenger ? How does cAMP work as a second messenger ? 1+4

(c) Briefly describe the mechanism of HCl secretion from the parietal cells of stomach.

(d) How is membrane attack complex formed after complement activation ?

(e) Describe the mechanism of action of peptide and steroid hormones.

(f) How is blood glucose regulated to maintain homeostasis ?

3. Answer any *one* of the following : 10×1=10

(a) How do GLUT transporters work ? Describe different types of GLUT transporters in human body. 3+7

(b) What is major histocompatibility complex? Draw and describe the structure of MHC class I and MHC class II molecules. How memory B cells work ? 1+7+2
