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NH—12—2023

FACULTY OF SCIENCE

B.Sc. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New Pattern)

BIOINFORMATICS

Paper-CCBI-2A

(Basics of Biological Sciences)

(Monday, 4-12-2023)

Time : 10.00 a.m. to 1.00 p.m.

Time—Three Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) All questions carry equal marks.

(iii) Draw diagrams wherever needed.

1. Explain in detail bacterial structure and function. 15

Or

(a) How is the bacterial reproduction done ? 8

(b) What are bacterial endospores and growth curve in bacterial cells ? 7

2. Write down characteristics and ultrastructure of Fungi. 15

Or

(a) What is fungal nutrition ? Explain its types. 8

(b) Differentiate between meiotic and mitotic fungal spores. 7

P.T.O.

3. Draw well labelled diagram of fungal cell. Write down properties of yeast. 15

Or

- (a) Explain replication of virus. 8
(b) What are Lichens ? Describe its types. 7
4. What are the general properties of virus ? Explain bacteriophage. 15

Or

- (a) Define algae. Describe its types with diagram. 8
(b) Write down classification and nomenclature of virus. 7
5. Write notes on (any *three*) : 3×5=15

- (a) Nutrition and growth of Bacteria (Growth factor, culture media, PH)
(b) Prevention measures for fungal growth
(c) Virus cell interactions
(d) Spirogyra
(e) Economic importance of Lichen.

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NH—01—2023

FACULTY OF SCIENCE

B.Sc. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New Pattern)

BIOINFORMATICS

(Functional English)

(Wednesday, 29-11-2023)

Time : 10.00 a.m. to 1.00 p.m.

Time—Three Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) Draw neat and well labelled diagrams if necessary.

1. What is word morphology ? Explain in detail functions of free and bound morphemes and give examples. 15

Or

(a) Explain coinage, borrowing and compounding word formation processes. 8

(b) How to analyse words into their linguistic components ? Explain with the example of 'unhappiness' word. 7

2. What are word classes ? Explain pronoun, preposition and conjunction word classes with suitable examples. 15

P.T.O.

Or

- (a) Explain noun phrases and verb phrases with suitable examples. 8
- (b) What is role playing ? Give examples of role play scenarios. 7
3. Write rules of subject verb agreement and give some examples of subject verb agreement with plural indefinite pronouns, singular indefinite pronouns and compound subjects. 15

Or

- (a) What are demonstratives ? Give examples. 8
- (b) Change the following sentences into reported speech : 7
- (i) "I always drink coffee", she said.
- (ii) "I am reading a book", he explained.
- (iii) "Bill arrived on Saturday", he said.
- (iv) "I have been to Spain", he told me.
- (v) "I had just turned out the light", he explained.
- (vi) They complained, "We have been waiting for hours".
- (vii) "I saw him today", she said.
4. Write the difference between formal and informal letter on the basis of meaning, objective, format, written to, voice, sentences size and abbreviations. 15

WT

(3)

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Or

- (a) How to organize a formal report into different sections ? 8
- (b) Explain seven steps of writing an essay. 7
5. Write short notes on (any *three*): 3×5=15
- (i) Do's and Don'ts of resume writing
- (ii) Types of voice
- (iii) Seminars
- (iv) Group discussion
- (v) Quantifiers

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NH—06—2023

FACULTY OF SCIENCE

B.Sc. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New Course)

BIOINFORMATICS

(Introduction to Bioinformatics)

(Friday, 1-12-2023)

Time : 10.00 a.m. to 1.00 p.m.

Time—Three Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) All questions carry equal marks.

(iii) Draw well labelled diagrams wherever necessary.

1. Write five definitions of bioinformatics. Add a note on applications of bioinformatics. 15

Or

(a) Write in brief about central dogma of Molecular Biology. 8

(b) Write about bioinformatics companies. 7

2. Write in detail about search engines. 15

Or

(a) Write a note on primary databases. 8

(b) What are specialized databases ? 7

P.T.O.

WT

(2)

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3. Write in detail about Human Genome Project. 15

Or

(a) What is data mining ? 8

(b) What are bioinformatics file formats. 7

4. Write in detail about advanced fields of bioinformatics. 15

Or

(a) Write a note on Swissprot and TrEMBL. 8

(b) Write a note on Genomics. 7

5. Write short notes on (any *three*) : 3×5=15

(a) Bioinformatics in business

(b) Pubmed

(c) PDB

(d) Entrez

(e) CADD.

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