

Chattogram Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination 2024
Course Title: Veterinary Nematology (Theory)
Course Code: 0511-VNM- 202 (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 questions are encouraged to answer together.]

SECTION-A

1. a) Define nematode. Draw and label a longitudinal section of a typical female nematode. 1+3
b) Enlist cuticular modifications of nematodes with appropriate examples. 3
2. a) Classify esophagus of nematodes with examples. What are the differential morphological features between bursate and non-bursate parasites? 2+2
b) Enlist the nematodes causing verminous aneurysm. Briefly write the pathogenesis and significance of canine ancylostomiasis. 1+2
3. a) Enlist five (5) important parasites of horses. Sketch the life cycle of parasite that causes summer sore in donkey. 1+2
b) Write down the pathogenesis and clinical findings of spirocercosis in dog. 3+1
4. a) Briefly describe the morphology, life cycle, pathogenesis and pathology of *Haemonchus contortus*. 4
b) Mention the causative agents of thelaziasis in cattle. Identify the season when thelaziasis is most common in Bangladesh and explain the reasons. 1+2
5. a) Enlist the nodular worm of cattle, sheep, goat and pig. Briefly sketch the pathogenesis of cattle lung worm. 2+2
b) Write down the life cycle, pathogenic significance and diagnosis of gapeworm infection in turkey 3
6. a) Enlist the nematodes that are transmitted through skin penetration, transmammary and transplacental route. 2
b) Illustrate the morphological differences between *Moniezia expansa* and *Moniezia benedeni*. 3
c) Sketch the life cycle of equine onchocercosis. 2

SECTION-B

7. a) Write down the general harmful effects caused by ascarid worms in animals. 3
b) Describe life cycle and pathological changes caused by *Stephanurus dentatus* infection in pigs. 2+2
8. a) How can the following parasitic infections be diagnosed using clinical samples in a parasitology laboratory? 0.5×6=3
i. *Neoascaris vitulorum* ii. *Strongyloides stercoralis* iii. *Toxocara cati*
iv. *Dirofilaria immitis* v. *Heterakis gallinarum* vi. *Trichuris suis*
b) Briefly describe the general preventive and control measures against nematode infection in commercial dairy farms. 4
9. a) Write the scientific name/causal agents for the listed common names or diseases: 0.5×8=4
i. Jack sore (horse) ii. Thorny-headed worm (pig) iii. Elephantiasis (human)
iv. Lumbar paralysis (horse) v. Eyeworm (chicken) vi. Summer bleeding (horse) vii. Calabar swelling (human) viii. Hookworm (cattle)
b) Contrast the life cycle differences among *Dictyocaulus viviparus*, *Mullerius capillaris* and *Crenosoma vulpis*. 3
10. a) Which stage of *Ostertagia* species is more harmful? Discuss how they harm the host 1+3
b) What is spiny-headed worm? How do you differentiate it from nematodes? 1+2
11. a) Enlist five (5) neglected tropical parasitic diseases found in Bangladesh. State the public health importance of Guinea worm disease. 1+2
b) Enumerate the epidemiological factors of trichinellosis and sketch its life cycle. 2+2
12. Write short notes (any two): 3.5×2=7
i) Arrested larval development
ii) Cutaneous larva migrans
iii) Chabersiosis in goat

Chattogram Veterinary and Animal Science University
DVM 2nd Year 2nd Semester Final Examination-2024
Course Title: Poultry Nutrition and Feed Milling Technology (Theory)
Course Code: 0811-PNT-202 (T)
Full Marks: 70, Time: 3 hours

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

SECTION – A

1. a) Enlist the essential, semi-essential, limiting and critical amino acids for poultry. 3.0
b) How should you improve feed refusal, poor flock uniformity and fatty liver syndrome in laying hen by dietary means? 4.0
c) Justify the use of progressively higher magnitude of metabolizable energy in starter, grower, and finisher rations for the broiler chicken. 4.0
2. a) Classify non-starch polysaccharides with example and discuss the mode of action of synbiotics in broiler chicken. 4.0
b) Discuss the consequences of higher NSP on health and productivity of broiler. 4.0
c) What are phytogenic additives and how do the acidifiers and emulsifiers work? 4.0
3. a) Suggest detail guideline for feeding replacement pullet. 4.0
b) How should you minimize feed wastage and feed cost in broiler? 4.0
c) How do feed formulations reduce bruise and improve skin texture in broiler while enhancing egg yolk color in layer? 4.0
4. a) Define mycotoxins and their impact on poultry health. 4.0
b) Discuss different types of feeding standards for poultry. Mention the major shortcomings of NRC system for poultry. 4.0
c) Classify anti-nutrients and enlist the common feed ingredients in Bangladesh that may contain anti-nutrients and discuss how will you manage them. 4.0

