

# 5104

## M.Sc. Examination

### BIOTECHNOLOGY

(Computer and Bio-Informatics)

(Common with Old Syllabus MBT-303/MMB-303)

Paper-MBT-303/MMB-303

(Semester-III)

(New Syllabus)

Time : Three Hours]

[Maximum Marks : 80

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Question No. 9 is compulsory consisting of 8 short answer type questions carrying 2 marks each and candidates are also required to attempt *one* question each from Section A, B, C and D carrying 16 marks each.

### SECTION-A

1. What is computer network? Explain different types of networks and network topologies. (16)

2. Describe the following :
- (a) Window and UNIX operating systems.
  - (b) Various graphical representation options in MS-Excel with examples. (2×8=16)

### SECTION-B

3. Write a detailed note on 'Google; search engine explaining its important features and search options. (16)
4. Describe the following :
- (a) Databox wizard in MS-Access with examples.
  - (b) URLs and their significance. (2×8=16)

### SECTION-C

5. Write a detailed note various online protein information sources describing their important features and coverage. (16)
6. Write detailed note on the following :
- (a) GENBANK and its important feature.
  - (b) EMBL and its important features. (2×8=16)

### SECTION-D

7. What is Molecular modelling? Explain the process of molecular modelling with the help of any modelling tool. (16)
8. Write detailed note on the following :
- (a) Pair wise and multiple sequence alignment with examples.
  - (b) Local and Global alignment with examples. (2×8=16)

## SECTION-E

9. Write short notes on following :

- (a) Assembly and machine level language.
  - (b) Mail merge in MS-Word.
  - (c) Web browsers and their role.
  - (d) Salient features of a good Database.
  - (e) Gene prediction.
  - (f) Unigene.
  - (g) Uses of Protein modelling.
  - (h) PAM and BLOSUM. (2×8=16)
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