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PB—15—2024

FACULTY OF SCIENCE

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

APRIL/MAY, 2024

(New Course)

BIOTECHNOLOGY

(Biomolecules)

(Monday, 08-04-2024)

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

Time—3 Hours

Maximum Marks—75

- Note** :— (i) All questions are compulsory.
(ii) All questions carry equal marks.
(iii) Draw diagram wherever necessary.

1. Define carbohydrate. Describe in detail classification of carbohydrate. 15

Or

(a) Discuss chemical properties of monosaccharides. 8

(b) Explain structural aspects of monosaccharides. 7

2. Describe in detail nomenclature and classification of enzymes. 15

Or

(a) Explain physical and chemical properties of amino acid. 8

(b) Describe in detail tertiary and quaternary structures of proteins. 7

P.T.O.

3. Define nucleic acid. Discuss in detail types of RNA. 15

Or

(a) Explain nucleotides and nucleosides. 8

(b) Explain properties and biological role of nucleic acid. 7

4. Define lipid. Discuss classification of lipid with examples. 15

Or

(a) Explain water soluble vitamins with its structure, disorder and clinical significance. 8

(b) Discuss disorder and clinical significance of fat soluble vitamins. 7

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

(i) Glycogen

(ii) Peptides

(iii) Forms of DNA

(iv) α -helix

(v) Cholesterol.

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PB—04—2024

FACULTY OF SCIENCE

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

APRIL/MAY, 2024

(New Course)

BIOTECHNOLOGY

(Business Communication–AECBT–2A)

(Wednesday, 03-04-2024)

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

Time—3 Hours

Maximum Marks—75

Note :— (i) All main questions are compulsory.

(ii) All main questions carry equal marks.

1. What aspects do we consider while describing an object or a thing ? 15

Or

(a) Narrate your first visit to your Junior College. 7

(b) Describe your favourite Cricketer or Social Worker. 8

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

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

(i) I don't want to lose/loose your keys.

(ii) Clothes that are lose/loose are comfortable but often not flattering.

(iii) We want an intelligent, capable and principaled/principled leader.

(iv) Please do not lie/lay on that sofa.

(v) Karen said that her chocolate desert/dessert was delicious.

P.T.O.

- (B) Give meaning of the following Idioms and phrases : 5
- (i) To hit the nail on the head
 - (ii) No pain no gain
 - (iii) The last straw
 - (iv) A couch potato
 - (v) Let the cat out of bag.
- (C) Give antonyms of each word : 5
- (i) Timid
 - (ii) Enlarge
 - (iii) Eccentric
 - (iv) Narrow
 - (v) Worsen
- (D) Give one word substitution for the following : 5
- (i) One who believes in fate
 - (ii) Life history of a person written by that person
 - (iii) A speech delivered without any previous preparation
 - (iv) One who studies the evolution of mankind
 - (v) A state of disorder due to absence of authority.

3. What are the basic approaches for understanding English ? 15

Or

(A) Choose the option that represents the most logical order : 8

- (i) When they gathered together, the Buddha was completely silent and some speculated that perhaps the Buddha was tired or ill.
- (ii) It is said that Gautam Buddha gathered his disciples one day for a Dharma talk.
- (iii) One of the Buddha's disciples, Mahakashyapa, silently gazed at the flower and broke into a broad smile.
- (iv) The origin of Zen Buddhism is ascribed to the Flower Sermon, the earliest source which comes from the 14th century.
- (v) The Buddha silently help up and twirled a flower and twinkled his eyes, several of his disciples tried to interpret what this meant though none of them was correct.

(B) Fill in the blanks with the appropriate word from the given options :

7

Every day for a whole year, all kind of holy men, hermits, scholars and nobles came, and related to the priests their deeds of __(1)__, and the priests in solemn council heard their calms. At last, they decided that the one who seemed to the three greatest lover of __(2)__ was a rich man who had that very year given all his __(3)__ to the poor. So they gave him the plate of gold, but when he took it in his hand, it turned into __(4)__ lead; thought, when he dropped it on the floor, to his __(5)__, it become gold again.

- (i) Charity/kindness/happiness/sympathy
 - (ii) Destitute/Money/less/Mankind/Women
 - (iii) Wealth/Energy/time/Life
 - (iv) Gold/Worthy/Worthless/Valuable
 - (v) Confusion/Happiness/admiration/Amazement
4. Discuss the steps to write an effective Research Paper. 15
- Or*
- (a) Write an email to you frined to invite him/her for your parents' marriage anniversary. 8
 - (b) What are the Meeting Minutes ? What is should contain ? 7
5. Write short notes on any *three* : 15
- (a) Freedom of opinions and Expressions
 - (b) Three types of Narration
 - (c) Importance of Vocabulary
 - (d) Job Application
 - (e) Steps to write Moral Stories.

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PB—09—2024

FACULTY OF SCIENCE

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

APRIL/MAY, 2024

(New Pattern)

BIOTECHNOLOGY

(Principle of Genetics)

(Friday, 05-04-2024)

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

Time—3 Hours

Maximum Marks—75

Note :— (i) All questions are compulsory.

(ii) All questions carry equal marks.

1. Write in brief about complementary gene and supplementary gene. 15

Or

(a) Explain in detail multiple allele. 8

(b) Describe in detail Mendel's laws of segregation. 7

2. Describe in brief crossing over. 15

Or

(a) Structural changes in chromosomes. 8

(b) Numerical changes in chromosomes. 7

3. What is Mutation ? Describe in detail spontaneous mutation. 15
- Or*
- (a) Base analogue and Acridine dyes. 8
- (b) UV light and Alkylating agents. 7
4. Describe in detail transduction. 15
- Or*
- (a) Plasmid 8
- (b) Conjugation. 7
5. Write short notes on (any *three*) : 15
- (a) Duplicate gene
- (b) Linkage
- (c) Classical and modern gene concept
- (d) Transposable element
- (e) Transformation.