SECTION – B

5. a) A feed mill operates 24 hours per day and sells feed at 65.0 Tk per kg. Total 65 days are annual holidays! The mill produces 45.0 metric tons of broiler feed per hour. If the net profit margin is 5%, calculate the annual profit of the feed mill. 3.0
b) What are the dietary triggers of coccidiosis and how do they predispose birds to colibacillosis and necrotic enteritis? 4.0
c) Despite optimum nutritional management, why is full control of *Clostridium perfringens* impractical in broiler flocks? 4.0
6. a) What are the causes and consequences of gut dysbiosis in commercial broiler? 4.0
b) What are the most common probiotics used in broiler feed formulation and how do mannan oligosaccharides and *Saccharomyces cerevisiae* bind *Escherichia coli* and *Salmonella* in the intestine? 4.0
c) What are ways of reducing wastage and improving feed utilization in broiler? 4.0
7. a) Discuss the key factors affecting FCR in broiler and layer chickens. 4.0
b) Discuss the nutrient requirements for broiler finisher and layer-layer rations. 4.0
c) Compare the structural differences among lecithin, cephalin, and lysolecithin as emulsifiers and explain why lysolecithin is considered the most effective one in poultry diets. 4.0
8. a) Justify the use of choline in commercial layer while feedzyme, emulsifier and acidifier in commercial broiler feed. 4.0
b) How should you minimize wet litter problems in broiler and how does Maillard reaction disrupt protein digestibility in broiler but NOT in layer feed? 4.0
c) Sequentially discuss the major steps involved in the feed milling process and explain how commercial feeds ensure homogeneity of nutrient standard? 4.0

Chattogram Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination 2024
Course Title: General Pathology II and Nutritional Pathology (Theory)
Course Code: 0912-GNP-202 (T)
Full Marks: 35, Time: 2 hours

[Figures in the right margin indicate full marks. Answer any **Three (3)** questions from each section where question number **1** is compulsory. Use separate answer script for each section. Fractions of the questions are encouraged to answer together.]

SECTION-A

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|----|----|---|-----|
| 1. | a) | Define edema. How is edema formed by parasites in cattle? | 1+2 |
| | b) | Differentiate between hyperemia and congestion. | 2 |
| 2. | a) | How exudate is formed in the inflammatory areas? | 2 |
| | b) | Write down the gross and microscopic lesions of fibrinous inflammation. | 2 |
| | c) | Show the process of healing by repair in a sketch form. | 2 |
| 3. | a) | Enlist the reactive cells in inflammation. Mention the function of neutrophils and eosinophils. | 1+3 |
| | b) | Write a short note on serum sickness. | 2 |
| 4. | a) | Write down the mechanism of milk fever in a lactating cow. | 4 |
| | b) | Write down the cause and pathology of white muscle disease in a calf. | 2 |

SECTION-B

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|----|----|---|-----|
| 5. | a) | Define postmortem clot. Write down the similarities and dissimilarities of antemortem clot and postmortem clot. | 1+2 |
| | b) | Define and classify emboli. Explain how fat embolus is formed and the consequences of extensive fat embolism. | 1+2 |
| 6. | a) | Define hypersensitivity. Discuss the role of lymphocytes in granuloma formation in delayed-type hypersensitivity with necessary figures. | 1+3 |
| | b) | Illustrate how humoral immunity combats with foreign antigen or toxin. | 2 |
| 7. | a) | Write down the pathology of hemorrhagic inflammation. | 2 |
| | b) | Illustrate the disorders results in interference of normal coagulation process that leads to spontaneous hemorrhage or extensive hemorrhage after traumatic injury. | 4 |
| 8. | a) | Write down the etiology and pathogenesis of rickets. | 2 |
| | b) | What is metabolic disease? Write down the etiology and pathogenesis of the disease caused by impaired metabolism of carbohydrate and volatile fatty acids. | 1+3 |

Chattogram Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination 2024
Course Title: Poultry Production (Theory)
Course Code: 0811-PPR-202 (T)
Total marks: 70; Time: 3 hours

[Figures in the right margin indicate full marks. Answer any **three (3)** questions from each section in which question no. **1 and 6** are mandatory. Use separate answer script for each section. Split answers are strongly discouraged.]

