

PARAMEDICAL BOARD, BANGALORE
ANNUAL EXAMINATION AUGUST - 2018
II4 Diploma in Medical Laboratory Technology (RS2)

Time: 3.00 HRS

Max Marks:100

GENERAL INSTRUCTIONS:

- i) The question paper has two parts A and B. Both the parts are compulsory.
Write neat diagrams wherever necessary, Handwriting should be legible.

Subject: Biochemistry

Q P CODE: 5103

- I. Short notes, answer any FOUR questions. 4 X 5 = 20 marks**
1. Explain the principle and components of Colorimeter. Write about Beer Lambert's law.
 2. Ion selective Electrodes.
 3. Describe Venipuncture with respect to preliminary steps, location, preparation of site and blood collection.
 4. Anticoagulants. Add a note on different types of vacutainers.
 5. Precautions and measures to be taken to prevent hazards from Volatile substances and compressed gases in laboratory.
- II. Short answers 10 X 3 = 30 marks**
6. Dessicator.
 7. Define Hemolysis. Enumerate the causes of hemolysis of blood sample.
 8. Deep Freezer.
 9. Internal Quality Control.
 10. Deionized water.
 11. Write about cleaning of plastic ware in laboratory.
 12. Name the diseases from which lab technicians can protect themselves by the use of Gloves while handling blood and other body fluids in the laboratory.
 13. Volumetric Flasks.
 14. Types of Centrifuges.
 15. Define a) Solute. b) Solvent. c) Solution.

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(College Code - 342)
Mysore Road, Malavalli - 571430, Mandya Dist.

Subject: Biochemistry

Q P CODE: 5104

- I. Short notes, answer any FOUR questions. 4 X 5 = 20 marks**
1. Define isoenzymes. Write in detail isoenzymes of LDH, ALP and CPK.
 2. Define heteropolysaccharides. Add a note on each one with its significance.
 3. Classify plasma proteins. Add a note on biochemical functions of each class.
 4. Write in detail about vitamin -K
 5. Define micro-minerals. Add a note on any two micro-minerals and their clinical significance.
- II. Short answers 10 X 3 = 30 marks**
6. What are strong acids and strong bases?
 7. Classify different types of salt.
 8. Define buffers. How standard buffer solution is prepared?
 9. Normal values of serum sodium, potassium and chloride .
 10. Define essential amino acids and name them.
 11. Structure of IgG and label the parts.
 12. Define purines and pyrimidines and name them.
 13. Define metallo-enzymes and metal activated enzymes with on example.
 14. Name the test to determine normal constituents of urine.
 15. In which condition sugar and ketone bodies are seen in urine? Name the tests to determine them.

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PARAMEDICAL BOARD, BENGALURU
SUPPLEMENTARY EXAMINATION, FEBRUARY 2019
II YEAR DIPLOMA IN MEDICAL LABORATORY TECHNOLOGY

TIME 3 HRS

(RS-2 SCHEME)

MAX.MARKS.100

QP CODE: 5103, BIOCHEMISTRY, SECTION –A

I SHORT NOTES ANSWER ANY FOUR

5X4=20

1. Colorimeter
2. Phlebotomy procedure
3. Different types of flasks
4. Different types of balances
5. Centrifugation and its uses

II SHORT ANSWERS

3X10=30

6. Disposal of specimen
7. Incubators
8. Normal solution
9. Define buffer and mention its significance
10. What is primary standard and mention its importance
11. Use of spectrophotometer
12. How do you prepare 10% NaCl solution ?
13. What is stock solution and mention its importance
14. Hot air oven
15. Different types of glass and plastic ware in laboratory and their significance

QP CODE: 5104, BIOCHEMISTRY, SECTION –B

I SHORT NOTES ANSWER ANY FOUR

5X4=20

1. Define and classify salts with examples
2. Classify proteins with examples
3. Define lipids. How are they classified?
4. Isoenzymes
5. Abnormal constituents of urine

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II SHORT ANSWERS

3X10=30

6. Lowry Bronsted theory of acids and bases
7. List out three differences between DNA and RNA
8. Patient data registration
9. Essential amino acids
10. Polysaccharides
11. Micro minerals- definition and examples
12. Lipoprotein
13. Reagent stock book
14. Acid base indicators
15. Fat soluble vitamins - definition and examples

PARAMEDICAL BOARD, BENGALURU
ANNUAL EXAMINATION, AUGUST 2019

II YEAR DIPLOMA IN
MEDICAL LABORATORY TECHNOLOGY (DMLT)

TIME: 3 HRS

(RS -2 SCHEME)

