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PG Even Semester (CBCS) Exam., May—2018

BIOTECHNOLOGY

(4th Semester)

Course No. : BTYCC–401

(Advanced Techniques in Biological Chemistry, Molecular Biology, Genomics and Proteomics)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* Write about the principle and applications of gel permeation chromatography. 8

(b) Explain how chromatography is used for protein purification. 6

OR

2. *(a)* What is HPLC? Explain the technique and applications of HPLC. 2+4+4=10

(b) Write a note on Relative Centrifugal Field (RCF). 4

3. *(a)* Explain the technique of Southern Blotting. Discuss its applications. 5+2=7

(b) Discuss about the use of Si-RNA in gene silencing. 7

OR

4. *(a)* Explain the techniques for measurement of radioactivity. 10

(b) How does radiation interact with biological cells? 4

5. Write about the principle and applications of any *two* of the following techniques : 7×2=14

(a) STM

(b) X-ray crystallography

(c) NMR

(d) Protein sequencing

6. Compare between the sequencing strategies for whole genome analysis. 14

OR

7. *(a)* How have proteins evolved from exon shuffling? 7

(b) Write about the importance of pharmagenomics. 7

8. *(a)* How is yeast two-hybrid assay used for elucidating protein-protein interaction? 10

(b) Write a note on proteomics. 4

OR

9. Discuss about the applications of proteomics in disease diagnosis and drug discovery. 7+7=14

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