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VB—12—2024

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

(New Pattern)

BIOTECHNOLOGY

(Basic Bioscience)

(Saturday, 30-11-2024)

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

Time—3 Hours

Maximum Marks—75

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

(ii) Each question carries equal marks.

(iii) Draw a well labelled diagram wherever necessary.

1. Describe Prokaryotic and Eukaryotic cell in detail. 15

Or

(a) Whittaker's five kingdom system. 8

(b) Prebiological chemical evolution. 7

2. Describe types of inflorescence in detail. 15

Or

(a) Types of fruit. 8

(b) Seed. 7

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3. Describe Nuclear and Embryo transplantation in detail. 15

Or

(a) Gametogenesis. 8

(b) Vermiculture. 7

4. What is fungi ? Describe types of reproduction in detail. 15

Or

(a) Effect of environment on growth. 8

(b) Prevention of fungal growth. 7

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

(a) Classification upto genus and species level

(b) Photoperiodism

(c) Sericulture

(d) General characters of fungi

(e) Flower.

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VB—01—2024

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

(New Pattern)

BIOTECHNOLOGY

Paper—AECBT—1A

(Functional English)

(Tuesday, 26-11-2024)

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

Time—3 Hours

Maximum Marks—75

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

(ii) All questions carry equal marks.

1. Define various Word Formation Processes with suitable examples. 15

Or

(a) Draw Morphological Structure of the following words : 8

(i) Unemployment

(ii) Improbability

(iii) Respectability

(iv) International.

(b) Free Morphemes. 7

2. What is GD ? Which skills are important for Group Discussion ? 15

P.T.O.

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Or

- (a) Define open word classes. 8
- (b) State the functions of Noun phrase. 7
3. What is Seminar ? How to give an effective Seminar ? 15
- Or*
- (a) Articles in English language. 8
- (b) Do as directed : 7
- (i) Will they complete it before deadline ? (Change the Voice)
- (ii) This poem was written by John Keats. (Change the Voice)
- (iii) James said Sara, "Have you finished yesterday's homework ?"
(Change the Narration)
- (iv) Major said, "Soldiers, march from the west side."
(Change the Narration)
- (v) Sharma told me, "Please, don't drop the catch."
(Change the Narration)
- (vi) Mumbai has many traffic.
(Spot the Error and Correct the Sentence)
- (vii) The child put many sand into his pocket.
(Spot the Error and Correct the Sentence)
4. Differentiate between 'Formal and Informal Letters' and state some guidelines to write an effective formal letter. 15

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Or

- (a) Draft a resume assuming you have to submit it to a Biotech Company. 8
- (b) Write an essay on 'The Role of Biotechnology in Sustainable Agriculture'. 7

5. Write short notes on any *three* : 15

- (a) Compounding and Blending
- (b) Functions of Adverb phrase
- (c) Subject-verb Agreement
- (d) Elements of a Scientific Report
- (e) Professional business report.

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VB—06—2024

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

(New Pattern)

BIOTECHNOLOGY

Paper—CCBT—1A NB-06

(Introduction to Biotechnology)

(Thursday, 28-11-2024)

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

Time—3 Hours

Maximum Marks—75

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

(ii) Each question carries equal marks.

(iii) Draw neat diagram wherever necessary.

1. What is transgenic plants ? Explain it in detail with suitable example.15

Or

(a) Write a note on Biofertilizers. 8

(b) Describe plant tissue culture in brief. 7

2. What is stem cells ? Explain it in detail. 15

Or

(a) Write in brief transgenic animals. 8

(b) Explain in detail Hybridoma technology. 7

P.T.O.

WT

(2)

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3. Explain in brief wine making. 15

Or

(a) What is enzyme ? Describe it in detail. 8

(b) Describe in detail ethanol production. 7

4. Explain in detail Biogas production. 15

Or

(a) Write a note on Composting. 8

(b) Describe in detail Biodiesel. 7

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

(a) Definition of Biotechnology

(b) Genetic counselling.

(c) Cheese making

(d) Trickling filter

(e) Biodegradation.

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VB—18—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2024

(New Pattern)

BIOTECHNOLOGY

Paper-I

(Microbiology)

(Tuesday, 3-12-2024)

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 diagram wherever necessary.