MAX. MARKS: 100

QP CODE: 5103, BIOCHEMISTRY

I. SHORT NOTES -ANSWER ANY EIGHT QUESTIONS

8 x 5 = 40

- 1) Classify carbohydrates. Add a note on reducing and non reducing sugars.
- 2) Factors affecting enzyme activity.
- 3) Describe about the use, care and maintenance of water distillation plant and water Deioniser.
- 4) Name fat soluble vitamins. Mention the functions & deficiency diseases of vitamin D.
- 5) Different types of deliquescent and hygroscopic salts.
- 6) Spectrophotometer labeled the parts. Write their maintenance and uses.
- 7) Preparation of standards using conventional and SI units.
- 8) Write about phlebotomy and specimen collection, storage, transport and Disposal.
- 9) Laboratory laws and regulations & quality control.
- 10) Different types of Balances.

II. SHORT ANSWERS (ANSWER ALL)

20 x 3=60

- 11) Write about cleaning of plastic ware in laboratory.
- 12) Night blindness.
- 13) Lowry - Bronsted theory of Acids and Bases.
- 14) Patient data registration.
- 15) Incubators.
- 16) 10% NaCl solution preparation.
- 17) Amino acid definition & classifications.
- 18) Functions of Phospholipids.
- 19) Structure of DNA.
- 20) P^H meter and electrodes use, care and maintenance.
- 21) Centrifuge.
- 22) Water bath.
- 23) Reflex condenser
- 24) Hot air Oven.
- 25) Calibration of glass pipettes.
- 26) Internal Quality Control.
- 27) Transamination.
- 28) Normal values of sodium, potassium and chloride.
- 29) Lipid profile.
- 30) Isoenzymes.

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KARNATAKA NURSING & PARAMEDICAL SCIENCES EDUCATION (REGULATION) AUTHORITY
PARAMEDICAL BOARD, BENGALURU
SUPPLEMENTARY EXAMINATION, JANUARY 2020
II YEAR DIPLOMA IN MEDICAL LABORATORY TECHNOLOGY
(DMLT)
QP CODE: 5103, BIOCHEMISTRY (RS -2 SCHEME)
(WRITE IN GREEN ANSWER BOOK)

TIME: 3 HRS

MAX. MARKS: 100

I. SHORT NOTES -ANSWER ANY EIGHT QUESTIONS

8 x 5 = 40

- 1) Explain different types of Centrifuges. Write about their maintenance & uses.
- 2) Reflux condenser use, care and maintenance.
- 3) Different types of flasks.
- 4) Phlebotomy procedures.
- 5) Normal solution.
- 6) Classification of enzymes with examples.
- 7) Normal organic & inorganic constituents of Urine.
- 8) Name the types of RNA. Write briefly on structure of tRNA.
- 9) Normal serum calcium level? Name any four functions of calcium in the body.
- 10) Classification of lipids. Mention the functions of Phospholipids.

II. SHORT ANSWERS

20 x 3=60

- 11) Different types of pipettes.
- 12) Heparin.
- 13) Different types of Cuvettes.
- 14) Water bath.
- 15) PH meter.
- 16) Cold Box.
- 17) Hydrogen ion concentration.
- 18) Preparation of buffer solution using PH meter.
- 19) Essential amino acids.
- 20) Homopolysaccharides.
- 21) Plasma proteins.
- 22) Conjugated proteins.
- 23) Deficiency diseases of Vitamin A.
- 24) Reference forms.
- 25) Isoenzymes.
- 26) Commonly used indicators
- 27) Log Books.
- 28) Rancidity of Fat.
- 29) Different cleaning solutions.
- 30) Classify salts with examples.

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PARAMEDICAL BOARD, BENGALURU
ANNUAL EXAMINATION, NOVEMBER 2020
II YEAR DIPLOMA IN MEDICAL LABORATORY TECHNOLOGY
(DMLT)

TIME: 3 Hrs

(RS -2 SCHEME)

MAX. MARKS: 100

QP CODE: 5103 BIOCHEMISTRY

(WRITE IN GREEN ANSWER BOOK)

SHORT NOTES: ANSWER ANY EIGHT

8x5=40

- 1 Explain different types of Centrifuges. Write about their maintenance & uses
- 2 Give the classification of lipids. Mention the functions of Phospholipids
- 3 Mention the normal serum calcium level? Name any four functions of calcium in the body
- 4 Name the types of RNA. Write briefly on structure of tRNA
- 5 Normal organic & inorganic constituents of urine
- 6 Classification of enzymes with examples
- 7 Define Normal solution with two examples
- 8 Phlebotomy procedures
- 9 Reflux condenser use, care and maintenance
- 10 Different types of flasks

