



B.Sc./3rd Sem/NUT/25(NEP)

2025

3rd Semester Examination (CCFUP : NEP)
NUTRITION

Paper : MJ 3-T (Single Core Major)

**(Nutritional Physiology, Biophysics
and Biochemistry)**

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.*

Group - A

Answer any *five* questions : 2×5=10

1. Write the name of any two neurotransmitters. 1+1
2. What is the significance of surface tension in biological systems? 2
3. Define glycemic index. Give example of one high glycemic index food. 1+1
4. Define erythropoiesis? 2
5. What is the function of synapses in neural communication? What is the role of thrombin in the coagulation process? 1+1

P.T.O.

(2)

6. Write one function of each of oxytocin and prolactin. 1+1
7. What are coenzyme and apoenzyme? 1+1
8. Mention two functions of plasma protein in human body. 2

Group - B

Answer any **four** questions : 5×4=20

9. Mention any one gut hormone with its one basic function each. State the hormonal regulation of spermatogenesis specially mention with the role of hypothalamus-pituitary-gonadal axis. 2+3
10. Define diffusion and mention one of its nutritional implications. What is the nutritional importance of absorption? (2+1)+2
11. Write the Michaelis-Menten equation. Mention any two factors affecting enzyme activity. Write the significance of K_m in the enzyme kinetics. 1+2+2
12. Define isoelectric pH. State about salting in and salting out of protein. 2+3
13. What is the gut-brain axis? Mention three non-excretory functions of the kidney. 2+3
14. Compare the features of prokaryotic and eukaryotic cells. Define vital capacity with amount. 3+2

(3)

Group - C

Answer any *one* question : $10 \times 1 = 10$

15. What is the significance of the Frank-Starling mechanism in matching venous return to cardiac output? Define mean arterial pressure (MAP). Name two factors affecting cardiac output. $6+2+2$

16. Describe the endometrial changes during each phase of the uterine cycle and how they are hormonally regulated. Write the role of PUFA and MUFA on human health. $(3+3)+4$



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