

Chattogram Veterinary and Animal Sciences University

DVM 1st Year 2nd Semester Final Examination 2022

Course Title: Avian Anatomy-II (Theory)

Course Code: AVA-102 (T)

Full Marks: 35, Time: 2 Hours

(Figures in the right margin indicate full marks. Answer **Three (3)** questions from each section. Use separate answer script for each section, where question no **five (5)** is compulsory. Fractions of the question are encouraged to answer together)

SECTION-A

1. a) What do you mean by the following terms: (i) Synsacrum (ii) Pygostyle (iii) Notarium (iv) Uncinate process 2
- b) What do you mean by syrinx and air sacs of chicken? 2
- c) Describe the anatomy of the trachea of chicken. 2

2. a) Enlist the segments of the digestive system of chicken. 1
- b) Enlist the major endocrine glands in bird. 2
- c) How avian stomach is differ from mammals? Describe the anatomy of the duodenum of bird. 3

3. a) Write down the location and anatomy of the heart of bird with diagram. 3
- b) Which gland is known as the third eye in bird? Describe the anatomy of this gland. 3

4. a) How urinary system is formed in bird? 1
- b) Describe the anatomy of the kidney of chicken. 3
- c) Enlist the organs of lymphatic system of bird. 2

SECTION-B

5. a) What do you mean by cloaca? 1
- b) How the pectoral girdle and pelvic girdle are formed in a bird? 4

6. a) Briefly describe the anatomy of the copulatory apparatus of a duck. 4
- b) Draw and label the different parts of oviduct of a hen. 2

7. a) How the keel bone is attached with furcula? 1
- b) Write a short anatomy on tongue of a chicken. 2
- c) Briefly describe the anatomy of the largest peripheral nerve of a bird. 3

8. a) Briefly describe the anatomy of the cecum of bird. 2
- b) Describe the anatomy of the oesophagus of a chicken. 3
- c) What is Meckel's diverticulum? 1

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DVM 1st Year 2nd Semester Final Examination 2022

Course Title: Gross Anatomy-II (Theory)

Course Code: GRA-102 (T)

Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer five (5) questions from each section. Use separate answer script for each section. Fractions of the question are encouraged to answer together)

SECTION-A

1. a) How is the mediastinum testis formed? 2
b) Describe the anatomy of the male gonad of cattle. 3
c) Show the ejaculatory pathway of a bull. 2
2. a) Enlist the refractory media of an eyeball. 2
b) What are the components of the lacrimal apparatus of the goat's eye? 2
c) Write the gross features of the fibrous coat of a cow's eye. 3
3. a) What are the differences between cranial and spinal meninges? 2
b) How the brachial plexus is formed in ox? 2
c) Enlist the accessory structures of the eye. 3
4. a) Enlist the auditory ossicles. 1
b) Describe the course and distribution of external iliac artery in a cow. 6
5. a) Classify the uterus with example. 2
b) Draw and label the fetal blood circulation. 5
6. a) What is lymphocenter? Enlist five (5) superficial lymphnodes of a cow with their location. 2
b) What is bicarotid trunk? 1
c) Write the branches and courses of the left subclavian artery of the goat. 4

SECTION-B

7. a) How is the inguinal canal formed? Mention the contents of inguinal canal of a buck and doe. 3
b) Enlist the modification of broad ligament of a cow. 2
c) What are the ducts or tubes open at the male urethra? 2
8. a) How is the recurrent laryngeal nerve formed in the goat? 2
b) How do the radial and median nerves innervate the goat digit? 2
c) Write down the branches and courses of the ulnar nerve in goat. 3
9. a) Enlist the endocrine glands found in a cow. 1
b) Describe the anatomy of hoof of a cow with diagram. 3
c) What are the pouches made by the peritoneum in the pelvic cavity of cow? 2
d) How is the pampiniform plexus formed? 1
10. a) What is glans penis? 1
b) Differentiate stallion's penis from the dog's penis. 2
c) How is the circle of willis formed? 2
d) Enlist the postnatal changes in a newborn. 2
11. a) Describe the formation of the costo-abdominal spinal nerve in ox. 2
b) Mention the location of the ventricles of a goat's brain. 1
c) Draw and label the internal and external structures of the kidney of ox. 4
12. a) What is cauda equine? 1
b) What are the anatomical features of the ovary of goat? 2
c) Describe the gross anatomy of the gravid uterus of a doe. 4

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DVM 1st year 2nd Semester Final Examination-2022

Course Title: Systemic Physiology (Theory)

Course Code: SPH-102

Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer three (3) questions from each section where question number **1 and 5** are compulsory. Use separate answer script for each section. Fractions of the question must be answered together.)