SHORT ANSWERS

20 x3=60

- 11 Different types of pipettes
- 12 Plasma proteins
- 13 Classify salts with examples
- 14 Different cleaning solutions
- 15 Rancidity of fat
- 16 Log books
- 17 Name three commonly used indicators
- 18 Isoenzymes
- 19 Reference forms
- 20 Deficiency diseases of Vitamin A
- 21 Conjugated proteins
- 22 Homopolysaccharides
- 23 Essential amino acids
- 24 Preparation of buffer solution using pH meter
- 25 Hydrogen ion concentration
- 26 Cold box
- 27 Indicators-uses
- 28 Water bath
- 29 Different types of cuvettes
- 30 Heparin

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PARAMEDICAL BOARD, BENGALURU
SUPPLEMENTARY EXAMINATION, JULY 2021
II YEAR DIPLOMA IN MEDICAL LABORATORY TECHNOLOGY
(DMLT)

TIME: 3 Hrs

(RS -2 SCHEME)

MAX. MARKS: 100

QP CODE: 5103 BIOCHEMISTRY

(WRITE IN GREEN ANSWER BOOK)

SHORT NOTES: ANSWER ANY EIGHT

8x5=40

- 1 Classify Lipids. Add a note on properties of lipids and lipoproteins
- 2 Classification of Enzymes with their examples
- 3 Name fat soluble vitamins. Mention the Vitamin A deficiency diseases
- 4 Preparation of normal solution, molar solution and percent solution
- 5 Colorimeter-diagram, parts & uses
- 6 List the commonly used indicators and their pH range. Suitable pH indicators used in different acid-base titrations
- 7 Reference forms. Maintenance of registers, log books and quality control records
- 8 Classification of acids and bases. Difference between base and alkali
- 9 Safety measures in Laboratory, maintenance of Lab data
- 10 Maintenance of Glass wares

SHORT ANSWERS

20 x3=60

- 11 Preparation of buffers solution using pH meter
- 12 Methods of measuring liquids, weighing solids
- 13 Reflex condenser uses and maintenance
- 14 Deep freezer maintenance and uses
- 15 Different types of Funnels and their uses
- 16 Types of Cuvettes and significance in Colorimeter
- 17 Write briefly on Anticoagulants
- 18 Saturation and super saturation solutions
- 19 Name three polysaccharides and functions of each
- 20 Essential amino acid with examples
- 21 Reference values
- 22 Difference between Nucleoside and Nucleotide
- 23 Normal constituents of urine
- 24 What are Isoenzymes?
- 25 Name three macro-elements
- 26 Plasma proteins
- 27 Maintenance of Laboratory statistics
- 28 Preparation of 0.1 N NaCl
- 29 Uses of Incubators
- 30 Different types of cleaning solutions

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PARAMEDICAL BOARD, BENGALURU
ANNUAL EXAMINATION, NOVEMBER 2021
II YEAR DIPLOMA IN MEDICAL LABORATORY TECHNOLOGY
(DMLT)

TIME: 3 Hrs

(RS -2 SCHEME)

MAX. MARKS: 100

QP CODE: 5103 BIOCHEMISTRY

(WRITE IN GREEN ANSWER BOOK)

SHORT NOTES: ANSWER ANY EIGHT

8x5=40

- 1 Write about patient identification, specimen collection, storage and transport
- 2 Reagent bottles
- 3 Cuvettes-types and significance of cuvettes in colorimeter
- 4 Write about use, care and maintenance of hot air oven
- 5 What are centrifuges? Mention the types and uses of centrifuges
- 6 Define a buffer solution. Mention the types with examples
- 7 Polysaccharides
- 8 Classification of amino acids with examples
- 9 What are nucleosides and nucleotides? Give two examples for each
- 10 Name five abnormal constituents of urine

SHORT ANSWERS

20 x3=60

- 11 What are anticoagulants? Mention two anticoagulants
- 12 Beakers-uses
- 13 Pipettes- types and uses
- 14 Covid- 19 Screening Test
- 15 Mention three uses of waterbath
- 16 Uses of refrigerators in the laboratory
- 17 Hygroscopic compounds
- 18 Define pH. Mention the uses of pH meter
- 19 Explain about the preparation of 500mL of 0.1N NaCl from 1N NaCl
- 20 What are salts? Give the classification with examples
- 21 Name three indicators
- 22 Name the plasma proteins and mention their normal values
- 23 What are enzymes? Mention the factors affecting enzyme activity
- 24 Mention three functions of Vitamin A
- 25 Mention three functions of Calcium
- 26 Reference forms
- 27 Name three reducing sugars
- 28 Mention the difference between base and alkali with examples
- 29 Significance of volumetric flasks in the preparation of standard solutions
- 30 Mention three uses of colorimeter

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