This question paper contains **2** printed pages]

GJ—15—2023

FACULTY OF SCIENCE

B.Sc. (First Semester) EXAMINATION

APRIL/MAY, 2023

(New Pattern)

BIOINFORMATICS

Paper CCBI-2A

(Basics of Biological Science)

(Tuesday, 25-4-2023) **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 diagram wherever necessary.

1. Explain in detail ultra structure of bacterial cell. 15

Or

(*a*) Write a note on Bacterial endospore. 8

(*b*) Write a note on Reproduction in bacteria. 7

2. Explain in detail ultra structure of fungal cell. 15

Or

(*a*) Write a note on nutrition in Fungi. 8

(*b*) Write a note on prevention of fungal growth. 7

P.T.O.

3. Describe in detail Biology of viruses. 15

Or

(*a*) Write a note on classification of viruses. 8

(*b*) Write a note on replication of viruses. 7

4. Explain in detail cultivation and economic importance of algae. 15

Or

(*a*) Write a note on Lichens. 8

(*b*) Write a note on Spirogyra. 7

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

(*a*) Chlorella

(*b*) Bacteriophage

(*c*) Symbiosis

(*d*) Cytoplasmic inclusion

(*e*) Dormancy.

This question paper contains **2** printed pages]

GJ—01—2023

FACULTY OF SCIENCE

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

APRIL/MAY, 2023

(New Course)

BIOINFORMATICS

Paper AECBI-1A

(Functional English)

(Wednesday, 19-4-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

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

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

1. Describe in detail coinage, borrowing, compounding, blending, clipping, back formation, acronyms and other word formation processes. 15

Or

(*a*) Describe free and bound morphemes with examples. 8

(*b*) Explain the concept of prefix, affix, suffix and stem in morphological analysis of words. 7

2. Define 'Seminar' and write about planning a seminar, before the seminar and after the seminar. 15

Or

(*a*) Explain etiquettes of group discussion. 8

(*b*) Give examples of role play scenarios. 7

3. Explain article, quantifiers and demonstratives with suitable examples. 15

Or

(*a*) Change the following sentences into passive equivalent : 8

(*i*) I keep the butter in the fridge.

(*ii*) John is keeping my house tidy.

(*iii*) Mary kept her schedule meticulously.

(*iv*) The theatre was keeping a seat for you.

(*v*) I have kept all your old letters.

(*vi*) He had kept up his training for a month.

(*vii*) If you told me, I would keep your secret.

(*viii*) She wants to keep the book.

(*b*) Write types of speech. Give *three* examples of each type. 7

4. Write a model letter to the Editor of a daily newspaper complaining about the construction work on your road in the middle of monsoon season causing inconveniences to the people of your locality. 15

Or

(*a*) How to write a resume ? 8

(*b*) Write an essay on 'Science and technology'. 7

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

(*i*) Scientific report writing

(*ii*) Subject-verb agreement

(*iii*) Types and functions of phrases

(*iv*) Word formation by echoism

(*v*) Format of letter writing.

Total No. of Printed Pages:1

SUBJECT CODE NO:-GJ_08

FACULTY OF SCIENCE

Examination April/May 2023

B. Sc (First Year)

Bioinformatics

Introduction To Bioinformatics (CCBI-1A)

[Time: 3:00 Hours] **[Max.Marks:75]**

"Please check whether you have got the right question paper."

N.B.
1) All questions are compulsory.
2) All questions carry equal marks.
3) Draw well labelled diagrams where ever necessary.

Q1 What is bioinformatics? Write down scope and applications of bioinformatics. **15**

OR

a. Write about bioinformatics in business **08**
b. Write a note on central dogma of molecular biology. **07**

Q2 What is search engine? Write in detail about different type of search engines. **15**

OR

a. What are biological search engines? **08**
b. Write a note on GenBank, DDBJ and EMBL. **07**

Q3 Write in detail about Human Genome Project **15**

OR

a. Write about PubMed, PMC and Plos. **08**
b. Write in brief about datamining. **07**

Q4 What are file formats? Write in detail about various sequence and molecular file formats. **15**

OR

a. Write a note on Genomics and Proteomics **08**
b. Write a note on Transcriptomic and metabolomics. **07**

Q5 Write a note on (any three) **3x5=15**

a. CADD
b. Pharmacogenomics
c. UniprotkB
d. PDB
e. Entrez

This question paper contains **2** printed pages]

GJ—22—2023

FACULTY OF SCIENCE

B.Sc. (First Semester) EXAMINATION

APRIL/MAY, 2023

(New Pattern)

BIOINFORMATICS

Paper CCBI-3A

(Microbiology and Cell Biology)

(Thursday, 27-4-2023) **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 diagram wherever necessary.

1. Explain in detail difference between gram positive and gram negative bacteria. 15

Or

(*a*) Write a note on history of Microbiology. 8

(*b*) Explain in detail classification of bacteria. 7

2. Describe in detail methods of isolation for microorganisms. 15

Or

(*a*) Explain in detail bacterial growth curve. 8

(*b*) Write a note on factors affecting growth of bacteria. 7

P.T.O.

3. Explain in detail structure and functions of plasma membrane. 15

Or

(*a*) Write a note on cell size and shape. 8

(*b*) Write a note on cell theory. 7

4. Describe in detail transport across cell membrane. 15

Or

(*a*) Write a note on Mitosis. 8

(*b*) Write a note on Na/K ion channel. 7

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

(*a*) Flagella

(*b*) Continuous Culture

(*c*) Stanley Miller Experiment

(*d*) Cell Cycle

(*e*) Passive Transport.