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Total Number of Pages 16

B.V.Sc. & A.H. (First Professional) Examination – 2023

Veterinary Physiology 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 overleaf for general instructions.

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: .....

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B.V.Sc. & A.H. (First Professional) Examination – 2023
Veterinary Physiology Paper –I
(MSVE 2016)

Time: Three Hours

Maximum Marks: 100
Weightage: 20

Unit-1 : Blood, Cardiovascular, Nervous and Muscular Systems
Unit-2 : Digestive and respiratory Systems

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 During erythropoesis, synthesis of hemoglobin begins in …….. cells.

1.2 Deficiency of …… causes microcytic hypochromic anaemia.

1.3 QRS interval depicts …….. of ventricle.

1.4 If protein in plasma increases the filtration pressure in capillaries ……

1.5 The RMP of SA node is ……. mV

1.6 The normal volume of air inhaled and exhaled is called as ……

1.7 The normal count of bacteria in rumen liquor is ……

1.8 The gluconeogenic VFA is ……

1.9 Saponification of fats is caused by …… in intestine.

1.10 Absorption of glucose in intestine is by ……

1.11 Pyrogens are synthesized in …… cells.

1.12 T wave corresponds with …… …… of auricles.

1.13 Enterochromaffin cell in the stomach secrete ……

1.14 The basic unit of muscle contraction is……

1.15 The enzyme present in saliva is ……

1.16 In a myelinated neuron the exchange of ions takes place at ……

1.17 The relationship between ruminants and its microbial population is a true ……

1.18 The gas produced in the rumen in maximum amount is ……

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1.19 The cellulytic bacteria require a pH of ..... for optimum digestion

1.20 The absorption of aminoacid in the intestine is by ..... mechanism

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 biconcavity of RBC helps in ( )
1. increasing surface area
2. increasing diffusion distance
3. transport of RBCs through capillaries
4. both a and c

2.2 The most important factor which induce erythropoesis is ( )
1. Iron
2. Vit B12
3. Hypoxia
4. Erythropoietin

2.3 P wave corresponds to ( )
1. Depolarization of atria
2. Depolarization of ventricles
3. Repolarization of atria
4. Repolarization of atria

2.4 The cardiac output depends upon ( )
1. Stroke volume
2. heart rate
3. sympathetic Nervous system
4. all the above

2.5 Which of the following show self excitation property ( )
1. SA node
2. AV node
3. Purkinje fobers
4. All the above

2.6 Which of the following is secreted from intestine ( )
1. histamine
2. gastrin
3. trypsinogen
4. enteroglucagon

2.7 Which of the following produced in maximum quantity in rumen ( )
1. propionate
2. acetate
3. butyrate
4. isobutyrate

2.8 Which gas is produced in the rumen causes global warming ( )
1. Methane
2. CO2
3. both a and b
4. nitrogen

2.9 If temperature increases, Oxygen-hemoglobin dissociation curve ( )
1. shifts towards right
2. does not change
3. shift towards left
4. becomes hyperbolic

2.10 If partial pressure of Oxygen in the tissues decreases the Oxygen-hemoglobin dissociation curve ( )
1. shifts towards right
2. does not change
3. shift towards left
4. becomes hyperbolic

2.11 Which of the following pair is odd one about RBC ( )
1. Dog — Biconcave
2. Poultry — Elliptical
3. Camel — Spindle
4. Cattle — Biconvex

2.12 Which of the following order is correct about rumen development in different species? ( )
1. cattle> pig >horse> camel
2. cattle > camel >horse> pig
3. cattle> horse> camel > pig
4. cattle> pig > camel> horse

2.13 In chronic inflammation can be seen in blood circulation ( )
1. neutrophil
2. basophil
3. eosinophil
4. lymphocyte

2.14 Rate of impulse generation in different part of heart is of following order ( )
1. SA node> AV node > Purkinje fiber > Ventricular contractile tissue
2. AV node > SA node > Purkinje fiber > Ventricular contractile tissue
3. Purkinje fiber > AV node > SA node > Ventricular contractile tissue
4. Ventricular contractile tissue > Purkinje fiber > AV node > SA node

2.15 If the animal is given more of starch diet ( )
1. More acetate is produced
2. More propionate is produced
3. More butyrate is produced
4. No change in VFA production

2.16 The P wave of ECG correspond to ( )
1. Depolarization of ventricles
2. Depolarization of auricles
3. Repolarization of auricles
4. Repolarization of ventricles

2.17 In case of birds true stomach is ( )
1. crop
2. gizzard
3. provenriculuos
4. all of the above

2.18 If the pH of blood decreases then respiratory rate will ( )
1. increase
2. decrease
3. decrease then increase
4. remains same

2.19 In a dog with hemoglobin concentration of 10 g/dl, then 100 ml of its blood can carry ( )
1. 100 ml oxygen
2. 50 ml oxygen
3. 13 ml oxygen
4. 20 ml oxygen

2.20 Bradypnoea is a condition in which breathing is ( )
1. slow
2. rapid
3. ordinary
4. difficult

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

3.1 Heterophil

3.2 Residual volume

3.3 Biodydrogenation

3.4 Alkaline tide

3.5 IPSP

3.6 Rigor Mortis

3.7 Hyperpolarisation

3.8 Bohr's effect

3.9 Stair case effect

3.10 Shift to right in WBC count

3.11 Ruminal acidosis

3.12 Rigor Mortis

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 Factors affecting erythropoesis

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4.2 Dynamics of filtration in capillaries

4.3 Exchange of oxygen in lung and tissues

4.4 Fermentation of protein in rumen

4.5 Mechanism of fat digestion in intestine in non-ruminants

4.6 Mechanism of vision

4.7 Difference between smooth, cardiac and skeletal mucles

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4.8 Factors affecting cardiac output

Q.5 Answer the following question in 1-2 pages (attempt any two). (2x12.0 = 24)

5.1 Details of mechanisms of blood coagulation

5.2 Molecular mechanism of skeletal muscle contraction

5.3 Explain cardiac cycle