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VB—15—2024

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

(New Pattern)

BIOTECHNOLOGY

Paper—CCBT-2B

(Biomolecules)

(Monday, 2-12-2024)

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

Time—3 Hours

Maximum Marks—75

N.B. :— (i) Attempt all questions.

(ii) All questions carry equal marks.

(iii) Represent your answers with well labelled diagrams.

1. Define Carbohydrates. Describe in detail occurrence, structure and hydrolysis of starch. 15

Or

(a) Explain structure and properties of Lactose. 8

(b) Explain open chain and closed structure of Glucose. 7

2. Describe in detail classification of amino acids. 15

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Or

- (a) Write a note on peptides. 8
- (b) Explain secondary structure of proteins. 7
3. Describe in detail different forms of DNA. 15
- Or*
- (a) Describe structure of *t*-RNA. 8
- (b) Write a note on Nitrogen bases. 7
4. Define vitamins. Describe in detail occurrence and deficiency disorder of fat soluble vitamins. 15
- Or*
- (a) Explain structure of Cholesterol. 8
- (b) Write a note on Vitamin 'C'. 7
5. Write short notes on (any *three*) : 15
- (a) Sucrose
- (b) Enzymes
- (c) *m*-RNA
- (d) Fatty acids
- (e) Biological roles of proteins.

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FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

(New Pattern)

BIOTECHNOLOGY

Paper—AECBT-2A

(Business Communication)

(Wednesday, 27-11-2024)

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. What aspects do we consider while talking about a place ? 15

Or

(A) Narrate your senior college's first day. 8

(B) Describe your favourite recipe. 7

2. Solve any *three* sub-questions among the following : 15

(A) Rewrite sentences with correct form of the word : 5

(a) Please ensure that the information is accurate/accurately represented.

P.T.O.

- (b) The stormy weather affected/effectuated our travel plans.
- (c) The chef can cook fish very well/good.
- (d) I accepted the challenge, except/expecting it to be difficult.
- (e) I don't want to lose/lose your keys.

(B) Give meaning of the following Idioms and Phrases :

5

- (a) Bite the bullet.
- (b) The ball is in your court.
- (c) Cut to the chase.
- (d) Actions speak louder than words.
- (e) Keep an eye on the ball.

(C) Give Synonyms of each word :

5

- (a) Wealthy.
- (b) Important.
- (c) Knowledgeable.
- (d) Eccentric.
- (e) Worsen.

- (D) Give one word substitution for the following : 5
- (a) One who believes in fate.
 - (b) Life history of a person written by that person.
 - (c) A person who is excessively fond of or addicted to music.
 - (d) The art and science of cultivating gardens and managing landscape.
 - (e) A speech delivered without any previous preparation.

3. Discuss types of Reading skills and some guidelines to comprehend passage. 15

Or

- (A) Choose the option that represents the most logical order : 8
- (a) There new publication on this subject is attempted to lend teachers a helping hand.
 - (b) Environment education unit of centre for science and environment has always been working towards providing easy to understand reading material.
 - (c) It unfolds in two sections-climate change : How to make sense of it all and natural resources how to share and care.
 - (d) However they are introduced to students not as a paragraph to memorize but as an activity to do.

(B) What is Cloze Test ? Discuss skills needed to solve Cloze Test. 7

P.T.O.

4. What is Notice and Agenda of Meeting ? Draft a Notice of the 14th Annual Meeting of Board of Directors of ATS Group of Industries, Pune including agenda. 15

Or

- (a) State some tips to write an effective business mail. 8
- (b) Discuss some steps to write good short story. 7
5. Write short notes on any *three* : 15
- (a) Asking opinions
- (b) How to use Dictionary effectively
- (c) Solving Para Jumbles
- (d) Steps to write Job Application
- (e) Introduction to Research Paper.

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FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

(New Pattern)

BIOTECHNOLOGY

Paper-II

(Microbiology)

(Wednesday, 4-12-2024)

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

Time—3 Hours

Maximum Marks—75

N.B. :— (i) Attempt all questions.

(ii) All questions carry equal marks.

(iii) Draw well labelled diagrams wherever necessary.

1. Explain in detail types of culture media. 15

Or

(a) What are growth factors ? Describe pour plate method. 8

(b) Write a note on nutrient uptake mechanism. 7

2. Describe synchronous culture and continuous culture. 15

Or

(a) Which are the different methods of enumeration of microorganisms.
Explain any two. 8

(b) Describe bacterial growth curve. 7

P.T.O.

3. Describe the principle, construction and working of autoclave and hot air oven.

15

Or

Write notes on :

(a) Tyndallization.

8

(b) Filtration.

7

4. Describe alcohol and phenols as disinfectant.

15

Or

Write notes on :

(a) Quaternary ammonium compounds.

8

(b) Surface active agents.

7

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

3×5=15

(a) Microbial growth control by osmotic pressure

(b) Radiations

(c) Pasteurization

(d) Diauxic growth

(e) Streak plate method.

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FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2024

BIOTECHNOLOGY

Paper—CCBT—1B

(Principles of Genetics)

(Friday, 29-11-2024)

Time : 10.00 a.m. to 12.00 noon

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. Explain in brief Mendalian laws of Inheritance. 15

Or

(a) Describe in detail complimentary gene. 8

(b) Write in detail supplementary gene. 7

2. What is linkage ? Describe it in detail. 15

Or

(a) Describe in brief crossing over. 8

(b) Write a note on structural changes in chromosomes. 7

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(2)

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3. Describe in detail spontaneous mutation. 15

Or

(a) Explain in brief Induced mutation. 8

(b) Write a note on gene concept. 7

4. Explain in brief transformation. 15

Or

(a) Write a note on Conjugation. 8

(b) Describe in detail plasmid. 7

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

(a) Multiple alleles

(b) Duplicate gene

(c) Numerical changes in chromosomes

(d) Transposable elements

(e) Transduction.

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