

Chittagong Veterinary and Animal Sciences University
DVM 1st Year 1st Semester Final Examination-2015
Course Title: Histology and Embryology-I (Theory)
Course Code: HEM-101 (T)
Full Marks: 70, Time: 3 Hours

(Figure in the right margin indicates full marks. Answer any **Five** questions from each section. Use separate answer scripts for each section.)

Section-A

- | | | |
|----|--|-------|
| 1. | a) Give the characteristics of epithelial tissue. | 3 |
| | b) Mention functions of myo-epithelial cell. | 2 |
| | c) Write down the name of lining epithelium in the following organs (any four): | 0.5x4 |
| | i) Skin; ii) Urinary bladder; iii) Bronchus; iv) Stomach and v) Artery | = 2 |
| 2. | a) Draw and label the cross section of a long bone with special emphasis on "Haversian system" | 4 |
| | b) Write down the histological differences among three types of cartilages with figures. | 3 |
| 3. | a) Write down the histological differences of muscular tissues in tabular form. | 4 |
| | b) Write down the histological differences among three connective tissue fibers. | 3 |
| 4. | a) Define gametogenesis. What are the purposes of gametogenesis? | 4 |
| | b) What are the differences between gametogenesis in male and female? | 3 |
| 5. | a) Define ganglia and nuclei in nervous tissue. | 2 |
| | b) Briefly describe the histology of supporting cells (neuroglia) in nervous tissue. | 5 |
| 6. | a) Enumerate the cell junctions. Write down about tight junction and gap junction. | 4 |
| | b) Write short note on Osteoblast and Osteoclast. | 3 |

Section-B

- | | | |
|-----|---|-------|
| 7. | a) Define gland. Classify gland according to types of secretion with figures and examples. | 4 |
| | b) Write about mitotic type of cell division. | 3 |
| 8. | a) What are the organelles present in a typical animal cell. | 2 |
| | b) Write ultrastructure of endoplasmic reticulum. Give its function. | 3 |
| | c) Give functions of cell membrane. | 2 |
| 9. | a) Draw and label the histological features of different leukocytes. | 3 |
| | b) Draw and label the histological features of a loose connective tissue with all free cells. | 4 |
| 10. | a) Define cleavage. Draw and label the developmental stages of an embryo from zygote to bilaminar embryo. | 5 |
| | b) Define fertilization and mention the different stages of fertilization. | 2 |
| 11. | a) Classify the simple epithelial tissue according to their shape with example. | 3 |
| | b) Define neuron and classify neuron morphologically. | 4 |
| 12. | Write short note on: | 3.5x2 |
| | a) Periosteum; b) Golgi apparatus and c) Chromosome | = 7 |

Chittagong Veterinary and Animal Sciences University
DVM 1st Year 1st Semester Final Examination-2015
Course Title: Communication English (Theory)
Course Code: ENG -101 (T)
Full Marks: 35; Time: 2 Hours

(Figures in the right margin indicate full marks. Answer all the questions from each section. Use separate answer script for each section)

Section-A

1. **Join the following sentences as directed:** 5x1= 5
- a) The boy sat on a chair. He was reading a book. (by using present participle)
 - b) I was very glad. I saw one of my old friends. I saw him in the college campus. (by using infinitive).
 - c) He made a brilliant result. He heard the news. He was delighted. (by using preposition + noun/gerund).
 - d) An examination was going on. The teachers worked hard. They completed it successfully. (by using adverb).
 - e) He wants something. You can give him that. I know this. (Complex).
2. **Use the right form of verb in the following sentences:** 5
- a) The teacher including his students (be) going to the USA.
 - b) If I had money, I (buy) a car.
 - c) Neither the doctor nor the nurses (be) to be blamed for the matter.
 - d) One hundred years (pass) since Tagore won the Nobel prize.
 - e) My father is used to (take) a cup of coffee in the morning.
3. The poultry and eggs we eat are said not be safe to eat as poultry feed is contaminated through mixing poisonous tannery wastes. Also, indiscriminate use of some drugs like antibiotics is making the situation worse as poultry and eggs are left with residues of these drugs. As a result, the health of the consumers is at great risk. Now, write a letter to the editor of English daily stating your concern regarding the matter while suggesting some remedial measures. 7

Section-B

4. **Complete the following sentences with appropriate words.** 5x1= 5
- a) There is no rose
 - b) The problem is too difficult for him
 - c) Despite his merit
 - d) without thinking more.
 - e) In spite of he lives as a rich man.
5. **Write a paragraph on any of the following:** 5
- a) Benefits of surfing internet
 - b) Misuse of mobile phone
6. **Read the passage below and answer the questions that follow:** 1x8= 8
- Do you know the difference between a submarine and a submersible? A submarine is a watercraft that is capable of independent operation under the sea. Submarines do not require support ships because submarines can renew their air and power supplies independently. Submersibles also submerge and operate underwater, but they need the support of a larger vessel. Submersibles cannot renew their air and power supplies without support. For this reason submersibles are usually smaller and cannot spend as much time underwater as submarines.

