Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 1st Semester Final Examination – 2015
Course Title: Neuro-Endocrine and Reproductive Physiology (Theory)
Course Code: NRP-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. Use separate answer scripts for each section.

Section-A

1.	a.	Define and classify hormones on the basis of their chemical nature.	2
	b.	State the mode of action of protein hormone.	3
2.	a.	Define receptor. Classify receptors with examples according to sensitivity to particular form of energy.	3
	b.	Define reflex. What are the components of a typical reflex arc. Differentiate between sympathetic and parasympathetic nervous system.	3
3	a.	Give a list of endocrine glands with their secretions related to reproduction.	2
	b.	State the role of PGF2α in reproduction.	2
	c.	Write down the age of puberty, length of oestrous cycle, duration of oestrus and gestation length of a cow, sheep, goat and buffalo.	2
4	a.	How do you recognize the signs of oestrus in a goat?	2
	b.	Briefly describe the hormonal regulation of oestrus cycle in a cow.	2
	c.	State the role of foetus in initiation of parturition.	2

Section-B

5.	a.	Enlist the hormones that are associated with three states of glycemia.	3
	b.	Briefly describe the role of vitamin D in calcium regulation of dog.	3
6.	a.	Differentiate between nerve and neuron.	1
	b.	How does a prolonged change occur in postsynaptic neurons?	3
	c.	Define synapse. Describe the properties of a synapse.	2
7.	a.	What is semen? Write down the compositions of semen. Why is ejaculatory volume of semen high in boar?	3
	b.	Define gestation period. What are the stages of parturition?	3
8.		Write short notes on any three of the followings:	2×3=6
	a.	Spermatogenesis	
	b.	Artificial insemination	
	c.	Role of inner ear in hearing	
	d.	Hormones of pregnancy	
	e.	Neurotransmitter	

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

201

(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 and give example in each case (any two of the followings): 2
(i) Pathogenesis, (ii) Morbid lesions and (iii) Syndrome.
b) What are the types of necrosis observed in following diseases/disease conditions (any four) : 2
(i) Abscess, (ii) Calf diphtheria, (iii) Bovine tuberculosis, (iv) White muscle disease and (v) Trauma.
c) Write down the causes of cell death. 3

2. a) How would you identify a dead cell under microscope? 4
b) Differentiate necrosis from postmortem autolysis in tabular form. 3

3. a) What is gangrene? Write down causes and significance of moist gangrene. 3
b) What is the type of infarct found in following tissues: 2
(i) Kidney, (ii) Heart, (iii) Spleen and (iv) Brain.
c) Write down the microscopic lesions of moist gangrene. 2

4. a) Write down the gross and microscopic lesions of fatty change. 3
b) Why does fatty change develop in case of excessive alcohol consumption, lipotrope deficiency and puramycin intoxication? 4

5. a) Briefly discuss the pathogenesis of brown induration of lung. 3
b) Differentiate hemosiderosis from hemochromatosis. 2
c) What is the Black Lung disease and why is it called so? 2

6. a) Write down the causes and pathogenesis of hemolytic jaundice. 4
b) Differentiate three type of jaundice from each other in a tabular form. 3

Section-B

7. a) What do you mean by rigormortis? Mention the factors affecting rigormortis. 2
b) Mention the sequences of rigormortis and postmortem autolysis. What do you mean by pseudomelanosis coli? 3
c) Briefly describe the contributions of Aristotle, Ptolemy, Cornelius Celsus and Hipocrates in veterinary education. 2

8. a) Why and how does amyloidosis develop in the patients suffering from chronic diseases? 4
b) Write down the gross and microscopic lesions of amyloidosis. 3

9. a) Define metaplasia, anaplasia, aplasia and hyperplasia. 2
b) Define and classify atrophy. 3
c) How will you differentiate hyperplasia from hypertrophy? 2

10. a) Name five oncogenic viruses and five oncogenic parasites. 2
b) Differentiate malignant neoplasms from benign neoplasms in a tabular form. 2
c) Mention causes of developmental anomalies and enlist six developmental anomalies. 3

11. a) Show the mechanism of Photosensitization in a sketch form. 2
b) Write down the microscopic pictures of anaplastic cells. 2
c) Write down the gross and microscopic lesions of dystrophic calcification and mention the special stains for calcium. 3

12. Briefly describe the in-vivo properties of neoplastic cells. 7

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 1st Semester Final Examination-2015
Course Title: Animal Nutrition (Theory)
Course Code: ANT-201 (Theory)
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 and 5 are compulsory**. Fractions of a question must be answered together. Use separate answer script for each section)

Section-A

1. a) Define feed, diet, ration and animal nutrition in the light of the published reference materials. 4.0
   b) Briefly discuss the gradually expanding fields of animal nutrition. 3.0
   c) Why Antoine Lavoisier is called the father of modern chemistry? Briefly discuss his contribution in the field of animal nutrition. 4.0

