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Total Number of Pages 16

B.V.Sc. & A.H. (Second Professional) Examination – 2022

Veterinary Biochemistry Paper –I

(MSVE 2016)

To be filled by the candidate:

Candidate's Roll Number:

In figure .....

In words .....

Candidate's Enrolment Number: .....

Day and date of examination: .....

Please see for general instructions overleaf.

Signatures of invigilators verifying the details filled by the candidate

Signature of invigilator 1: ..... 2: .....

Candidate should not write anything below this line

Marks to be filled by the examiner:

Section A	
Q. No.	**Marks**
1.	
2.	
3.	
4.	
5.	
Total	

Total Marks obtained:

In figures: ..... In words: .....

Signature of examiner: .....

Donot write across this line

Paper-I/80/S1/2nd Yr/2022/M Q Page 1 of 16

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B.V.Sc. & A.H. (Second Professional) Examination – 2022

Veterinary Biochemistry Paper -I

Time: Three Hours **Maximum Marks: 100**
Weightage: 20

Unit-1 (General Veterinary Biochemistry)
Unit- 3 (Veterinary Analytical Biochemistry)

Instructions:

1) Attempt all questions
2) Answer of all questions is to be written in the space provided along with the question in question-booklet.
3) Overwriting is not allowed in the objective type question.

Q.1 Fill in the blanks. **(20x0.5 = 10)**

1.1 The increased UV absorbance by DNA upon denaturation is known as _____.

1.2 The cyclooxygenase pathway of eicosanoid synthesis produces_____

1.3 _____ arm of t RNA serves as the recognition site for the enzyme (amino acyl t RNA synthetase) that adds the amino acid to the acceptor arm.

1.4 The movement of molecules through the protein molecules from higher to lower concentration is called _____diffusion.

1.5 Storage polysaccharide made by animals is_____.

1.6 A nucleoside consists of a nitrogen base linked to sugar by _____bond

1.7 The synthesis of prostaglandins is inhibited by_____ (drug).

1.8 During vigorous exercise, pyruvate produced by glycolysis is converted to _____

1.9 The codon is found on _____and the anticodon is found on _____

1.10 The 5' terminal end of eukaryotic mRNA is capped by _____.

1.11 _____is an example of essential fatty acid.

1.12 Shock caused by abnormal decrease in blood volume is known as _____ shock

1.13 Blood marker for oxidative stress_____

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1.14 _____(enzyme) converts superoxide to hydrogen peroxide and oxygen

1.15 _____ (enzyme) reduces hydrogen peroxide to water while converting glutathione to GSSG

1.16 _____Pathway is the source of NADPH

1.17 Iodine number is the measure of_____

1.18 Covalent bond formed between two monosaccharides by a dehydration reaction is known as _____

1.19 _____formed by a dehydration reaction between glucose and fructose.

1.20 _____is a ketogenic amino acid

Q.2 Choose the most suitable answer and write the number of the correct answer 1 or 2 or 3 or 4 in the space given against each sub question: (20x0.5 = 10)

2.1 The four subunits of hemoglobin represent protein's ( )

1. Primary structure
2. Secondary structure
3. Tertiary structure
4. Quaternary Structure

2.2 Which one of the followings pair of amino acids is responsible for absorbance of light in ultraviolet region at wavelength of 280 nm ( )

1. Arginine and Histidine
2. Tyrosine and Tryptophan
3. Proline and Lysine
4. Cysteine and Methionine

2.3 Which one of the following amino acids is **not** involved in signal transduction ( )

1. Proline
2. Serine
3. Threonine
4. Tyrosine

2.4 Which of the following plasma protein is not involved in iron homeostasis ( )

1. Haptoglobin
2. Transferrin
3. Ferritin
4. Ceruloplasmin

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2.5 The fluidity of plasma membrane increase with ( )

1. Increase in saturated fatty acids in the membrane
2. Increase in unsaturated fatty acids in the membrane
3. Increase in phospholipid content of the membrane
4. Increase in glycolipid content of the membrane