The first documented submersible was constructed in 1620 by Cornelius Drebbel. It was powered by rowing oars underwater. Though this craft was originally designed for underwater exploration, it did not take long for inventors and makers of war to recognize the military potential of the submersible. In 1648 Bishop John Wilkins wrote, "It may be of great advantages against a Navy of enemies, who by this may be undermined in the water and blown up." Over one-hundred years later, the first military submarine was ready to be deployed.

The *Turtle* was the world's first submarine used in combat. Designed by David Bushnell in 1775, it was deployed by the Continental Army during the American Revolutionary War. Though the *turtle* did utilize a support ship in combat, it was fully capable of renewing its air and power supplies independently; therefore, the *Turtle* is considered to have been a submarine and not a submersible. The *Turtle* was powered by hand-cranked propellers and was named as such because it resembled a turtle. It held a single person, moved about three miles per hour in calm water, and contained enough air to stay submerged for about thirty minutes. General Washington authorized an attack using the *Turtle* on a British flagship blockading New York Harbor. Sgt. Ezra Lee operated the *Turtle* and attempted to affix underwater explosives to the British ship, but he failed. The *Turtle* was later destroyed by the British. Despite this failure, the *Turtle* is still remembered as the first submarine used offensively during war.

Another notable submarine originally designed for war was Julius H. Kroehl's Sub Marine Explorer. Built between 1863 and 1866, this submarine was created for the North during the American Civil War but the war ended before it went into use. After the war it was used Commercially to harvest pearls in Panamanian waters during the late 1860s. Unfortunately, the dangers of decompression sickness (a condition that occurs when divers rise to the water's surface too quickly) were not understood. While experimenting with the Submarine Explorer in 1867, Kroehl himself perished from decompression sickness. In 1869 a new engineer put the Submarine Explorer back to the task of harvesting pearls. Tragically, use of the Submarine Explorer was discontinued after the entire crew died from decompression sickness.

Submarine use increased greatly during World War I. Due to innovations in engineering, such as a dual power system using both diesel and electric sources, submarines had finally developed into effective war machines. One watercraft called the U-Boat was put to great effect by the Germans. Some argue that the U-Boat was more of a submersible, since U-Boats operated primarily on the surface using diesel and submerged only occasionally to attach using battery power, but the effectiveness of the U-Boat in combat is certain. During World War I more than 5,000 Allied ships were sunk by U-Boats, including the *Lusitania*, which is often cited as a reason why America entered the war.

- a) For what purposes were submersibles originally designed?
 - A. Transporting passengers underwater
 - B. Exploring under the sea
 - C. Smuggling weapons and outlawed materials
 - D. Attacking ships on the surface of the water
- b) Why the Submarine Explorer was originally created?
 - A. To assist the North in the Civil War
 - B. To harvest pearls
 - C. To Explore undersea
 - D. To experiment with decompression sickness
- c) How were U-boats powered?
 - A. Hand crank
 - B. Diesel
 - C. Battery
 - D. Both B and C
- d) Which of the following statements best describes the *Turtle* according to the text?
 - A. The *Turtle* was the first submarine used during war to destroy another ship.
 - B. The *Turtle* was the first submersible used during war to attack another ship.
 - C. The *Turtle* was the first submersible used during war to destroy another ship.
 - D. The *Turtle* was the first submarine used during war to attack another ship.
- e) Which of the following best describe why the most likely wrote this text?
 - A. To entertain his audience with stories about submarines.
 - B. To educate his readers about how submarines work.
 - C. To inform his readers about evolution of submarines.
 - D. To convince his readers to buy a submarine
- f) Fill in the blank:
Submarines can spend time underwater than submersibles.
- g) True or false? If false, give the right information:
The *Turtle* destroyed the British flagship.
- h) What is said to be the reason for America's entering the World War 1?

