

Chattogram Veterinary and Animal Sciences University

DVM 2nd year 1st Semester Final Examination 2019

Subject: Neuro Endocrine and Reproductive Physiology (Theory)

Course Title: NRP- 201 (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 **5 is compulsory**. Use separate answer script for each section. Fractions of the questions must be answered together)

SECTION-A

1. a) List the name of steroid hormone. Write down the hormones of adenohypophysis with their major functions. 3
b) What is life saving hormone? Enumerate the physiological role of hormone that is synthesized from adrenal cortex in animal body. 3
2. a) Describe the interrelation of endocrine and nervous system. 2
b) Write down the hormones of reproductive organs with their respective function. 2
c) What is the regulatory mechanism of hormone secretion? 2
3. a) Define neuron and classify it based on function. 2
b) What is mean by synapse? State the properties of synapse. 2
c) Write shortly the mode of message transmission via a reflex arc. 2
4. a) What are the glands found in skin? How is body temperature regulated? 2
b) List the layers of retina. Differentiate between rods and cone cells. 3
c) Enlist the primary sensation of taste. 1

SECTION B

5. a) Write down the functions of one neurohormone. Illustrate the feedback mechanism of a hormone in a schematic diagram. 2
b) List the hormones of carbohydrate metabolism. Name the pancreatic hormone with their functions. 2
c) What is the relationship between parathormone and calcitonin? 1
6. a) List the organs that secrete reproductive hormone. 1
b) List the hormones responsible for mammary gland development. How is milk let down in cow? 3
c) What is the role of foetus in initiation of parturition? Write the different stages of parturition. 2
7. a) Write the probable consequences of hypothyroidism. 2
b) Define stimuli with example. 2
c) State the mechanism of formation of an image on retina. 2
8. Write short on (any four) 1.5×4 6
a) Aldosterone escape
b) Goitre
c) Biological clock
d) Oogenesis
e) Superovulation

Chattogram Veterinary and Animal Sciences University

DVM 2nd year 1st Semester Final Examination 2019

Subject: Environmental Hygiene and Biosecurity (Theory)

Course Title: EHB- 201 (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 must be answered together.)

SECTION-A

- | | | | |
|----|-----|--|-----------|
| 1. | a) | Define Health, Hygiene and Animal Hygiene. What are the tasks of animal hygiene? | 1+2 |
| | b) | Write down the scope of animal hygiene. | 2 |
| 2. | a) | Write down the composition of fresh air. Describe the gaseous impurities of air. | 1+2 |
| | b) | Define acid rain. Write down the causes and ecological impact of acid rain. | 1+2 |
| 3. | a) | Write down the sources and impact of water pollution by arsenic. | 2 |
| | b) | Enlist 5 water borne diseases. Enumerate the properties of hygienically pure water. What are the methods of water softening? | 1+2
+1 |
| 4. | a) | What is environmental control house? Illustrate the different ventilation system. | 1+3 |
| | b) | Differentiate between | 1×2
=2 |
| | I. | Isolation and quarantine | |
| | II. | Absolute humidity and relative humidity | |

SECTION B

- | | | | |
|----|----|--|-----|
| 5. | a) | Discuss the objectives and methods of water purification. How can you examine water? | 2+1 |
| | b) | Define sewage. Describe the natural and artificial methods of sewage treatment. | 1+2 |
| 6. | a) | Differentiate between ammonification and nitrification. | 2 |
| | b) | Briefly explain the carbon cycle and its impact on animal health. | 4 |
| 7. | a) | Enlist the different groups of pesticides with examples. | 2 |
| | b) | What is antiseptic? What are the critical points we should consider to choose a disinfectant? | 1+3 |
| 8. | a) | Define biosecurity. Briefly explain the operational biosecurity in layer farm. | 3 |
| | b) | Justify the statement – ‘Biosecurity is the key tool for the prevention and control of disease’. | 3 |

Chattogram Veterinary and Animal Sciences University

DVM 2nd year 1st Semester Final Examination 2019

Subject: Zoo, Wild and Laboratory Animal Management (Theory)

Course Title: ZAM- 201 (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 **5 is compulsory**. Use separate answer script for each section. Fractions of the questions must be answered together.)

