

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY,
Seminary Hills, Nagpur-06

ANNUAL BOARD THEORY EXAMINATION,

B.V.Sc. & A.H.
(VCI Pattern)

Year : I
Course No : VBC-111
Credits : 2+1
Day : Monday
Date : 16/6/2003
Time : 2 Hrs. 10.00 to 12.00 hrs

Academic year: 2002-03
Subject : Gen. Veterinary Biochemistry
Total Marks : 50

- Note : 1) Use separate answer book for each course.
2) Solve any three questions from Section-A.
3) Section-B is compulsory.
4) All questions carry equal marks.

SECTION-A

- Q.1. Explain various classification of amino acids giving suitable examples in each sub-class. (10.00)
Q.2. Enlist various types of nucleic acids giving details of arrangements of their monomer units. (10.00)
Q.3. Write detail classification of carbohydrates giving at least one example ^{of} sugar in each subclass. (10.00)
Q.4. Explain various fat indices giving their importance in deciding the quality of fat. (10.00)
Q.5. Describe distinguishing tests for the followings.
(a) maltose and lactose
(b) glucose and fructose. (10.00)

SECTION-B

- Q.6. Answer the following in one line (10.00)
a) Which sugar is found in milk ?
b) Give one example of epimer of D-glucose differing of C-2.
c) Which is anomeric carbon in case of glucose ?
d) Which form of glucose and galactose exist in milk sugar ?
e) Which fructozan polysaccharide is common in onion and garlic bulbs ?
f) Which element of the proteins is not found in carbohydrates ?
g) How many amino acids constitute a tripeptide structure ?
h) Which lipoprotein reduces the risk of atherosclerosis ?
i) Which reaction is used to detect the N-terminal amino acid ?
j) Which essential fatty acid is having 20:4 Δ 5,8,11,14 arrangement

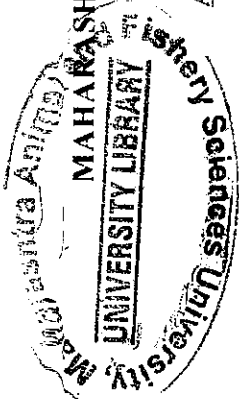
Q.7.

i) Select most correct ONE choice for each of the following statements. (5.00)

Sr. No.	Statement	Multiple Choice
1	The one which is not volatile fatty acid	a) acetic acid b) butyric acid c) palmitic acid d) propionic acid
2	Example of sugar which is not disachharide	a) maltose b) lactose c) sucrose d) fructose
3	Monogastric animal eats plant starch and stores it in the body as	a) starch b) cellulose c) glycogen d) inulin
4	Example of phosphoprotein	a) actin b) casein c) globulin d) haemoglobin
5	Cholesterol is	a) triglyceride b) fatty acid c) steroid d) fat

ii) Rewrite the following statement after making necessary corrections if required (5.00)

- a) Hypertonic solution causes haemolysis of red blood cells.
- b) The pH of pure gastric juice is about 0.9
- c) Suorose is made up of glucose and fructose.
- d) The main metabolic products of cholesterol are bile acids.
- e) Proline is an heterocyclic amino acid.
- f) Polymer of glucose involving (1-4) linkages are a readily available source of energy for animals
- g) Disachharide and diose are same.
- h) The building blocks for proteins are aminoacids.
- i) Hyaluronic acid consist of acetylated D-galctosamine and D-gluouronic acid in a highly polymerized form
- j) Histones have isoelectric pH on the alkaline side because they have a large number of the basic amino acids like arginine.



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ANNUAL BOARD THEORY EXAMINATION,

**B.V.Sc.& A.H.
(VCI Pattern)**

Year : I
Course No. : VBC-121, 122
Credits : 3+2= 5
Day : Tuesday
Date : 17/6/2003
Time : 3 Hrs. 10.00 to 13.00 hrs

Academic year: 2002-03

Subject : **Veterinary Biochemistry**

Total Marks : **100**

- Note : 1) Use separate answer book for each course.
2) Solve any three questions from Section-A.
3) Section-B is compulsory.
4) All questions carry equal marks.