Chittagong Veterinary and Animal Sciences University
DVM 1st Year 1st Semester Final Examination-2015
Course Title: Rural Sociology and Anthropology (Theory)
Course Code: RSA -101 (T)
Full Marks: 70; Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any **four** questions from each section. Question no.1 and 6 are compulsory. Use separate answer script for each section)

Section-A

- | | | | |
|-------|----|--|---|
| 1. | a. | Explain the differences between social evolution and progress. | 2 |
| | b. | Define social changes. Enumerate various factors which cause social change in context of Bangladesh. | 6 |
| <hr/> | | | |
| 2. | a. | What do you mean by social institution? | 4 |
| | b. | Briefly discuss the functions of an educational institution. | 5 |
| 3. | a. | What is culture? | 2 |
| | b. | Discuss the concept of cultural lag citing examples from Bangladeshi society. | 7 |
| 4. | a. | Define research and research methodology. | 3 |
| | b. | Briefly discuss the different geographical factors on human life with example. | 6 |
| 5 | | Discuss the influence of geographical factors on human life with example. | 9 |

Section-B

- | | | | |
|----|----|--|-----------|
| 6. | a. | What is social survey? | 2 |
| | b. | Prepare a questionnaire for assessing socio-economic status and livestock composition of household farms at Sitakunda Upazila. | 6 |
| 7 | a. | Define social anthropology. | 2 |
| | b. | Discuss how animal diseases and food chain are related with social system? | 7 |
| 8 | a. | “Society is the scientific study of human relationship” – Discuss. | 4 |
| | b. | Discuss how sociology is related to Veterinary Science. | 5 |
| 9 | | Livestock, environment and human needs are closely related. Explain briefly. | 9 |
| 10 | | Write short notes on any three of the followings: | 3X3
=9 |
| | a) | Industrialization | |
| | b) | Social groups | |
| | c) | Human development | |
| | d) | Urbanization | |

Chittagong Veterinary and Animal Sciences University
DVM 1st Year 1st Semester Final Examination-2015
Course Title: Gross Anatomy-I (Theory)
Course Code: GRA -101 (T)
Full Marks: 70; Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any **five** questions from each section. Use separate answer script for each section)

Section-A

- | | | |
|----|---|---|
| 1. | a) Define Veterinary Anatomy. | 1 |
| | b) Define median plane, trochlea and intervertebral foramen. | 3 |
| | c) Write down the vertebral formula of goat, cat and chicken. | 3 |
| 2. | a) What is linea alba? State the abdominal tunic. | 4 |
| | b) Write down the ligaments of stifle joint of ox. Mention the importance of medial patellar ligament. | 3 |
| 3. | a) Mention the segments of alimentary canal of goat. | 3 |
| | b) Define pharynx. Mention the openings of pharynx with their connection. | 4 |
| 4. | a) Differentiate among the tendon, ligament and aponeurosis. | 2 |
| | b) Describe in brief the tongue of goat. | 5 |
| 5. | a) Draw and label a typical vertebra. | 3 |
| | b) Give the anatomical location of rumen, abomasum, pancreas and gall bladder of a goat. | 4 |
| 6. | a) What is vocal cord? | 1 |
| | b) Define inguinal canal and mention the contents. | 2 |
| | c) List the different segments of air conductive portion and pumping apparatus of respiratory system in successive order? | 4 |

Section-B

- | | | |
|-----|--|-------|
| 7. | a) Mention the bony cavities of skull with their contents. | 3 |
| | b) Define and classify ribs with examples. | 4 |
| 8. | a) Define paralumbar fossa. | 1 |
| | b) How a common calcaneal tendon is formed? | 3 |
| | c) Describe briefly the chief respiratory muscle of mammals. | 3 |
| 9. | a) Define larynx and syrinx. | 2 |
| | b) What is margoplicatus? Describe the mucosal appearances of stomach of goat. | 5 |
| 10. | Describe the anatomy of liver of a goat. | 7 |
| 11. | a) Write down the location of parotid salivary gland of a cow. | 2 |
| | b) Describe the anatomy of right lung of goat with neat diagram. | 5 |
| 12. | Write short notes on any two of the followings | 3.5x2 |
| | (i) Mediastinum | = 7 |
| | (ii) Abomasum | |
| | (iii) Pancreas of goat | |

Chittagong Veterinary and Animal Sciences University
DVM 1st Year 1st Semester Final Examination-2015
Course Title: Basic and Circulatory Physiology (Theory)
Course Code: BCP -101 (T)
Full Marks: 35; Time: 2 Hours

(Figures in the right margin indicate full marks. Answer any **three** questions from each section of which question no **1** is compulsory. Use separate answer script for each section. Split answer is highly discouraged)

Section-A

1. a) Draw and label a typical animal cell. 1
b) Enlist the basic properties of a cell. 2
c) Write down the functions of mitochondria and golgi apparatus. 2
2. a) What is erythropoiesis? State the role of kidney in erythropoiesis. 2
b) Diagrammatically show the fate of RBC. 2
c) What are the plasma proteins? Write their functions. 2
3. a) Write down the composition and functions of lymph. 2
b) How will you classify solutions on the basis of osmotic pressure? What will be the fate of RBC if kept in hypotonic solution? 2
c) Name the fluid compartments of the body. Differentiate between plasma and lymph. 2
4. a) Define and classify blood vessels. 2
b) SA node is called pacemaker of heart. Justify it. 2
c) List the name of special conductive tissues of heart. 2