SECTION-A

1. a) What do you mean by protected areas of wildlife? List out the major protected areas in Bangladesh. Distinguish between 'Safari park' and 'Wildlife sanctuary' 2
b) State the rules for reproductive management of animals in a zoo. 2
c) Suppose you are the curator of Chattogram zoo, state the visitor's management and future development of your zoo. 2
2. a) Explain the importance of wildlife conservation. What are the main causes for wildlife extinction? 2
b) List the extinct vertebrates of Bangladesh. 2
c) Write down the general characteristics of carnivores. 2
3. a) List the salient features of an ideal wildlife habitat. 2
b) Briefly describe about genetic and ecosystem diversity. 2
c) Categorize animals according to their food habits. 2
4. a) Define ecosystem dynamics. Shortly explain the energy flow in the ecosystem dynamics. 2
b) State briefly about the IUCN and CITES with their objectives and mission. 2
c) Show the different abnormal behaviours of wild life. 2

SECTION B

5. a) Enlist the special features that's why laboratory animals are used in research laboratory. 2
b) Point out the activities of animal ethics committee on animal experimentation. 1
c) Mention the adult weight, age at sexual maturity, gestation period, litter size and common diseases of rabbit and mice. 2
6. a) Mention the characteristics of diet for captive animals. Demonstrate the deficiency symptoms of vitamins for captive animals. 2
b) What sorts of facilities need to be available in a modern zoo? 2
c) Write down the general management guidelines of wildlife. 2
7. a) Define ecology, ecosystem and ecological succession. Write down the importance of abiotic and biotic components of environment. 2
b) Illustrate the components of livestock ecology wheel. 2
c) Shortly describe the steps of translocation of a critically endangered animal. 2
8. Write short notes on any two: 3×2
=6
a) Feeding and nutrition of guineapig
b) Specific pathogen free animals
c) Indicator wildlife species

Chattogram Veterinary and Animal Sciences University

DVM 2nd year 1st Semester Final Examination 2019

Subject: Animal Genetics (Theory)

Course Title: AGN-201 (T)

Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer 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 locus, test cross and genotype. 3
b) Distinguish between incomplete dominance and codominance. 4
c) Microorganisms are the good materials for genetic study-- explain 4
2. a) What do you mean by sex related traits? Differentiate sex limited traits from sex influenced traits with examples. 4
b) Explain the mechanism of sex determination in mammals. 4
c) Define sex linked and holandric genes. 4
3. a) What do you mean by interference and coincidence? 3
b) Differentiate between linked gene and syntenic genes. Describe the arrangement of linked genes. 4
c) Describe different types of crossing over with its significance. 5
4. a) What do you mean by genetic code and codon? Write down the names of protein and enzyme involved in DNA replication with their functions. 4
b) Explain transcription process in eukaryotic cell. 4
c) What do you mean by genetic disorder? List five important genetic disorders in animals with their causes. 4

SECTION B

5. a) Explain the term penetrance and expressivity. 4
b) What is pleiotrophism? Mention the factors those control gene expression. 3
c) Explain dominant epistasis with a suitable example. 4
6. a) What is central dogma? Explain in details about RNA splicing. 4
b) List different types of RNA with their function. 4
c) Explain lethal gene action in poultry. 4
7. a) Define multiple allelism. Write down the characteristics of multiple alleles. 4
b) What are the different factors that affect the rate of mutation? 3
c) Briefly describe the CIB method for detection of sex-linked lethal mutation. 5
8. Write short notes on (any three) 3×4
=12
 - a) Polyploidy
 - b) Environmental effect of gene expression
 - c) Mutagens
 - d) Translocation and inversion

Chattogram Veterinary and Animal Sciences University

DVM 2nd year 1st Semester Final Examination 2019

Subject: General Pathology -I (Theory)

Course Title: GPT-201 (T)

