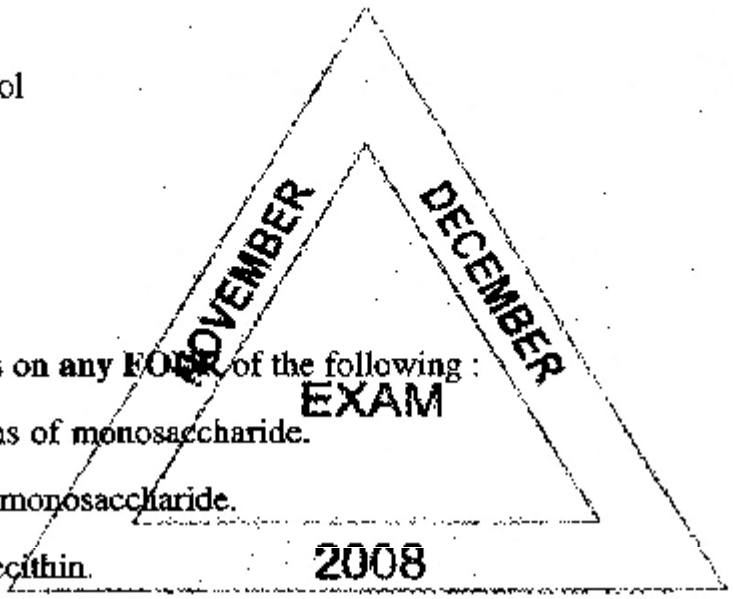
DPA – 510 BT (F)

M.Sc. (Previous) Biotechnology Examination, November 2008
Directorate of Distance Education Course
Paper – I : CHEMISTRY OF BIOMOLECULES AND BIOSTATISTICS
(Freshers)

Time : 3 Hours | Max. Marks : 85

*Note : 1) Answer **all** questions.*
*2) Illustrate **wherever** it is necessary.*

1. Explain briefly the following : **(5×3=15)**
   a) β-sheet
   b) Triacyl glycerol
   c) LSD
   d) Mutarotation
   e) 't-test'.



2. Write short notes on **any FOUR** of the following : **(4×5=20)**
   a) Conformations of monosaccharide.
   b) Reactions of monosaccharide.
   c) Structure of lecithin.
   d) Linear regression.
   e) General characteristics of Alkaloids.

3. Answer **any TWO** of the following : **(2×10=20)**
   a) Explain the structure of haemoglobin.
   b) Elucidate the structure of cellulose.
   c) Explain the types of errors.

P.T.O.

4. Calculate the variance of the following class data :

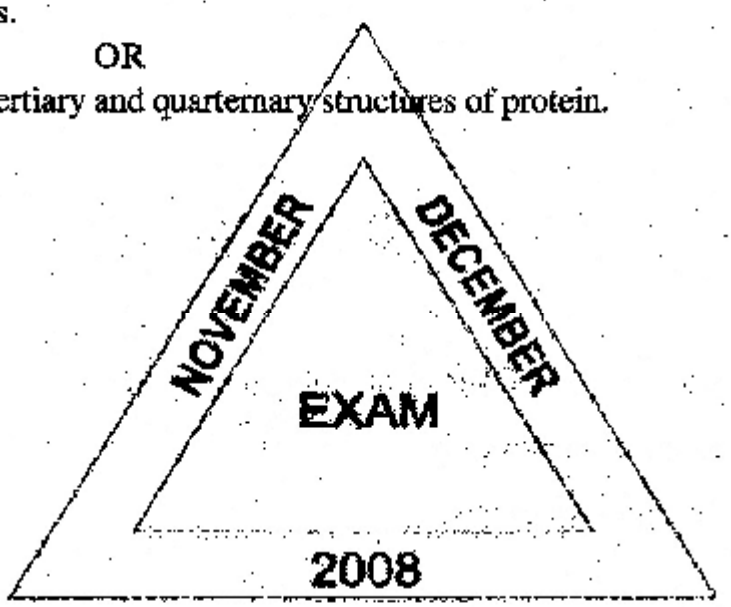
Class sequence	Frequency
10 – 20	03
21 – 30	09
31 – 40	10
41 – 50	08
51 – 60	14
61 – 70	06

15

5. Write an account on the sequencing of amino acids. Explain the specific reactions of amino acids. **15**

OR

Describe the tertiary and quarternary structures of protein.