SECTION-A

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|----|----|--|-----|
| 1. | a) | Define: Poultry, Poultry Science, Strain, Internal layer and Fryer. | 2 |
| | b) | Name some local chicken breeds. State the productive traits of Sonali and Deshi chickens. | 1+6 |
| | c) | Enlist the economic classes of chicken breeds with suitable examples. | 2 |
| 2. | a) | State the challenges of rearing modern chickens under commercial farming conditions. | 6 |
| | b) | State the ecological impacts of poultry farming. | 6 |
| 3. | a) | Mention some layer strains, and enlist the management points for Hisex Brown layer. | 1+3 |
| | b) | State the feeding and lighting management of broiler chicken. | 8 |
| 4. | a) | Draw a layout of an ideal broiler processing plant. | 5 |
| | b) | Describe the important steps involved in processing of live broilers. Explain the defeathering methods. | 2+5 |
| 5. | a) | What are the broiler strains available in the market? Write briefly the common characteristics of broiler strains. | 1+2 |
| | b) | Show the chemical events of egg shell formation. | 4 |
| | c) | Mention different abnormal eggs. Discuss the factors affecting nutrient content of eggs. | 2+3 |

SECTION-B

- | | | | |
|------|---|--|-----------|
| 6. | a) | Name the young ones of duck, goose, swan, guinea fowl, and turkey. | 2 |
| | b) | “Muscovy is a duck” — justify the statement. | 3 |
| | c) | State the quantitative traits of egg-producing duck breeds. | 6 |
| 7. | a) | What is integrated farming? Write the prerequisites for duck cum fish integrated farming system. | 1+5 |
| | b) | “Quail rearing is more advantageous than that of chicken ”- justify. | 6 |
| 8. | a) | Enlist the breeds and varieties of duck, quail and Chinese fowl. Mention the typical traits of quail and pigeon. | 2+4 |
| | b) | Classify goose breeds with examples. State the fattening process of geese. | 2+4 |
| 8.9. | a) | Name the squab-producing breeds of pigeon. | 1 |
| | b) | What is a dovecote? Describe the hatching and rearing management of squab. | 1+4 |
| | c) | Discuss the brooding and nutritional management for rearing poults. | 6 |
| 10. | Write short notes on any four of the following: | | 4 × 3 =12 |
| | a) Watchdog, b) Guinea fowl, c) Egg preservation, d) Molting and broodiness, e) Lean meat, f) Lux and lumen | | |

Chattogram Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination-2024
Course Title: General Pharmacology (Theory)
Course Code: 0912-GPH-202 (T)
Full Marks: 35, Time: 2 Hours

(Figures in the right margin indicate full marks. Answer 3 (Three) questions from each section where question number 1 is compulsory. Use separate answer script for each section. Fractions of the questions are encouraged to answer together.)

SECTION-A

1. a) Differentiate between drug and medicine. 2
b) Briefly describe drug antagonism and drug synergism. 3
2. a) Schematically represent the pharmacological process and fate of a drug. 3
b) Describe the pharmacokinetics and pharmacodynamics of salbutamol. 3
3. a) Differentiate between laxative and purgative. Give example of emetics and anti-emetics in case of dog. 2+1=3
b) A heifer was suffering from ruminal distension with history of anorexia, dull and depression. Clinical examination revealed atony of rumen with distension and rectal temperature 103°F, respiration rate and pulse rate was found normal. How would you diagnose this case? Write down the treatment and advice. 3
4. a) Define and classify analgesics with examples. Explain the mode of action and clinical use of adrenaline in small animal. 1+2=3
b) Describe the pharmacological action, indication, contra-indication and dose of any opium alkaloid. 3