2.6 Fatty acids can be transported into and out of cell membrane by ( )

1. Active transport
2. Facilitated transport
3. Diffusion
4. Osmosis

2.7 Ribose and deoxyribose differ in structure around a single carbon namely ( )

1. C1
2. C2
3. C3
4. C4

2.8 The following nitrogenous base is absent in RNA ( )

1. Thiamine
2. Guanine
3. Cytosine
4. Thymine

2.9 The amino acid commonly used as an ingredient in the buffers of SDS PAGE ( )

1. Aspartic acid
2. Glutamic acid
3. Glycine
4. Aspartic acid and lysine together

2.10 The distribution of intrinsic proteins in the cell membrane is ( )

1. Symmetrical
2. Asymmetrical
3. Uniform
4. Random

2.11 Na+ glucose transporter is an example of ( )

1. Symport
2. Antiport
3. ATP driven active transport
4. Facilitated diffusion

2.12 TΨC arm of tRNA ( )

1. Serves as recognition site for amino acyl tRNAsynthetase
2. Lies at the opposite end of acceptor arm
3. Is involved in the binding of tRNA to the ribosomes
4. Only the tRNA belonging to class 2 have TΨC arm

Donot write across this line

( )

2.13 Cellulose is broken by
1. Beta glycosidase
2. Alpha glycosidase
3. Beta racemase
4. Beta amylase

( )

2.14 Which of the following is a tripeptide?
1. Anserine
2. Oxytocin
3. Glutathione
4. Insulin

( )

2.15 The most active site of protein synthesis is
1. Nucleus
2. Ribosome
3. Mitochondria
4. Cell sap

2.16 A long-chain polymer of a N-acetylglucosamine, a derivative of glucose

( )

1. Cellulose
2. Chitin
3. Cellobiose
4. Xylulose

2.17 Which of the following amino acid does not form an α-helix?

( )

1. Valine
2. Proline
3. Tyrosine
4. Tryptophan

2.18 Decarboxylation of which amino acid produces a vasodilating compound

( )

1. Arginine
2. Aspartic acid
3. Glutamine
4. Histidine

2.19 Glycated proteins inculdes
1. HbA1c and FrAm
2. FrAm and OGTT
3. OGTT and HbA1c
4. All of the above.

2.20 Which one of the following hormone is responsible for lowering down blood glucose level

1. Epinephrine ( )
2. Insulin
3. Growth hormone.
4. Glucagon.

Q.3 Attempt any ten out of the following twelve questions. Answer of each question should be in 2 to 3 lines. **(10x2.0= 20)**

3.1 Ketosis

3.2 Define Buffer.

3.3 Renal function tests

3.4 Write Henderson-Hasselbalch equation

3.5 Differentiate between prokaryotic and eukaryotic mRNA.

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3.6 Glycolipids

3.7 Sphingolipids

3.8 Differentiate between Positive and Negative acute phase proteins

3.9 Differentiate between Nucleoside and nucleotide

3.10 Prostaglandins

3.11 Acid number of an oil

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3.12 Amphipathic lipids with examples

Q.4 Attempt any six out of the following eight questions. Answer of each question should be in 8 to 10 lines. (6 x 6.0 = 36)

4.1 Biological significance of nucleotides

4.2 Donnan membrane equilibrium

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4.3 Non-functional plasma enzymes with examples

4.4 Transport across cell membrane

4.5 Cytochrome P450 system of enzymes

4.6 Liver function tests

4.7 Clinical significance of plasma proteins

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4.8 Describe biochemical alterations observed in vomition

Q.5 Answer the following question in 1-2 pages (attempt any two).

(2x12.0 = 24)

5.1 Discuss the classification of amino acids with suitable examples

5.2 With the help of the labelled diagram discuss the structure of biological membranes

5.3 Discuss the hormonal control of carbohydrate metabolism and regulation of blood sugar.

Q. No. .....