Section-B

5. a) Define physiology. Why the study of physiology is important for Veterinary Science? 2
b) What are the physiological phenomena in the body. What do you mean by osmotic pressure? 2
c) Define action potential. Show the various phases of action potential in a graph with a brief description. 2
6. a) What is Na⁺- K⁺ pump? How does Na⁺ -K⁺ pump maintain the volume of a cell? 2
b) Define membrane potential. Differentiate simple diffusion from facilitated diffusion. 2
c) Define edema. Why edema occurs in case of hypoproteinaemia? 2
7. a) Differentiate intrinsic from extrinsic pathway of blood coagulation. 2
b) Why does blood coagulation generally not occur inside the blood vessel? Enlist some anticoagulants. 2
c) Define blood group. Enlist the importance of blood grouping. What are the major blood groups of clinical interest in canine and bovine. 2
8. Give short note on any two of the followings: 3x2=6
a. Fetal circulation
b. Defensive properties of WBC
c. Platelets
d. Colloid and crystalloid

Chittagong Veterinary and Animal Sciences University

DVM 1st Year 1st Semester Final Examination 2011

Subject Title: Biostatistics-I (Theory)

Course Code: BST-101

Full Marks -55; Time: 3.0 Hours

(Figures in the right margin indicate full marks. Answer any **THREE** questions from each section. Use separate answer script for each section. Question 1 is compulsory)

SECTION-A

1. a) Define population, experimental unit, variable and sample with example one for each. 3
 b) What are the important measurements of scale? 1
 c) Identify the experimental unit, variable, types of variables and other measurement of scales of the following: 6
 - i. Breeds of chickens
 - ii. Size of a cow
 - iii. Age of a dog
 - iv. Body temperature of a goat

2. a) What are the important measures of location? Define mode and median. 3
 b) Show that, for two non-zero positive observation values, $A.M \geq G.M \geq H.M$ 4
 Where, A.M = Harmonic Mean, G.M = Geometric Mean, H.M = Harmonic Mean
 When they are equal? \rightarrow Arithmetic
 c) Define co-efficient of variation. Why does coefficient of variation sometimes better than standard deviation? 2

3. a) Define sample space, event, simple event and ^{und}compound event with example. 4
 b) What are the different approaches of defining probability? 2
 c) Suppose, $P[A]=0.8$, $P[B]=0.9$, $P[AB]=0.75$.
 Compute- i) $P[\bar{B}]$, ii) $P[\bar{A}B]$, iii. ~~$P[B\bar{A}]$~~ and iv. $P[A|B]$. Are A and B independent? 3

4. a) Define normal distribution. What is a standard normal variate? Write down the form of standard normal variate and show the position of the mean, median and mode of the distribution. 3
 b) Suppose the weights of chickens of a poultry farm follows normal distribution with mean weight 2.5 kg and standard deviation 0.5 kg. A chicken is selected at random from this farm. What is the probability that its weight is
 - i. more than 2.75 kg
 - ii. less than 2.5 kg
 - iii. between 2.6 kg to 2.75 kg 3
 c) State some important properties of normal distribution. 3

SECTION-B

5. a) What do you mean by dispersion? Briefly discuss the absolute measures of dispersion. 4
 b) Prove that, standard deviation is the least possible root mean square deviation. 3
 c) Suppose that, the weight of chickens at the age of 20 days has mean weight 2 kg with standard deviation 0.9 kg and mode 2.3 kg. Find the skew ness of the weight and comment. 2

6. a) Define random variable. What is the mathematical expectation and variance of a random variable? 4
 b) The following probability function of the birthday cakes per day demanded by the customers is as follows:

Number of Cakes demanded (X)	3	4	5	6	7	8
P(X)	0.08	0.22	0.35	0.20	0.10	0.03

Find the expected number of birthday cakes demanded per day by the customers. Also find the standard deviation of the birthday cakes per day. 3+2= 5

7. a) Define Poisson distribution. How will you derive Poisson distribution from binomial distribution? 3
 b) Prove that, mean and variance of a Poisson distribution are equal. 4
 c) Write the chief characteristics of normal distribution and normal probability curve. 2

8. a) Write short notes(any three) 3x3= 9
 - i. Raw moment and corrected moment
 - ii. Skewness and Kurtosis
 - iii. Bar-diagram and Histogram
 - iv. Correlation co-efficient and Co-efficient of determination