Full Marks: 70, Time: 3 Hours

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

SECTION-A

- a) Define pathology, clinical pathology, heterolysis and pathognomonic lesion. 2
- b) Mention the contributions of Aristotle, Ptolemy, Hippocrates and Cornelius Censur in Pathology. 3
- c) Write down the purposes of pathology. 2
- Differentiate between 1.4 × 5 = 7
- a) Autolysis and heterolysis
- b) Apoptosis and accidental cell death
- c) Postmortem clot and antemortem clot
- d) Hypoplasia and atrophy
- e) Dystrophic calcification and metastatic calcification
- a) Write down the causes and microscopic lesions of fatty change. How will you differentiate it from glycogen deposition microscopically? 4
- b) Mention the gross and microscopic lesions of amyloidosis. 3
- a) Enlist different types of pigments deposited in animal tissues. 2
- b) Write short note on pathological ossification. 2
- c) List the post-mortem changes and describe rigormortis in details. 3
- a) What do you mean by metaplasia? Name the benign and malignant neoplasms found in skeletal muscle, epidermis of skin, cartilage, blood vessels and lymphatics. 4
- b) Differentiate benign tumors from malignant tumors in a tabular form. 2
- c) Why neoplastic cells are immortal? 1
- a) Describe the pathogenesis of hemolytic and toxic jaundice. 4
- b) Enlist the causes of hyemolytic and toxic jaundice. 3

SECTION B

- a) Define photosensitization. Describe the causes and mechanisms of hepatogenous photosensitization. 1+4
- b) How does malignant tumor spread into a host body. 2
- a) Show the mechanisms of brown induration of lung. 2
- b) Write a short note on anthracosis. 3
- c) Write down the microscopic lesions of asbestosis. 2
- a) Define infarct. Write down the causes, gross and microscopic lesions of infarct. 4
- b) What is gas gangrene? Mention the significance of gangrene. 3
- a) What type of necrosis are found in case of TB and Black quarter disease? Write down their microscopic lesions. 4
- b) Briefly describe the possible outcomes of necrotic tissue. 3
- a) How radiation can induce neoplasm? 3
- b) Name four parasites and four viruses that can produce neoplasm. 4
- a) Define gout. What type of gout is prominent in chicken? Write down the causes, gross and microscopic appearance of this type of gout. 4
- b) Explain the Van der Bergh test in various types of jaundice. 3

Chattogram Veterinary and Animal Sciences University

DVM 2nd year 1st Semester Final Examination 2019

Subject: General Microbiology (Theory)

Course Title: GMC-201 (T)

Full Marks: 70, Time: 3 Hours

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

SECTION-A

1. a) Classify bacteria on the basis of shape, cellular arrangement, flagella, oxygen relation, temperature and nutritive requirements. 11
2. a) Define bacterial genetic recombination. What are the different types of genetic recombination recorded in bacteria? 2+2
b) With labelled diagram describe the bacterial transformation. 8
3. a) Define bacterial growth, randomized growth and synchronized growth. 3
b) With labelled diagram describe a typical bacterial growth curve. 5
c) Define and classify bacteriological media. 4
4. a) What is phenol coefficient? How will you determine phenol coefficient of a disinfectant? 1+3
b) Describe the methods of sterilization of media, glassware and utensils in the laboratory. 8

SECTION B

5. a) Define bacteria. Draw and label a typical bacterium. 1+4
b) Discuss the functions of bacterial cell wall, cell membrane and capsule. 3
c) List the factors responsible for thermal resistance of bacteria. 3
6. a) Differentiate respiration from fermentation. 2
b) Briefly describe the process of infection and various host defense mechanisms. 5
c) Illustrate the process of phagocytosis. 5
7. a) What do you mean by dimorphic fungi and conidia? 2
b) Define mycoses and enlist different mycoses with respective causal agent. 5
c) Name five mycotoxins with their sources and disease condition. 5
8. a) State Koch's postulates with its importance in Microbiology. 2
b) What is fomite? Briefly discuss the methods of transmission of infectious diseases. 1+3
c) Define genome, plasmid and mutation. DNA is the repository of genetic element in a cell and how does it work? 3+3