DPA – 520 BT (F)

M.Sc. (Previous) Biotechnology Examination, November 2008

(Freshers)

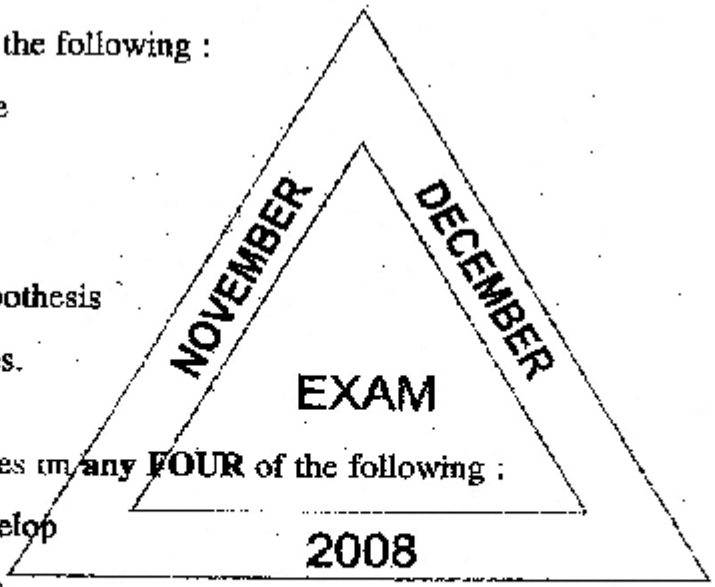
Directorate of Distance Education Course

Paper – II : CELL AND MOLECULAR BIOLOGY

Time : 3 Hours Max. Marks : 85

*Notes : 1) Answer **all** questions.*

*2) Illustrate **wherever** it is necessary.*



1. Write notes on the following : **(5×3=15)**

   a) Operator site

   b) Nucleolus

   c) r RNA

   d) Wobble hypothesis

   e) Microtubules.

2. Write short notes on **any FOUR** of the following : **(4×5=20)**

   a) Nuclear envelop

   b) Peroxisomes

   c) RNA splicing

   d) Polytene chromosome

   e) Features of genetic code.

3. Write detailed notes on **any TWO** of the following : **(2×10=20)**

   a) Meiosis and its significance

   b) Tryptophan operon

   c) Fluid mosaic model.

P.T.O.

DPA – 530 Bt (F)

M.Sc. (Previous) Biotechnology Examination, November 2008
Directorate of Distance Education Courses
Paper – III : MICROBIOLOGY AND IMMUNOLOGY
(Freshers)

Time : 3 Hours Max. Marks : 85

*Note : 1) Answer **all** questions.*
*2) Illustrate **wherever** it is necessary.*

1. Explain briefly the following : **(5×3=15)**
   a) Epitope.
   b) T-Lymphocytes.
   c) Prions.
   d) Robert Hook.
   e) Dengue.

2. Write short notes on **any FOUR** of the following : **(4×5=20)**
   a) Preservation of soil micro organisms.
   b) Types of antibodies.
   c) Techniques of microbial isolation.
   d) Immunodiagnosis of tumors.

3. Write detailed note on **any TWO** of the following : **(2×10=20)**
   a) Natural and artificial immunity.
   b) Reproduction in protozoa.
   c) Importance of microorganisms in Dairy industry.

4. Explain the types of antigen-antibody reactions. **15**

   OR

   Describe the contributions of Louis Pasteur.

5. Describe the pathogenesity, epidemiology and lab diagnosis of Pneumonia. **15**

   OR

   Write an account on the role of microbes in Agriculture.

DPA – 540 Bt (F)

M.Sc. (Previous) Biotechnology Examination, November 2008
Paper – IV : BASIC ENZYMOLOGY
(Directorate of Distance Education Course)
(Freshers)

Time : 3 Hours | Max. Marks : 85

Note : 1) Answer all questions.
2) Illustrate wherever it is necessary.

1. Define – Explain briefly the following : **(5×3=15)**

   a) Enzyme specificity

   b) Isoenzymes

   c) Lactate dehydrogenase

   d) Role of metals in enzyme action

   e) Allosteric enzyme.

2. Write short notes on **any FOUR** of the following : **(4×5=20)**

   a) Competitive inhibition

   b) Serum enzymes of myocardial interactions

   c) Feedback-regulation

   d) RNA as enzymes

   e) Membrane bound enzymes.

3. Answer **any TWO** of the following : **(2×10=20)**

   a) Write an account on lipid - protein interaction.

   b) Discuss the various factors affecting enzyme activity.

   c) Give an account of purification of enzymes.

P.T.O.

4. Discuss the methods of enzyme immobilization and add a note on its applications.

OR

Describe the mechanisms of enzyme actions. **15**

5. Write in **detail** the role of NAD, FAD and Co.A as coenzymes.

OR

Discuss the derivations of Michaelis - Menten equation. **15**