1. Describe in detail discovery of anaerobic life and physiological significance of fermentation. 15

Or

- (a) Write a short note on micrographia of Anton Von Leeuwenhoek. 8
- (b) Write a short note on Aristotle's notion about spontaneous generation. 7
2. Describe in detail soil and agricultural microbiology. 15

P.T.O.

WT

(2)

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Or

- (a) Write a short note on dairy microbiology. 8
- (b) Write a short note on space microbiology. 7
3. Describe in detail Gram positive and Gram negative cell wall of bacteria. 15
- Or*
- (a) Write a short note on flagella and pili of bacteria. 8
- (b) Write a short note on PHB granules. 7
4. Describe in detail structure and function of eukaryotic cell. 15
- Or*
- (a) Differentiate between Endospore and Exospore. 8
- (b) Write a short note on Sporulation of endospore. 7
5. Write short notes on any *three* of the following : 15
- (a) Koch's Postulates
- (b) Medical microbiology
- (c) Gas vesicles
- (d) Golgi complex
- (e) Geomicrobiology.

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NEPVB—101—2024

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

(NEP 2020)

BIOTECHNOLOGY

Paper–SBTTCT–1101

(Basics of Cell Biology)

(Friday, 13-12-2024)

Time : 10.00 a.m. to 12.00 noon

Time—2 Hours

Maximum Marks—40

N.B. :— (i) Question No. 1 is compulsory.

(ii) Of the remaining, attempt any *three* questions.

(iii) Draw neat and labelled diagram wherever necessary.

1. Write brief notes on the following : 10

(a) Cell theory

(b) Plant cell wall

(c) Ribosomes

(d) Cell cycle

2. Describe in brief Prokaryotic cell. 10

P.T.O.

3. What is cytoskeleton ? Describe in brief microtubules and intermediate filaments. 10
4. Explain in detail structure and functions of endoplasmic reticulum. 10
5. Write a note on Mitochondria. 10
6. Write brief notes on the following : 10
 - (a) Bacteria
 - (b) Peroxisomes
 - (c) Nuclear Pores
 - (d) Phagocytosis.

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NEPVB—103—2024

FACULTY OF SCIENCE & TECHNOLOGY

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

NOVEMBER/DECEMBER, 2024

(NEP 2020)

BIOTECHNOLOGY

Paper—SBTTCT—1103

(Basics of Microbiology)

(Monday, 16-12-2024)

Time : 10.00 a.m. to 12.00 noon

Time—2 Hours

Maximum Marks—40

N.B. :— (i) Question No. 1 is compulsory.

(ii) From Q. No. 2 to Q. No. 6, solve any *three* questions.

1. Attempt the following (2½ marks each) :

10

(a) Capsule

(b) Pilli

(c) Cell membrane

(d) Mesosome.

P.T.O.

2. Write in detail about the discovery of various scientists and their contribution to modern microbiology. 10
3. Describe the simple staining method. 10
4. Describe the structure of gram positive bacterial cell wall. 10
5. Explain the structure and functions of cell-membrane. 10
6. Write short notes on the following (2½ marks each) : 10
 - (a) Edward Jenner
 - (b) Cell wall
 - (c) Ribosome
 - (d) Louis Pasteur

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NEPVB—102—2024

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

(NEP 2020)

BIOTECHNOLOGY

Paper—SBTTCT—1102

(Biochemistry-I)

(Saturday, 14-12-2024)

Time : 10.00 a.m. to 12.00 noon

Time—2 Hours

Maximum Marks—40

N.B. :— (i) Question No. 1 is compulsory.

(ii) Of the remaining, attempt any *three* questions.

(iii) Represent your answers with well labelled diagrams wherever necessary.

1. Write brief notes on the following :

10

(a) Sucrose

(b) Peptides

(c) Nucleotides

(d) Vitamin C

P.T.O.

2. Define carbohydrates. Describe in detail structure, properties hydrolysis of starch. 10
3. Describe in detail classification of proteins. 10
4. Describe in detail Watson and Crick model of DNA. 10
5. Describe in detail fat soluble vitamins. 10
6. Write brief notes on the following : 10
 - (a) Lactose
 - (b) Enzymes
 - (c) t-RNA
 - (d) Fatty acid.