Chattogram Veterinary and Animal Sciences University

DVM 2nd year 1st Semester Final Examination 2019

Subject: Platyhelminthes and Malacology (Theory)

Course Title: PLM-201 (T)

Full Marks: 70, Time: 3 Hours

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

SECTION-A

- a) What is parasite and parasitism? Classify parasites on the basis of 'habitat' in or on host. 3
- b) Illustrate the factors associated with the transmission of parasitic infections in animals. 4
- a) Sketch the life cycle of *Fasciola gigantica* in sheep. 3
- b) Mention the factors influencing the production of large numbers of metacercariae necessary for outbreaks of fascioliasis. 4
- a) Distinguish the features of parasites under the order 'cyclophyllidae' and 'pseudophyllidae'. 3
- b) What is neurocysticercosis? Write down the pathogen's significance of pig tape worm infestation in both final and intermediate host. 4
- a) Write down the morphological features of the following parasites: 3×1 =3
i. Deer liver fluke ii. Rumen fluke iii. Blood fluke
- b) How do you diagnose the following parasitic infection in a clinical pathology laboratory? 4×1 =4
i. Fascioliasis ii. Paramphistomiasis iii. Moneziosis iv. Diphylobothriasis
- a) Name 5 veterinary important snail species with their morphological features. 4
- b) Mention the general control measures of snail in rural Bangladesh. 3
- a) What is bladder worm? List different types of bladder worms of animals with examples. 3
- b) Describe the life cycle and pathogenic significance of *Taenia multiceps* infection in goat. 4

SECTION B

- a) Mention 5 important unique characteristics of phylum Platyhelminthes. 2
- b) Do Platyhelminthes have a digestive system? How do they take nutrition from hosts? 2
- c) Briefly describe the digestive and excretory system of trematoda. 3
- a) Enlist five important cestodes and trematodes of poultry. 3
- b) Write down the morphology, life cycle and pathologic significance of *Davainea proglottina* infection in chicken. 4
- a) Distinguish the following with examples. 3×1 =3
i. Reservoir from carrier hosts
ii. Transport host from paratenic host
iii. Parasitic immunity from bacterial immunity
- b) Briefly describe the factors associated with host specificity of a helminth. 4
- a) Mention the characteristic of the family Echinostomatidae. 2
- b) Sketch the life cycle and pathogenic significance of the most pathogenic trematode of duck. 3
- c) Mention 5 species of the family paramphistomatidae with their predilection in the host. Compare the eggs of *Fasciola* sp. and *Paramphistomum* sp. 2
- a) Illustrate how a metacercaria released from encystment within digestive system of a final host? 2
- b) Describe the various developmental stages of typical digenean trematode with diagram. 3
- c) Point out the general characteristics of an ideal anthelmintic. 2
- a) Write short notes on (any four) 1.75×4 = 7
i. Pernicious anemia ii. Circling disease iii. Biotic potential iv. Animal association. V. Bottle jaw
vi. Hydatidosis

Chattogram Veterinary and Animal Sciences University

DVM 2nd year 1st Semester Final Examination 2019

Subject: Animal Nutrition (Theory)

Course Title: ANT-201 (T)

Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer 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.)

