Chattogram Veterinary and Animal Sciences University
DVM 1st year 1st Semester Final Examination-2022
Course Title: Animal Science (Theory)
Course code: ANS-101
Full marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any three questions from each section where **Question no. 1 & 5 are compulsory**. Use separate script for each section)

Section-A

1. Elaborate the following terms **(Any eleven)** 1×11= 11.0

(i) Steer	(ii) Wether	(iii) Crone
(iv) Pullet	(v) Puberty	(vi) Crossbred
(vii) Mule	(viii) Stallion	(ix) Hog
(x) Boar	(xi) Brood mare	(xii) Piglet
(xiii) Cockerel	(xiv) Gimmer	(xv) Free martin

2. a) Discuss the common vices of farm animals. 4.0
   b) Briefly discuss the potential problems and prospects of establishing sustainable dairy industry in Bangladesh. 4.0
   c) Discuss the responsibilities of a dairy farm manager. 4.0

3. a) What is housing? Classify housing systems for the dairy cattle. 4.0
   b) Differentiate face-in from face-out stanchion barn systems. Draw and label a double row face-out system stanchion barn. 4.0
   c) Loose housing system is the best for growing heifer-justify. 4.0

4. a) Write down the zoological classification of cattle, buffalo and goat. 2.0
   b) Briefly discuss the importance of sheep and goat farming in Bangladesh. 6.0
   c) "Black Bengal goat is a poor man's cow"-Explain with justifications. 4.0

Section-B

5. a) List the recent population statistics of cattle, buffalo, sheep, goat and poultry in Bangladesh. 3.0
   b) Mention the technical terms used for indicating 'dwelling place' and 'sound' produced by cattle, horse, dog, pig and goat. 4.0
   c) Mention the recent demand, supply and availability of meat, milk and egg in Bangladesh. 4.0

6. a) Classify livestock feeds with specific example in each case. 4.0
   b) Briefly discuss the conditions for domestication of farm animals. 4.0
   c) Discuss the importance of goat and sheep production in Bangladesh. 4.0

7. a) Briefly discuss four important dairy breeds. 4.0
   b) Give four examples of buffalo, sheep, horse, pig and dog breeds. 4.0
   c) Discuss the constraints of buffalo production in Bangladesh. 4.0

8. Compare and contrast the following terms **(Any four)** 3×4= 12.0
   a) Red Chittagong cattle vs Sahiwal
   b) River vs Swamp buffalo
   c) *Bos taurus* vs *Bos indicus*
   d) Canidae vs Felidae
   e) Ruminant vs Non-ruminant animals

Chattogram Veterinary and Animal Sciences University

DVM 1st year 1st Semester Final Examination 2022

Course Title: Communicative Ebglish (Theory)

Course code: ENG-101

Full Marks: 35, Time: 2 Hours

(Figures in the right margin indicate full marks. Use separate answer script for each section. Fraction of the questions must be answered together. Answer all the questions.)

SECTION-A

1. **Correct the following sentences if they are incorrect. If the sentence is correct, just copy it.** 5.0

a) He as well as his friends go to college regularly.
b) The team are divided into two parts.
c) Horse and carriage was used to carry loads in the past.
d) The sugar is said to be harmful for health.
e) My father said that he will go to Dhaka the next day.

2. **Complete the following sentences:** 5.0

a) If I had the wings of a bird ……. .
b) Water boils……. .
c) He is too weak……. .
d) ……. as long as I live.
e) Despite being successful in life,……. .

3. Suppose you are a reporter of the Daily Star and your locality has been greatly affected by drug addiction. Now write a report on it. 7.0

SECTION-B

4. Change the following sentences as directed. 5.0

a) Rome was not built in a day. (Change the voice)
b) We make money. Our intention is to be happy in life. (Join the sentences into a complex sentence)
c) The teacher asked the student if that was the book that she (student) studied everyday. (Change the speech)
d) Corruption is the most debated issue in Bangladesh. Corruption stands in the way of development. (Join the sentences with subordinating conjunction)
e) "Have you gained knowledge from the class?" said the teacher. (Change the speech)

5. Write a paragraph of about 150 words on 'how be happy in life'. 5.0

6. **Should we try to bring extinct species back to life?** 8.0

A

The passenger pigeon was a legendary species. Flying in vast numbers across North America, with potentially many millions within a single flock, their migration was once one of nature's great spectacles. Sadly, the passenger pigeon's existence came to an end on 1 September 1914, when the last living specimen died at Cincinnati Zoo. Geneticist Ben Novak is lead researcher on an ambitious project which now aims to bring the bird back to life through a process known as 'de-extinction'. The basic premise involves using cloning technology to turn the DNA of extinct animals into a fertilised embryo, which is carried by the nearest relative still in existence – in this case, the abundant band-tailed pigeon – before being born as a living, breathing animal. Passenger pigeons are one of the pioneering species in this field, but they are far from the only ones on which this cutting-edge technology is being trialled.

