

Physiology [Honours]

[CBCS]

B.Sc. Fifth Semester End Examination-2023

(Regular & Supplementary Paper)

PAPER-DSE2T

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

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

Illustrate the answers wherever necessary

Group A

1. Answer any FIVE questions of the following: 5x2= 10

- a) Which type of membrane is used in western blotting & why?
- b) Write down the principle of affinity chromatography.
- c) Write down two advantages of fluorescence microscope.
- d) Mention the names of essential components of PCR?
- e) Write down the principle of southern blotting technique.
- f) State two differences between scanning and transmission electron microscope.
- g) Write down the clinical application of CT scan.
- h) What do you mean by ion exchange chromatography?

(2)

Group B

2. Answer any FOUR questions of the following: $4 \times 5 = 20$

- a) What are the common uses of MRI scan? What are the risk factors that should be kept in mind in care of MRI scan?
- b) Write down the principle of centrifugation. Mention the Svedberg equation. State the principle of density gradient ultracentrifugation
- c) Write a short note on ELISA. What do you mean cross reactivity? $3+2$
- d) Describe the working principle of SEM. What is the difference between electron microscope and phase contrast microscope? What is the role of dichroic mirror? $2+2+1$
- e) What are the common dyes used in fluorescence microscopy? Mention the specific uses of GM counter. $2\frac{1}{2} + 2\frac{1}{2}$
- f) Write down the differences in between gel electrophoresis and SDS-PAGE. 5

Group C

3. Answer any ONE question of the following: $1 \times 10 = 10$

- a) Differentiate between competitive, indirect & sandwich ELISA with proper illustrative diagram.
What do you mean by RIA? Schematically describe the procedure of PCR. $4+2+4$

(3)

- b) Describe briefly the procedure of gel electrophoresis. What is resolving power of microscope? Describe the principle of a pHmeter. $5+2+3$
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