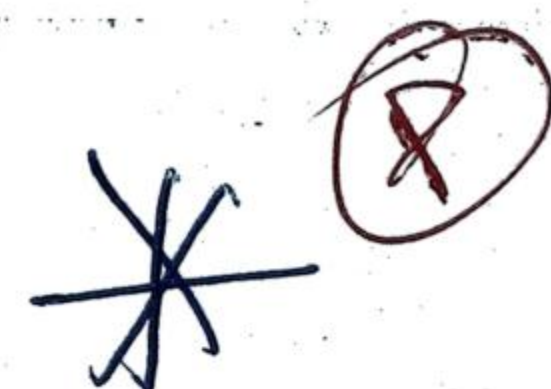
SECTION-A

1. a) What do you mean by nutriture and nutrition? Classify the nutrients based on proximate principles.
b) Indicate the sources of water and factors of water requirements for animals.
c) Mention the uses and nutritive values of molasses, soybean meal, bone meal and straw.
2. a) Define ration and balanced ration.
b) What are the conditional steps to be followed before formulation a ration? ---Explain
c) List the feeding standards usually practiced in the world. Which standard would you follow to formulate the ration for farm animals and why?
3. a) Define protein and NPN substances.
b) An animal was supplied 10 Kg DM feed and it refused 1.5 Kg DM feed as leftover. Calculate the digestibility of feed considering 12 Kg of voided faeces (faeces DM 30%).
c) What is rumen degradable protein (RDP) and rumen undegradable protein (UDP)? UDP is necessary for high yielding animals..... Explain
4. a) Define feed evaluation. Write down the methods of expressing energy value of feed.
b) What is digestibility of feed? State the importance of digestibility of feed for feeding ruminants.
c) Define primary digestion. Outline the role of VFAs in ruminants.

SECTION B

5. a) Define lipid and classify the fatty acid.
b) Give the pathway of synthesis of fatty acid in the mitochondria and cytoplasm.
c) Briefly discuss the lipid digestion in ruminants.
6. a) Define vitamin. Which vitamins are essential for reproduction and vision? Indicate important dietary sources of such vitamins for ruminants.
b) Mention the function and deficiency symptoms of vit D, K, B₂ and B₁₂ and indicate their sources for poultry.
c) What do you mean by dispensable amino acids? Indicate the dispensable amino acids with their precursors.
7. a) Define minerals and macro minerals.
b) Mention the major function and sources of Ca, Na, Mn and Iron in milking cow.
c) Indicate the deficiency symptoms of zinc (Zn), selenium (Se) and sulphur (S) in poultry.
8. Write short notes on any four
 - a Biological value of protein
 - b Urea utilization in ruminants
 - c Anti-nutritional factors in ruminant feed stuff
 - d Entry point of amino acid in TCA cycle
 - e Factors affecting digestibility

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 1st Semester Final Examination-2015
Course Title: Zoo, Wild and Lab Animal Management (Theory)
Course Code: ZAM-201 (Theory)
Full Marks: 35; Time: 2 Hours



201

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

Section-A

1. a) Elaborate following terms (Any six): 6.0
Wildlife, Captive breeding, Reintroduction, Extinction, Ecological succession, *In situ* breeding, Wildlife sanctuary and Botanical garden.
2. a) Write down the taxonomies of rabbit and guineapig. 2.0
b) Mention the birth weight, adult weight, gestation period, litter size, feed intake and life span of rabbit. 4.0
3. a) Differentiate Zoo from Safari park. 2.0
b) Categorize animals according to their food habits. 2.0
c) Write down the general management procedure of wildlife. 2.0
4. a) Explain the importance of wildlife conservation. Briefly discuss the causes of wildlife extinction and explain their remedies. 2.0
b) What are the possible dietary problems of captive animals? 2.0
c) What facilities should you consider for establishing a modern zoo? 2.0

Section-B

- 5 a) Briefly discuss the main diagnostic characteristics of the class Amphibia, Reptilia and Mammalia. 2.0
b) Draw the structure of the national categories adopted by IUCN. A leopard has the following characteristics: 3.0
 - Extent of occurrence is <4500 square kilometer.
 - Population is highly reduced in the last 20 years.
 - Habitat is highly fragmented.
 - Habitat condition is highly degraded.
 - Habitat is under 5% of the protected areas.
 - Human impact is highly negative.
 - Very low intrinsic capacity to adapt.

Is the leopard threatened? If yes, under which national categories?
- 6 a) Define IUCN. Mention four animals which are red listed from IUCN. 3.0
b) Briefly discuss the procedure you should consider for supplying foods for zoo animals. 3.0
- 7 a) Briefly discuss the management procedure of a juvenile crocodile. 3.0
b) Give a balanced diet for a hippopotamus and a lion. 3.0
- 8 a) Briefly discuss the incubation behavior of a python. 3.0
b) Explain the mating behavior of tiger. 2.0
c) Differentiate monkeys from apes. 1.0

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 1st Semester Final Examination-2015
Course Title: General Microbiology (Theory)
Course Code: GMC- 201 (T)
Full Marks: 70; Time: 3 Hours



201

(Figures in the right margin indicate full marks. Answer any **three** questions from each section of which question number 1 and 6 are compulsory. Fractions of the questions must be answered together. Use separate answer script for each section.)