B

In Australia, the thylacine, more commonly known as the Tasmanian tiger, is another extinct creature which genetic scientists are striving to bring back to life.

The Reading Passage has six paragraphs, **A-F**.
Which paragraph contains the following information?

*Write the correct letter, **A-F**, beside question number **a-c** on your answer sheet.*

a) a reference to how further disappearance of multiple species could be avoided.
b) explanation of a way of reproducing an extinct animal using the DNA of only that species
c) reference to a habitat which has suffered following the extinction of a species

Complete the summary below.
Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

The woolly mammoth revival project

Professor George Church and his team are trying to identify the **d)** ..... which enabled mammoths to live in the tundra. The findings could help preserve the mammoth's close relative, the endangered Asian elephant. According to Church, introducing Asian elephants to the tundra would involve certain physical adaptations to minimise **e)** ..... . To survive in the tundra, the species would need to have the mammoth-like features of thicker hair, **f)**..... of a reduced size and more **g)** ..... Repopulating the tundra with mammoths or Asian elephant/mammoth hybrids would also have an impact on the environment, which could help to reduce temperatures and decrease **h)** .....

'There is no carnivore now in Tasmania that fills the niche which thylacines once occupied,' explains Michael Archer of the University of New South Wales. He points out that in the decades since the thylacine went extinct, there has been a spread in a 'dangerously debilitating' facial tumour syndrome which threatens the existence of the Tasmanian devils, the island's other notorious resident. Thylacines would have prevented this spread because they would have killed significant numbers of Tasmanian devils. 'If that contagious cancer had popped up previously, it would have burned out in whatever region it started. The return of thylacines to Tasmania could help to ensure that devils are never again subjected to risks of this kind.'

C

If extinct species can be brought back to life, can humanity begin to correct the damage it has caused to the natural world over the past few millennia? 'The idea of de-extinction is that we can reverse this process, bringing species that no longer exist back to life,' says Beth Shapiro of University of California Santa Cruz's Genomics Institute. 'I don't think that we can do this. There is no way to bring back something that is 100 per cent identical to a species that went extinct a long time ago.' A more practical approach for long-extinct species is to take the DNA of existing species as a template, ready for the insertion of strands of extinct animal DNA to create something new; a hybrid, based on the living species, but which looks and/or acts like the animal which died out.

D

This complicated process and questionable outcome begs the question: what is the actual point of this technology? 'For us, the goal has always been replacing the extinct species with a suitable replacement,' explains Novak. 'When it comes to breeding, band-tailed pigeons scatter and make maybe one or two nests per hectare, whereas passenger pigeons were very social and would make 10,000 or more nests in one hectare.' Since the disappearance of this key species, ecosystems in the eastern US have suffered, as the lack of disturbance caused by thousands of passenger pigeons wrecking trees and branches means there has been minimal need for regrowth. This has left forests stagnant and therefore unwelcoming to the plants and animals which evolved to help regenerate the forest after a disturbance. According to Novak, a hybridized band-tailed pigeon, with the added nesting habits of a passenger pigeon, could, in theory, re-establish that forest disturbance, thereby creating a habitat necessary for a great many other native species to thrive.

E

Another popular candidate for this technology is the woolly mammoth. George Church, professor at Harvard Medical School and leader of the Woolly Mammoth Revival Project, has been focusing on cold resistance, the main way in which the extinct woolly mammoth and its nearest living relative, the Asian elephant, differ. By pinpointing which genetic traits made it possible for mammoths to survive the icy climate of the tundra, the project's goal is to return mammoths, or a mammoth-like species, to the area. 'My highest priority would be preserving the endangered Asian elephant,' says Church, 'expanding their range to the huge ecosystem of the tundra. Necessary adaptations would include smaller ears, thicker hair, and extra insulating fat, all for the purpose of reducing heat loss in the tundra, and all traits found in the now extinct woolly mammoth.' This repopulation of the tundra and boreal forests of Eurasia and North America with large mammals could also be a useful factor in reducing carbon emissions – elephants punch holes through snow and knock down trees, which encourages grass growth. This grass growth would reduce temperature, and mitigate emissions from melting permafrost.