SECTION-A

1. a) Define digestion. Mention the purpose of digestion. 2
b) Describe the composition and function of bile. 3
c) Why do stomach wall can't digest by the action of its own enzyme and HCl? 3
d) What is rumination? Briefly describe the mechanical factors of digestion. 3
2. a) Write down the properties and functions of voluntary muscles. 4
b) What is the special physiological adaptation of Camel and Penguin in deserts and in polar region respectively? 4
c) Draw a typical growth curve. What are the different factors affecting live weight of animals? 4
3. a) What is the amount of vital capacity of lung and how will you calculate it? Show the sketch of reverse chloride shift mechanism. 4
b) How do the respiratory gases pass between alveoli and pulmonary blood? Describe the transportation of oxygen through blood. 4
c) Describe the chemical regulation of respiration. 4
4. a) Draw and label a typical nephron. 3
b) State the rennin-angiotensin system. 3
c) Enlist the hormones acting on kidney with their functions. 3
d) What are the factors involved in osmoregulation? 3

SECTION-B

5. a) Define hibernation. Differentiate the homeothermic to poikilothermic animals. 3
b) Classify the farm animal behaviour. Enlist the indications of poor animal. 3
c) What are five principles of animal welfare? 2
d) What is stereotypy? Write the abnormal behaviour of cattle with health risk 3
6. a) What are the compositions of a myocyte? Draw and label sarcomere of skeletal muscle. 4
b) What is metabolic acidosis? How is pH regulated in the body? 5
c) Briefly describe the mechanism of maintaining temperature in hot weather. 3
7. a) Enlist the amylolytic, proteolytic and lipolytic enzyme found in alimentary tract of cattle 4
b) Describe the regulation of pancreatic juice secretion. 4
c) Classify animals on the basis of food habit. 2
d) List the different parts of digestive tract of a chicken. 2
8. a) Define GFR, Tidal volume, Renal threshold, and Residual air. 4
b) Briefly describe physiological response to heat. 4
c) How does gastric secretion regulate? 4

Chattogram Veterinary and Animal Sciences University
DVM 1st year 2nd Semester Final Examination-2022
Course Title: Fodder Production (Theory)
Course Code: FPR-102
Full Marks: 35, Time: 2 Hours

(Figures in the right margin indicate full marks. Answer three (3) question from each section where question number 5 is compulsory. Use separate answer script for each section. Fractions of the questions must be answered together.)

SECTION-A

1. a) Distinguish between forage and fodder. Classify fodder with examples on the basis of season. 3.0
b) State the prospects of fodder production in coastal and hilly areas of Bangladesh. 3.0
2. a) State the characteristics of manure and fertilizer. 2.0
b) Write down the preparation procedure of farm yard manure and green manure. 4.0
3. a) Enumerate seed rate, time, methods of plantation, weeding, fertilizer doses and yield of Napier Pakchong, Cowpea and Guinea grass. 3.0
b) State in brief the cultivation procedure of Para and Sorghum. 3.0
4. a) What is soil? State the classification of soil with examples. 3.0
b) Write down the reaction, causes and corrections of alkaline soil. 3.0

SECTION-B

5. a) Give the common and scientific name of five legumes and three tree fodders. 2.0
b) Discuss briefly the cultivation procedure of Ipil-Ipil and Cowpea fodder. 3.0
6. a) What do you mean by irrigation? Point out the different methods of irrigation. 2.0
b) Write down about three grazing systems which are suitable in Bangladesh. 2.0
c) Briefly discuss about the nutritive value of fodder. 2.0
7. a) Define silage and hay. 1.0
b) Does conservation of fodder is essential for efficient livestock management? Give your statement. 2.0
c) Mention the chemical changes that occur during ensiling. 3.0
8. Write short notes on the followings (any three): 3x2=6
 - i) Hay making
 - ii) Lemon grass
 - iii) Acidity of soil
 - iv) Mechanical methods of weed control

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DVM 1st year 2nd Semester Final Examination 2022

Course Title: Histology and Embryology-II (Theory)

Course Code: HEM-102 (T)

Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer five (5) questions from each section. Use separate answer script for each section. Fractions of the question are encouraged to answer together)