Section-A

- | | | |
|----|---|--------|
| 1. | a) What is DNA? Describe linear DNA replication process in bacteria. | 5 |
| | b) What do you mean by genetic code and non-sense code? | 2 |
| | c) Describe the translocation process in protein synthesis. | 4 |
| 2. | a) What is toxoid ? Discuss its preparation process. | 6 |
| | b) Differentiate among toxin, endotoxin and mycotoxin. | 3 |
| | c) Define virulence and pathogenicity. | 3 |
| 3. | a) What do you mean by bacterial genetic recombination? | 3 |
| | b) How many types of genetic recombination do occur in bacteria? What are they? | 3 |
| | c) Describe bacterial transformation. | 6 |
| 4 | Write notes on the following: | 3X4=12 |
| | a) Nosocomial infection | |
| | b) Bacteriological media | |
| | c) Prokaryotes and eukaryotes | |
| | d) Dimorphic fungi | |

Section-B

- | | | |
|----|---|---|
| 5. | a) Enumerate the branches of bacteriology. | 3 |
| | b) What is "Miasmatic theory of disease"? Write down the contribution of Robert Koch towards the development of microbiology. | 5 |
| | c) List major characteristics of prokaryotic protists. | 3 |
| 6. | a) How do Gram (+) bacteria differ from Gram (-) bacteria | 4 |
| | b) What are the chemical compositions of bacterial cytoplasmic membrane, outer membrane, capsule, flagella, pili and endospore. | 4 |
| | c) How does an endospore germinate to a vegetative cell? | 4 |
| 7. | a) What is synchronous growth of bacteria? Describe the roles of oxygen on the growth of bacteria | 3 |
| | b) Sketch the relationship between bacterial nutrition and metabolism. | 5 |
| | c) Where and how moist heat is used for sterilization? | 4 |
| 8. | a) Classify fungi on the basis of sexual reproduction? | 3 |
| | b) List differentiating features of fungi from bacteria | 3 |
| | c) Describe different virulence factors of bacteria | 6 |

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 1st Semester Final Examination-2015
Course Title: Environmental Hygiene and Biosecurity (Theory)
Course Code: EHB- 201 (T)
Full Marks: 35; Time: 2 Hours



201

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

Section-A

- | | | |
|----|---|---|
| 1. | a) Define environmental hygiene and health. | 2 |
| | b) Write down the importance of environmental hygiene. | 2 |
| | c) State scopes of environmental hygiene. | 1 |
| 2. | a) What is auto purification of soil? | 1 |
| | b) Mention five common soil-borne and five water borne diseases along with their causal agents. | 2 |
| | c) Briefly describe sanitary improvement of soil in a farmyard. | 3 |
| 3. | a) What is relative humidity and fog? | 1 |
| | b) How will you control air-borne infection? | 2 |
| | c) Mention different types of ventilation along with figures. | 3 |
| 4. | a) What are the properties of hygienically pure water? | 1 |
| | b) Mention the common dissolved impurities of water. | 3 |
| | c) Write down the processes of water purification. | 2 |

Section-B

- | | | |
|----|---|-----------|
| 5. | a) Define bio-security and biosafety. | 2 |
| | b) Briefly describe general biosecurity procedures practiced in an animal farm. | 4 |
| 6. | a) Briefly describe methods commonly used for disposal of animal carcass in Bangladesh. | 3 |
| | b) Write down the objectives of disposal of animal waste. | 3 |
| 7. | a) What is isolation and quarantine? | 1 |
| | b) What hygienic measures should be taken for prevention of infectious disease? | 3 |
| | c) What are influences of climate on animal health? | 2 |
| 8. | Write short notes on any three (3) of the following | 2X3
=6 |
| | i) Spring and well | |
| | ii) Biosafety risks | |
| | iii) Radiation injury | |
| | iv) Collection and storage of liquid manure | |