2022

Physiology

[HONOURS]

(CBCS)

(B.Sc. Fifth Semester End Examination-2022)

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

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

a) What is ultra centrifugation?

b) Write two advantages of RIA. 1+1

c) Write down the Beer-Lambert's law.

d) What are the importance of using PCR?

e) What do you mean by fMRI?

f) What is indirect ELISA?

g) What is green fluorescent protein? How it is used in cell biology? 1+1

h) Explain Retention factor(Rf) 2

2. Answer any four questions of the following: 4x5 = 20

a) What is sedimentation coefficient? What is differential centrifugation. 2+3

b) What is resolving power? Write the advantages of using phase contrast microscope. 2+3

c) Write the principle of PET scan with proper schematic diagram. 3+2

d) i) Write the uses of agarose gel electrophoresis.
ii) Explain resolving power of microscope. 3+2

e) What are the applications of pH meter in biology? Mention the primary advantages of confocal microscope. 2+3

f) Write the main differences between gel filtration and ion-exchange chromatography.

3. Answer any one question: 1x10 = 10

a) i) What is Taq polymerase? From where it was first isolated?
ii) What is SDS-PAGE? Write down its applications in biological field.
iii) What is the principle of southern blotting ? Name the reagents used in TLC. (1+1)+(2+3)+(2+1)

b) i) What is radio activity? Give examples of such two radioactive materials.
ii) What is TEM? How alkaline phosphatase is used in western blot?
iii) What is blotting? Write two applications of western blotting technique. (2+2)+(2+2)+(1+1)