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0304N34

Candidate's Seat No :_____

B.Sc.(Hons) FNS (Rep) Semester-2 Examination

FNS 122

Nutritional Biochemistry

April-2024

Time : 2-30 Hours] **[Max. Marks : 70**

Instructions:

All questions are compulsory.
Illustrate your answers with neat diagrams wherevernecessary.

Question - 1 **Write the following**

i) Explain various and unique properties of an enzyme. [07]

ii) Explain irreversible inhibition of enzymes with examples. [07]

OR

i) Explain the factors affecting enzyme reaction. [07]

ii) Write a short note on classification of enzymes. [07]

Question - 2 **Write the following**

i) Write a short note on membrane proteins. [07]

ii) What is passive transport? Explain its types in detail. [07]

OR

i) What are the differences and similarities of passive diffusion and facilitated diffusion. [07]

ii) Explain active transport with an example. [07]

Question - 3 **Write the following**

i) Explain EMP pathway in detail. [07]

ii) Write a note on β-oxidation of fatty acid. [07]

OR

i) What is the fate of pyruvate? Explain it in detail. [07]

ii) Explain Glycogenolysis and glycogenesis. [07]

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Question - 4 **Write the following**

i) Explain salient features of transamination process. [07]

ii) Explain the urea cycle in detail. [07]

OR

i) Write a note on the deamination and toxicity of ammonia. [07]

ii) Explain direct oxidative deamination by *Serine dehydratase.* [07]

Question - 5 **Attempt any seven out of twelve** [14]

i) Give any two basic characteristics of regulatory enzymes.

ii) What is the difference between synthase and synthetase enzymes?

iii) Name the enzyme with EC number 1.1.1.1.

iv) Give an example of active diffusion.

v) Which integral protein type makes fibrillar network that acts as a membrane "skeleton"?

vi) Who proposed the fluid-mosaic model?

vii) How much energy is produced (in kJ/mol) after a complete oxidation of a glucose molecule?

viii) Which hormone most effectively increases the activity of the TG lipase enzyme?

ix) What is the fate of glycerol?

x) Explain the terms: ureotelic and uricotelic organisms.

xi) Which scientist discovered the urea cycle?

xii) What happens when uric acid gets deposited?

—x—