PG/IS/CND/102/23

M.Sc. 1st Semester Examination, 2023

CLINICAL NUTRITION & DIETETICS

PAPER—CND-102

Full Marks : 50

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP – A

Answer any **four** questions from the following : 2×4

1. If $V = \frac{1}{2} V_{max}$, prove that KM = [S].

2. Why TCA cycle is called central metabolic pathway ?

3. Differentiate between differential and gradient centrifugation for cell study.

4. What is Xenobiotics ? Give example.

5. Define elute and eluate.

6. Why HMP shunt inactive in muscle ?

GROUP – B

Answer any **four** questions from the following : 4×4

7. Name any two reactive oxygen species (ROS). How these are catalysed by enzymatic antioxidant ? $2 + 2$

8. Why CV is important for technical proficiency of ELISA ? Diagrammatically show the sandwich ELISA principle. $2 + 2$

9. Discuss the role of insulin and epinephrin on regulation of blood glucose homeostasis. $2 + 2$

10. 'Metabolic error in pyrimidine synthesis leads to orotic aciduria.' Explain the statement.

11. Methotrexate affects which portion of the cell cycle and how ?

12. 'The de novo synthesis of purines and pyrimidines are high energy-driven metabolism.' Justify the statement.

GROUP – C

Answer any **two** questions from the following : 4×2

13. What is the difference between coenzyme and prothetic group. Why ammonia transportation from blood to liver is essential ? Briefly discuss the ornithin cycle. $2 + 3 + 3$

14. Write briefly the carnitine shuttle. Write the energetics of β oxidation of palmitic acid. What is cataplerotic reaction ? $3 + 3 + 2$

15. Write the principle of Western blot technique with the importance of blocking. Write the principle of Gas liquid chromatography with its determination of retention factor from column hold up time. 3 + 5

16. Describe the initiation phase of protein synthesis. What do you mean by post translational modification of protein ? 6 + 2

[Internal Assessment – 10 Marks]

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