VBC-121

SECTION-A

- Q 1. Discuss in detail E.M. Pathway and its energetics. (10 Marks)
- Q 2. List the factors essential for blood clotting. What are the major steps involved in blood clotting. Give the flow chart indicating intrinsic and extrinsic methods of blood clotting. (10 Marks)
- Q 3. What are enzymes. How are they classified. Give example under each class. (10 Marks)
- Q 4. Write in detail about deamination and transamination alongwith example of each. (10 Marks)
- Q 5. a) Classify vitamins with examples. Discuss about the metabolic role of any two B-C complex vitamins. (5 Marks)
b) Explain β -oxidation in brief. (5 Marks)

SECTION - B

- Q 6. Answer in one line (10 Marks)
- 1 Why B-C complex vitamins need not be supplied to ruminants through diet.
 - 2 Name the currency of energy in Biochemistry
 - 3 When R Q is 1 what does it indicate
 - 4 Why only ruminants require Cobalt in their rations
 - 5 Why a regular supply of fat soluble vitamins through diet is not necessary.
 - 6 What is Gluconeogenesis
 - 7 How is BMR expressed
 - 8 What do you understand by the term glycogenolysis.
 - 9 With what do you associate the scientist Knoop
 - 10 What do you understand by the term proenzyme

Q 7. a) Match the Following

(5 Marks)

- | | | |
|------------------------|-----|---------------------------|
| High Cholesterol | () | 1. Triacylglycerol |
| Nucleotide | () | 2. Chromoprotein |
| Diabetes mellitus | () | 3. Pellegra |
| Vit. B ¹² | () | 4. Selenium |
| Snake Venum | () | 5. High uric acid |
| Storage lipid | () | 6. ATP |
| Niacin | () | 7. Atherosclerosis |
| Haemoglobin | () | 8. Haemolysis |
| Glutathione peroxidase | () | 9. Ketosis |
| Gout | () | 10. Animal protein factor |

b) Underline the correct answer.

(5 Marks)

- The Basal metabolic rate is lower in
a) Warm climate b) Women c) Hot climate d) a and b are correct
- One of the following is constituent of Coenzyme A
a) Pyridoxine b) Pantothenic acid c) Biotin d) Choline
- Palmitic acid when oxidized through β -oxidative pathway, enters the cycle
a) 8 times b) 7 times c) 9 times d) 10 times.
- Citric acid cycle takes place in
a) Cytoplasm b) Mitochondria c) Nucleus d) Ribosome
- The coenzyme form of Riboflavin is
a) FMN b) TPP c) NAD d) ATP
- Ketone bodies are formed in
a) Heart b) Liver c) Adipose tissue d) Kidney
- One of the following is a sulphur containing vitamin
a) Niacin b) Pantothenic acid c) Pyridoxine d) Thiamine
- One of the following is glucogenic in nature.
a) Acetic acid b) Butyric acid c) Propionic acid d) Valeric acid
- Deficiency of calcium in adults produces
a) Rickets b) Osteomalacia c) Pica d) a and b are correct
- Each high energy bond is equivalent to
a) 7.0 Kcals b) 7.6 Kcals c) 6.7 Kcals d) None of the above.



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VBC-122

SECTION--A

- Q.1. Explain the Sanger's method of gene sequencing. (5Marks)
- Q.2. Define molecular biology and explain the central dogma of molecular biology. (5 Marks)
- Q.3. What do you understand by P. C. R. Explain in detail the principle, and uses of PCR. (5 Marks)
- Q.4. Give an account of embryo transfer technology and its advantages. (5 Marks)
- Q.5. a) Write a short note on monoclonal antibodies. (2.5 Marks)
b) What do you understand by DNA finger printing, Explain. (2.5 Marks)

SECTION -B

- Q.6. Define the following. (5 Marks)
 - 1) Adjuvants
 - 2) Bacteriophage
 - 3) Gene splicing
 - 4) Genome
 - 5) Mutation
- Q.7. a) Underline the correct answer. (2.5 Marks)
 - 1) The medium used for selection of hybridoma cells
a) HGT b) HBT c) HAB d) HAT
 - 2) Screening of monoclonal antibody production is done by
a) ELISA b) Western blot c) Southern blot d) All of the above.
 - 3) Okazaki fragments during DNA replication are formed on
a) Leading strand b) Lagging strand c) a and b are correct d) None of the above
 - 4. Animal cell may cease to grow in culture initially due to
a) Lack of media b) Contact inhibition c) Lack of Oxygen d) All of the above
 - 5. Cell lines are cryopreserved at - 196°C in
a) Liquid O₂ b) Liquid N₂ c) Liquid Ammonia d) None of the above

b) Expand the following

- 1 PCR
- 2 HGPRT
- 3 HAT medium
- 4 ELISA
- 5 cDNA

(2.5 Marks)