F

While the prospect of bringing extinct animals back to life might capture imaginations, it is, of course, far easier to try to save an existing species which is merely threatened with extinction. 'Many of the technologies that people have in mind when they think about de-extinction can be used as a form of "genetic rescue",' explains Shapiro. She prefers to focus the debate on how this emerging technology could be used to fully understand why various species went extinct in the first place, and therefore how we could use it to make genetic modifications which could prevent mass extinctions in the future. 'I would also say there's an incredible moral hazard to not do anything at all,' she continues. 'We know that what we are doing today is not enough, and we have to be willing to take some calculated and measured risks.'

Chattogram Veterinary and Animal Sciences University

DVM 1st year 1st Semester Final Examination 2022

Course Title: Rural Sociology and Anthropology (Theory)

Course Code: RSA-101

Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any **four (4)** questions from each section where question no. **1** and **7** are compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

SECTION-A

1. a) Define rural sociology. 3.0
   b) Discuss the relationship between rural sociology and veterinary sciences. 5.0

2. a) What is social interaction? 3.0
   b) Briefly discuss about various types of human interaction in society. 6.0

3. a) Define the concept 'motivation'. 4.0
   b) What is socialization? 5.0

4. a) Distinguish between structured and non-structured questionnaire. 4.0
   b) Define gender. What are the causes of gender discrimination in the veterinary sector in the socio-economic perspective of Bangladesh. 5.0

5. a) What is juvenile delinquency? 4.0
   b) Analyze the juvenile delinquency from Bangladesh context. 5.0

6. a) What is social change? 3.0
   b) What is resources? Write down the types of resources. 6.0

SECTION-B

7. a) Define Anthropology. 3.0
   b) Briefly discuss the classification of anthropological sciences. 5.0

8. a) Write down the characteristics of culture. 4.0
   b) "Animal welfare is related to culture, religion and ethics"- discuss. 5.0

9. a) Explain the differences between social development and social progress. 4.0
   b) 'Geographical factors influence our social life' - explain the statement in context of Bangladesh. 5.0

10. a) What are the categories of migration? 4.0
    b) Explain the causes and effects of migration. 5.0

11. a) Discuss the physiology of human behaviour. 4.0
    b) State and describe the factors of human development. 5.0

12. Write short notes (any two) 4.5×2=9.0
    a) Participant observation b) Biodiversity c) Social movement

Chattogram Veterinary and Animal Sciences University

DVM 1st year 1st Semester Final Examination 2022

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 (5)** questions from each section. Use separate answer script for each section. Fractions of the questions must be answered together.)

SECTION-A

1. a) Define the following terms: axial plane, transverse plane, palmar, planter, proximal and superficial. 3
   b) Define Veterinary anatomy. Write down the branches of veterinary anatomy with examples. 4

2. a) Write down the course of oesophagus in relation to the trachea in a goat. 4
   b) Draw and label a typical vertebra. 3

3. a) Describe the anatomy of diaphragm mentioning it's foramina with their contents. 4
   b) Mention the types of papillae of tongue of a goat with their functions. 3

4. a) How do the right and left lungs of an ox differ in terms of their structure? 3
   b) Name the bony segments of a fore limb of a cow with contents. 3
   c) How the vertebral canal is formed? 1

5. a) Classify bone with example. 3
   b) Describe the anatomy of rib of a goat. 2
   c) Differentiate between symphysis and synchondrosis. 2

6. a) Define synsarcosis. List the muscles forming synsarcosis. 3
   b) Name the muscles of abdomen with their origin and insertion in a cow. 4

SECTION-B

7. a) What is pharynx? List the openings of pharynx. 3
   b) Draw and label the visceral surface of the liver of a bull. 4

8. a) What is prepubic tendon? 1
   b) How does the Achilles tendon is formed? 2
   c) Name at least eight (8) foramina of the skull of an ox with their content (s). 4

9. a) Draw and label a typical synovial joint with examples. 5
   b) How is the pectoral girdle formed in an ox? 2

10. a) What do you mean by paranasal sinuses? List the bony cavities of the skull with their contents. 3
    b) Name the compartments of the ruminant stomach. Briefly describe the largest compartment of it. 4

11. a) Write down the parts of the intestine of an ox. 2
    b) Describe the anatomy of the pancreas of a goat. 4
    c) Define pleura. 1

12. a) What do you mean by aponeurosis and Linea alba. 2
    b) List the muscles of mastication. 1
    c) Write short note on (any two): (i) Mediastinum (ii) Peritoneum (iii) Manus of an ox 4

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DVM 1st year 1st Semester Final Examination 2022

Course Title: Histology and Embryology-I (Theory)

Course code: HEM-101 (T)

Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any **five (5)** questions from each section. Use separate answer script for each section. Fractions of the questions must be answered together.)

