

2019

B.Sc. (Hons.)

4th Semester Examination

BIOTECHNOLOGY

Paper - SEC2T

Full Marks : 25

Time : 2 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Molecular Diagnostics

1. Answer any *three* questions from the following :

3×2=6

- (a) What are transgenic animals? 2
- (b) Define single nucleotide polymorphism. 2
- (c) State the advantages of RIA. 2
- (d) What gases are generally used in GLC as carrier? 2
- (e) What is minimum inhibitory concentration? 2

[Turn Over]

2. Answer any *two* questions from the following :

2×5=10

(a) State the applications of enzymes in immuno histochemistry. Write example of one solid phase use of enzyme in immunoassay. 3+2

(b) State the applicaitons of PCR and RFLP.

2.5+2.5

(c) Write down the advantages and disadvantages of electron microscopy in molecular diagnosis. Write two applications of HPLC. 2+2+1

3. Answer any *one* questions from the following :

1×9=9

(a) State the applications of enzymes immuno assays in diagnostic microbiology. Write the process of susceptibility test of any chemotherapeutic agent against any bacteria through disc diffusion method. 4+5

(b) Write short note on :

3×3

i) Applications of epitope design.

ii) Test for bactericidal activity.

iii) Applications of FACS.

(3)

Basic of Forensic Science

1. Answer any *three* questions from the following :

3×2=6

- (a) What is modus operandi in criminal investigation? 2
- (b) What is ballistics? 2
- (c) How do toxicological findings help forensic investigation? 2
- (d) What is cyber security? 2
- (e) What are the branches of forensic science? 2

2. Answer any *two* questions from the following : 2×5

- (a) Write in brief about the necessity of forensic investigations. Classify the fire arms. 3+2
- (b) What are the general characteristics of handwriting examination? How comparisons of handwritings and ink analysis of various samples are done? 2+3
- (c) What is evidence preservation? How can it be performed? 2+3

[Turn Over]

3. Answer any *one* questions from the following :

1×9=9

(a) State the principal of DNA fingerprinting. Write the applications of DNA profiling in forensic medicine. 4+5

(b) Write short note on : 3×3

i) Role of toxicologist in forensics.

ii) Explosive and its chemical evidence.

iii) Tools of forensic science laboratory.