SECTION-A

1. a) Name the cells found in the upper respiratory tract. 1
b) Compare the histology of compartments of non-glandular stomach in a cow with diagram. 6
2. a) Illustrate the histology of a taste bud. 3
b) Compare the histology of organs of digestive tract having glands in the submucosa. 4
3. a) Compare the histology of an elastic artery and a muscular artery. 3
b) Name the cells found in the epidermis of skin. Which cell(s) make your skin color? 2
c) Enlist the histological layers found in retina. 2
4. a) Give the histology of pars nervosa. What are the hormones stored in it? 3
b) Differentiate histologically the mammary gland from the thyroid gland. 4
5. a) How to differentiate spleen from lymphnode histologically? 3
b) Draw and label the cross section of a spinal cord. What are the components of a spinal ganglion? 4
6. a) Briefly describe the adrenal gland histology with diagram. 4
b) Differentiate between proximal and distal convoluted tubules histologically. 3

SECTION-B

7. a) Draw and label the histological features of seminiferous tubules. 4
b) How to identify graafian follicle under microscope? 3
8. a) Draw and label the histology of wall of a gall bladder. 3
b) Illustrate the histology of vas deferens and seminal vesicle. 4
9. a) Briefly describe the histology of the left ventricular wall in a cow. 4
b) Explain the Blood-Testis-Barrier with diagram. 3
10. a) Sketch out the histological structure of cerebellum. 3
b) Show the cells found in the juxtaglomerular apparatus with a diagram. 4
11. a) What are the fetal membranes? 1
b) Compare the histology of tonsil with Peyer's patches. 3
c) What are the main histological characters of the secretory endometrium? 3
12. a) Enlist the derivatives of the primitive gut tube. 3
b) Describe the developmental stages of respiratory system in cattle. 4

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DVM 1st year 2nd Semester Final Examination-2022
Course Title: Biochemistry (Theory)
Course Code: BIC-102
Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer three (3) questions from each section where question number 1 and 5 are compulsory. Use separate answer script for each section. Fractions of the question must be answered together.)

SECTION-A

1. a) What are some significant discoveries of biochemistry? 2
b) Write the name of two sugars present in DNA and RNA with their structures. 3
c) What is the difference between structural and storage polysaccharides? Describe with example. 3
d) Illustrate cellulose, hemicellulose, and lignin with their importance in ruminant nutrition. 3
2. a) Draw Fisher's chain structure of glucose and indicate its epimeric carbon for mannose, penultimate carbon, functional carbon, asymmetric carbon, and primary alcohol. 4
b) What is invert sugar? "Table sugar is typical example of invert sugar"-justify this statement. 4
c) Give example of one reducing and one non reducing disaccharide with their structure. 4
3. a) Show the mechanism of gluconeogenesis that takes place in ruminant. 3
b) Give example of any irreversible reaction of glycolysis where ATP is produced. 3
c) Show any reaction of TCA cycle where CO₂ is produced. 3
d) How ribose is produced from glucose in animals? - mention the steps. 3
4. a) Define essential and non-essential amino acids. 3
b) Briefly discuss secondary and tertiary structure of protein. 3
c) Explain isoelectric P^H. Write the importance and uses of isoelectric P^H in protein chemistry 3
d) How can you determine sequence of protein? 3

SECTION-B

5. a) Classify enzyme with examples. 3
b) Differentiate among competitive, non-competitive, and allosteric inhibition mechanisms of enzymatic action in a tabular manner. 3
c) Explain enzyme specificity. 2
d) Describe lock and key theory and induced fit theory. 3
6. a) Postulate Chargaff's rule. 3
b) Prove that nucleic acid acts as a genetic material. 4
c) Show the difference between nucleotide and nucleoside with structure. 3
d) Write down the complementary stand of A-T-G-C-T-A-A-G-A-T in mRNA 2
7. a) Define lipids. Classify lipids with examples. 3
b) Explain the term "rancidity". Mention the difference between fats and oils. 3
c) Give the definition and use of saponification number, iodine number and acid value of fats and oils. 3
d) Explain lipoprotein and sphingolipid with their structure. 3
8. a) Define decarboxylation. Show any reaction of decarboxylation. 3
b) Show the mechanism of uric acid production in poultry 3
c) Show the activation step of β -oxidation. Mention the role of carnitine in lipid metabolism. 3
d) Give the oxidation mechanism of unsaturated fatty acid. 3