SECTION-A

1. a) Differentiate between cell organelles and inclusions. 2
   b) Write short notes on Mitochondrion and Ribosome. 4
   c) Enlist the steps of mitosis. 1

2. a) Describe the structure of plasma membrane. 3
   b) Classify surface epithelium with examples. 4

3. a) Enlist the cells of connective tissue. 1
   b) Write down the histological properties of connective tissue fibres. 3
   c) Briefly describe the cellular adhesions. 3

4. a) How will you differentiate serous acinus from mucous acinus? 2
   b) Classify gland on the basis of mode of secretion with examples. 3
   c) Define erythropoiesis. Write down the steps of erythropoiesis. 2

5. a) Give the histological features of pseudostratified columnar epithelium with diagram and locations. 3
   b) Enlist the types of stratified squamous epithelium with their locations. 1
   c) Write down the histological features of smooth and cardiac muscle. 3

6. a) What are the differences between oogenesis and spermatogenesis. 3
   b) Briefly describe morula and blastula. 2
   c) Enlist the derivatives from respective germ layers. 2

SECTION-B

7. a) What is neuron? Briefly describe its components. 2
   b) Classify neuron on the basis of number of cell process with examples. 3
   c) Write down the supporting cells of nervous system. 2

8. a) Describe the intramembranous ossification. 5
   b) Write down the organic and inorganic composition of bone. 2

9. a) Describe the contraction mechanism of smooth muscle. 4
   b) Classify muscular tissue with their location. 2
   c) Define haversian system. 1

10. a) Draw and label the steps of fertilization. 3
    b) What is cleavage and blastocyst? 2
    c) What is sarcomere? Draw and label it. 2

11. a) Briefly describe the histology of granulocytes in mammals. 5
    b) Differentiate cartilage from bone in a tabular form. 2

12. a) Write down the characteristics and functions of epithelia. 2
    b) Enlist the steps of tissue preparation for microscopic examination. 2
    c) Give the histology of transitional epithelium with diagram. 3

Chattogram Veterinary and Animal Sciences University

DVM 1st year 1st Semester Final Examination 2022

Subject: Basic and Circulatory Physiology (Theory)

Course code: BCP-101

Full Marks: 35, Time: 2 Hours

(Figures in the right margin indicate full marks. Answer any **Three (3)** questions from each section where question no. **1 and 5** are compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

SECTION-A

1. a) Define cell and cell theory. Enlist the functions of cell organelles in an animal cell. 2.0
   b) Define membrane transport. Classify membrane transport with their functions in a living cell. 2.0
   c) Briefly describe the Donnan's theory of membrane equilibrium with its physiological significance in the living body. 2.0

2. a) Explain the fate of RBC while pours into isotonic, hypotonic and hypertonic solution. 2.0
   b) What are the plasma proteins? Mention the role of plasma proteins in the living body. 2.0
   c) Define phagocytosis. Briefly describe the cells that are involved in body defense mechanism. 2.0

3. a) "Cardiac output is greater than stroke volume"-Justify your statement. 2.0
   b) Define blood pressure. Describe the physiological factors that may alter the blood pressure. 2.0
   c) Define chemoreceptor. Briefly describe the nervous regulation of heart. 2.0

4. a) Which solution is used to determine hemoglobin concentration? Explain your answer. 2.0
   b) Define anaemia. Briefly describe the different types of anaemia. 2.0
   c) State the mechanism of Na^+K^+ pump. Why this pump is very important in a living body? 2.0

SECTION-B

5. a) Define erythropoiesis. Explaïn the role of liver and kidney in erythropoiesis. 1.0
   b) Enlist the life span and origin of different types of leukocytes in animal body. 2.0
   c) Diagrammatically show the fate of RBC in animal body. 2.0

6. a) Define emulsoids and suspensoids. Give examples of different forms of emulsoids. 2.0
   b) Define osmosis and osmotic pressure. Mention the physiological importance of diffusion. 2.0
   c) Enumerate the functions of the members of cytoskeleton in a cell. 2.0

7. a) Enlist the precautions to be taken before and during transfusion of blood. 2.0
   b) In which conditions neutrophils, eosinophils and basophils are increased in animal body? 2.0
   c) Enlist the causes of hemoconcentration in cattle. 2.0

8. a) Define Homeostasis, bradycardia, hydrotrophy, hemagglutination. 2.0
   b) Define portal circulation. Describe the significance of renal portal system and hepatic portal system. 2.0
   c) Explain the effect of potassium, calcium and sodium on cardiac function. 2.0