SECTION-B

5. a) Define and classify diuretics with examples. Which two groups of drugs are effective in treating urolithiasis in cats? 2+1=3
b) Define and classify urinary acidifiers and urinary antiseptics. Describe the mode of action of hexamine. 2+1=3
6. a) "*Strychnos nux-vomica* act both as a sialics and nerve tonic"-justify this statement. 3
b) Elucidate the mechanism of action, pharmacokinetics and dose of acetazolamide in glaucoma in dog. 3
7. a) Enlist the injectable general anesthetics according to their class. Which factors will you consider while choosing an ideal anesthetic? 2+1=3
b) State the clinical applications, drug interactions, mechanism of action and dose of xanthine-derived bronchodilators used in livestock. 3
8. Write short notes (any three): 2x3=6
 - i) Drug incompatibility
 - ii) Bioavailability
 - iii) Pre-anesthetic medication
 - iv) Rumenotronics

Chattogram Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination-2024

Course Title: Biostatistics
Course Code: 0542-BST-202 (T)
Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer four (4) questions from each section where question number 1 and 6 are compulsory. Use separate answer script for each section. Reactions of the questions are encouraged to answer together.)

SECTION-A

1. a) Define Biostatistics. Write down the scope of it in your discipline. 1+3=4
b) Write the name of measurement scale of the following variables: i) Types of breeds ii) No. of cows of a cowshed iii) Birth date iv) GMAT score 4
2. a) Define central tendency. Write down the properties of arithmetic mean. 1+4=5
b) Prove that $A.M. > G.M. > H.M.$ where A.M.= Arithmetic mean, G.M.=Geometric mean, H.M.=Harmonic mean 4
3. a) Write the name of the graph that describes the quantitative variable. Differentiate between bar diagram and histogram. 2+3=5
b) Define conditional probability with example. Write down the conditions of an independent event. 1+3=4
4. a) Discuss the measures of central tendency. Which one of them is the best and why? 2+3=5
b) Illustrate the quartiles of a frequency distribution. 4
5. a) If a coin is tossed twice, what is the probability of getting (i) exactly two heads (ii) a head and a tail? 4
b) Define binomial distribution. State the properties of binomial distribution. 2+3=5

SECTION-B

6. a) Research has shown that there is a relationship between the level of hemoglobin and parity in dairy cows. What tool can be used to establish such a relationship? Define and specify the properties of this tool. 1+3= 4
b) A study showed that milk production can be determined based on the calving interval. Which tool can be used to calculate this relation? Define and state the properties of this tool. 1+3= 4
7. a) Explain test of significance. Write the application situation of F and Z test statistics. 1+3= 4
b) Outline the procedure of test of significance of specified population proportion test. 5
8. a) Define a contingency table. Explain its usefulness in Biostatistics. 1+4=5
b) Differentiate between independent samples t-test and the paired samples t-test. 4
9. a) Is there any association between mastitis and breed of cows? Write the test procedure regarding this statement. 0.5+4.5=5
b) Three formulated feeds were given to dairy cows of three parity groups (first, second and third parity) to observe milk production. Discuss the analysis of variance (ANOVA) procedure for this design. 4
10. Write short notes (any three): 3x3= 9
 - i) Stratified random sampling
 - ii) Rank correlation
 - iii) Normal distribution and its properties
 - iv) Completely randomized design

Chattogram Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination-2024
Course Title: Systemic Bacteriology and Mycology (Theory)
Course Code: 0841- SBM-202 (T)
Full Marks: 70, Time: 3 Hours

[Figures in the right margin indicate full marks. Answer **three (3)** questions from each section where question number **one (1)** and **five (5)** are compulsory. Use a separate answer script for each section. Fractions of the questions are encouraged to answer together.]

SECTION-A

1. a) Enlist the main clinical conditions caused by pathogenic Staphylococci in veterinary medicine. Describe the pathogenic effect of the enzyme and toxins produced by Streptococci. 4+4=8
 b) State the identification criteria for the isolates of *Pseudomonas aeruginosa*. 3

2. a) Enlist the gram-positive anaerobes causing disease in animals and birds. Describe the pathogenicity and diagnosis of organisms causing thrush in poultry. 2+5=7
 b) Name the precursors of 'X' and 'V' factors. Mention the specimens need to be collected for the laboratory diagnosis of bovine listeriosis and bovine campylobacteriosis. 2+3=5

3. a) Describe the antigenic properties of *Escherichia coli*. 4
 b) Write down the general characteristics of Rickettsia. Enlist rickettsial pathogens of veterinary importance. 2+2=4
 c) Explain the developmental cycle of Chlamydia in details. 4

