



SRI Y.N. COLLEGE (Autonomous)

(Affiliated to Adikavi Nannaya University) Trice accredited by NAAC with 'A' Grade
Recognized by UGC as College with Potential for Excellence

NARASAPUR – 534 275

1st Year Para Medical Course

Semester – II

Syllabus – Basic Principles of Biochemistry

UNIT - 1

WATER : Physical properties, structure and its interactions, role of water in life, P^H & Buffer – Bronsted – Lowry Theory of Acids and Bases, Buffers – Biological Buffer systems.

UNIT - 2

CARBOHYDRATES : Monosaccharides, Polysaccharides – Definition, Classification, Properties and Reactions.

UNIT - 3

PROTEINS: Definition, Classification, Properties, and Reactions.

AMINOACIDS : Definition, Classification, Properties and Reactions.

UNIT - 4

LIPIDS : Definition, Classification, Properties and Reactions

ENZYMES : Definition, Classification, Properties and Reactions.

UNIT - 5

VITAMINS & MINERALS: A, B, C, D, E & K – Nomenclature, sources, Occurrences, Functions and its Metabolism.

REFERENCE BOOKS:-

1. A Text Book of Medical Biochemistry – Chatterjee & Shinde
2. A Text Book of Biochemistry – C.B. Powar & Chatwal.
3. Principles of Biochemistry – Nelson Cox Medical Laboratory Procedure Manual (T-M) by K.L.Mukherjee 1987, Vol.I, II & III Tata.



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Syllabus – Basic Principles of Biochemistry

Practical Syllabus:

1. To study general laboratory safety rules.
2. Demonstration of Photocalorimeter.
3. Demonstration of Spectrophotometer.
4. Demonstration of P^H meter.
5. Identification of Urine Glucose (Benedicts Test).
6. Collection of Capillary blood.
7. Estimation of Glucose in blood.
8. Estimation of serum creatinine in the blood.
9. Separation of Plasma from blood.
10. To separate serum from blood.
11. Identification of urine proteins.

1. Amrta

2.

3. P. Srinivasulu

4. K. Uthasani

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5. J. Sanyanarayana Rao

6. G. Ramesh

7. S. Krishna Kumar

8. P. Srinivasulu

9. K. Srinivasulu

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NARASAPUR – 534 275

Department of Zoology

SEMESTER – II

PARAMEDICAL SCIENCE - PAPER-2

BASIC PRINCIPLES OF BIOCHEMISTRY

Max.Marks : 75

Time: 3 Hrs.

SECTION – 1

Answer any FIVE of the following. Draw a labeled diagram wherever necessary. $5 \times 5 = 25$

1. Role of water in life – నిత్యజీవితంలో నీటి యొక్క ప్రాముఖ్యత
2. Structure of Monosaccharides – మోనోసాకరైడ్స్ నిర్మాణము.
3. Denaturation of Proteins – ప్రోటీన్స్ యొక్క స్వభావ వికలత
4. Acid-base properties of Amino acids – అమినో యాసిడ్స్ ఆమ్ల క్షార ధర్మములు
5. Essential amino acids – ఆవశ్యక అమినో యాసిడ్లు
6. Functions of Lipids – లిపిడ్స్ యొక్క విధులు
7. Clinical significance of Enzymes – ఎంజైమ్స్ యొక్క క్లినికల్ ప్రాముఖ్యత
8. Functions of Vitamins – విటమిన్ల యొక్క విధులు.

SECTION – 2

Answer any FIVE questions. Choosing at least two questions from Section A & B. Draw a suitable labeled diagram wherever necessary. $5 \times 10 = 50$

SECTION - A

9. What are Carbohydrates? Classify Carbohydrates with suitable examples. కార్బోహైడ్రేట్స్ అనగా నేమి? కార్బోహైడ్రేట్స్ ను సోదాహరణముగా వర్గీకరింపుము.
10. What are Proteins? Classify Proteins with suitable examples. మాంసకృత్తులు అనగా నేమి? మాంసకృత్తులను సోదాహరణముగా వర్గీకరింపుము.

11. Write the classification and properties of Amino acids.
అమినో ఆమ్లాలు వర్గీకరణ మరియు ధర్మములను గూర్చి వ్రాయుము.
12. Describe the structure of Proteins.
ప్రోటీన్స్ యొక్క నిర్మాణమును వర్ణింపుము.
13. Describe the structure of Polysaccharides.
పాలీసాకారైడ్స్ యొక్క నిర్మాణమును వర్ణింపుము.

SECTION - B

14. Write Physical properties of Water.
నీటి భౌతిక ధర్మాలను గూర్చి వ్రాయుము.
15. Write an essay on buffers.
బఫర్స్ ను గూర్చి ఒక వ్యాసము వ్రాయుము.
16. What are lipids? Classify lipids with suitable examples.
క్రోవులు అనగా నేమి? క్రోవులను సోదాహరణముగా ఉదాహరణలతో వివరింపుము.
17. Explain the properties and reactions of Enzymes.
ఎంజైముల యొక్క ధర్మములు మరియు చర్యా విధానములను వివరింపుము.
18. Write an essay on Vitamins.
విటమిన్లను గూర్చి ఒక వ్యాసము వ్రాయుము.

1. [Signature]

5. G. Suryanarayana Raju

2.

6. B. R. R. R.

3. [Signature]

7. S. Krishna Kumar

4. K. U. Ravi

8. [Signature]

9. K. Ravi

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Under Section - 1: 5 questions from unit 1, 2 & 3; 3 questions from unit 4

Under Section - 2: Section A-5 questions from unit 2 & 3
Section B-2 questions from unit 1 and 2 questions from unit 4 and 1 question from unit 5.

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NARASAPUR – 534 275

Department of Zoology

SEMESTER – 2

PARAMEDICAL SCIENCE-PAPER-2

BASIC PRINCIPLES OF BIOCHEMISTRY

PRACTICAL MODEL QUESTION PAPER

Time: 3 Hrs.

Max.Marks: 50

1. Major Experiment:

Demonstrate and write the description of photo calorimeter 10 + 10 = 20M

2. Minor Experiment.

Estimation of Glucose in given blood sample. 1 x 15 = 15 M

3. Record and Field Note Book.

10 + 5 = 15M

Total:

50M

1. Amrta

5. G. Srujanarayana Ratu

2.

6. G. Rama Babu

3. Rameshwar

7. S Krishna Kumar

4. K. Uma Devi

8. Shruti

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9. K. Ravi

Amrta
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