4. a) State the microscopic appearance of *Bacillus anthracis* and *Corynebacterium renale*. Write down the general features of Actinomyces, Nocardia, Trueperella and Dermatophilus. 2+4=6
 b) Make a list of *Leptospira* serovar that cause leptospirosis in domestic animals. Describe the growth characteristics of *Campylobacter jejuni* and *Escherichia coli*. 2+4=6

SECTION-B

5. a) Write down the etiological agents causing following disease/condition: 0.5 × 6
 i) Lumpy wool, ii) Diamond skin disease, iii) Q fever, iv) Pulpy kidney disease, v) Ulcerative enteritis, vi) Kennel cough. =3
 b) Enlist the name of bacteria and fungi causing abortion in cattle. 2
 c) Mention the important bacteria of Enterobacteriaceae family. Draw and illustrate the principal characteristics of spirochaetes. 2+4=6

6. a) Mention the microbes causing dermatophytosis in cattle and dogs. Differentiate clostridial species causing flaccid paralysis and spastic paralysis. 2+3=5
 b) Name Mycoplasma species causing important disease in cattle, goat and poultry. 2
 c) Describe the detailed isolation and identification procedure of Brucella from clinical specimens. 5

7. a) Which specimens will you collect to identify *Campylobacter sp.* from various clinical conditions? Describe the toxins produced by *Clostridium perfringens*. 2+4=6
 b) Mention the different asexual spores produced by fungi of veterinary importance. Write down the key features of *Candida albicans* and *Aspergillus fumigatus*. 3+3=6

8. a) Describe the *in vivo* and *in vitro* morphology of dimorphic fungi at 25 °C and 37 °C. 4
 b) Describe CAMP test. Write down the cell constituents of Mycobacteria. 2+2=4
 c) Enlist four different types of mycotoxins with their source, pathogenesis and clinical signs in various species. 4

Chattogram Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination 2024
Course Title: Pet and Small Ruminant Production (Theory)
Course Code: 0721-PSR-202 (T)
Full Marks: 35, Time: 2 hours

(Figures in the right margin indicate full marks. Answer **three (3)** questions from each section, where questions **1 and 5** are compulsory. Use a separate answer script for each section. Split answers are strongly discouraged.)

SECTION-A

- | | | | |
|----|----|---|---------|
| 1. | a) | Mention two unique signs of estrus in a bitch. | 1 |
| | b) | Enlist five most popular cat breeds. | 1 |
| | c) | What is portion-controlled feeding for dogs? | 1 |
| | d) | Enlist two peculiar characteristics of goats. | 1 |
| | e) | State the gestation period of dog and cat. | 1 |
| | f) | What is 'Bulbus glandis'? Mention it's importance. | 0.5+0.5 |
| | | | |
| 2. | a) | What points should be considered when selecting a pet? | 2 |
| | b) | Briefly describe the following breeds: Labrador, German Shepherd. | 2 |
| | c) | Briefly describe the following terms: Activated sleep, Suicidal escape. | 2 |
| | | | |
| 3. | a) | Briefly describe the feeding behaviour of goats. | 2 |
| | b) | Tabulate the feeding guide for goats at different stages of their life. | 4 |
| | | | |
| 4. | a) | What is lordosis? State the breeding behaviour of cats. | 1+3 |
| | b) | How will you diagnose different stages of pregnancy in the queen? | 2 |

SECTION-B

- | | | | |
|----|----|---|-----|
| 5. | a) | Briefly describe the process of preparing an ewe for breeding. | 3 |
| | b) | Briefly describe the ONBS system for breeding of goats with a neat diagram. | 2 |
| | | | |
| 6. | a) | Briefly describe the process of lambing of an ewe. | 2 |
| | b) | Write a short note on feeding rams. | 2 |
| | c) | Describe the systems of mating of ewes. | 2 |
| | | | |
| 7. | a) | State the process of bathing a cat. | 4 |
| | b) | Briefly state the practical feeding guidelines for feeding cats. | 2 |
| | | | |
| 8. | a) | What are the measures to be taken to prevent the urine spraying of cats on walls and furniture? | 2 |
| | b) | Why do dogs eat vegetables/grasses occasionally? | 2 |
| | c) | What is the composition of the 'substitute for dog milk'? State the feeding schedule of pups. | 1+1 |