2. a) Define fermentation from the stand point of ruminant nutrition? How volatile fatty acids are formed in the rumen? 4.0
   b) Discuss the possible fates of VFA in cellular level in case of ruminant animals. 4.0
   c) Why and how gluconeogenesis is an inevitable biological process in ruminant animal? Briefly discuss the significance of gluconeogenesis for biosynthesis of milk fat. 4.0

3. a) Discuss the inherent mechanisms for adjusting water balance in animal body. How do camels manage to adjust water balance under severe critical restriction period? 4.0
   b) What is metabolic and bound water? Discuss the complications of water restriction in animal body. 4.0
   c) What is voluntary feed intake? Briefly discuss the factors regulating voluntary feed intake in ruminant animal. 4.0

4. a) What is feeding standard? Briefly discuss the ARC and NRC feeding standards for ruminant animals. 4.0
   b) Define digestibility and co-efficient of digestibility. Briefly discuss the factors regulating digestibility in farm animals. 4.0
   c) How should you attempt to conduct a conventional digestibility trial to estimate true digestibility of German grass in Friesian steers? 4.0

Section-B

5 a) Define micelle and chylomicron. Where, how and under which specific condition they are formed in animal body? 3.0
   b) Critically discuss the short term and long term consequences of gradually supplementing lipids in ruminant's diet. 4.0
   c) Sequentially illustrate the mode of transport of dietary lipids from site of absorption to the target cells. 4.0

6 a) What are rumen movements? How rumen movements are co-ordinated to mix up digesta in the reticulo-rumen of the ruminant animal? 4.0
   b) What is rumen environment? Briefly discuss the salient features of rumen environment under 60:40 forage to concentrate based diet. 4.0
   c) Is fibre dietary essential for ruminant? What are the implications of gradually decreasing dietary fibre on yield and composition of milk in commercial dairy herd? 4.0

7 a) Define synergism and antagonism in mineral metabolism. Discuss the synergism between Ca and Mg-P-Cu-K-Na in animal body. 4.0
   b) Briefly discuss the physiological functions and deficiency symptoms of Mg, Cu and Zn in animal body. 4.0
   c) Discuss the interrelationships among Ca, P and vitamin D in animal body. 4.0

8 a) Write short notes on **(Any four)**: 12.0
   (i) Partitioning of energy in animal body
   (ii) Biological value
   (iii) Trans fatty acids and human health
   (iv) Agro-industrial by-products for ruminant
   (v) **Organizational levels of lipids**

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

201

(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 and give example in each case (any two of the followings): 2
   (i) Pathogenesis, (ii) Morbid lesions and (iii) Syndrome.
   b) What are the types of necrosis observed in following diseases/disease conditions (any four) : 2
   (i) Abscess, (ii) Calf diphtheria, (iii) Bovine tuberculosis, (iv) White muscle disease and (v) Trauma.
   c) Write down the causes of cell death. 3

2. a) How would you identify a dead cell under microscope? 4
   b) Differentiate necrosis from postmortem autolysis in tabular form. 3

3. a) What is gangrene? Write down causes and significance of moist gangrene. 3
   b) What is the type of infarct found in following tissues: 2
   (i) Kidney, (ii) Heart, (iii) Spleen and (iv) Brain.
   c) Write down the microscopic lesions of moist gangrene. 2

4. a) Write down the gross and microscopic lesions of fatty change. 3
   b) Why does fatty change develop in case of excessive alcohol consumption, lipotrope deficiency and puramycin intoxication? 4

5. a) Briefly discuss the pathogenesis of brown induration of lung. 3
   b) Differentiate hemosiderosis from hemochromatosis. 2
   c) What is the black lung disease and why is it called so? 2

6. a) Write down the causes and pathogenesis of hemolytic jaundice. 4
   b) Differentiate three type of jaundice from each other in a tabular form. 3

Section-B

7. a) What do you mean by rigormortis? Mention the factors affecting rigormortis. 2
   b) Mention the sequences of rigormortis and postmortem autolysis. What do you mean by pseudomelanosis coli? 3
   c) Briefly describe the contributions of Aristotle, Ptolemy, Cornelius Celsus and Hipocrates in veterinary education. 2

8. a) Why and how does amyloidosis develop in the patients suffering from chronic diseases? 4
   b) Write down the gross and microscopic lesions of amyloidosis. 3

9. a) Briefly describe the fate or outcome of necrotic tissue. 4
   b) Show the mechanism of articular gout in a sketch form. 3

10. a) Mention the pathologic depositions of melanin. 2
    b) Show the mechanism of bile pigment formation in a sketch form. 5

11. a) Show the mechanism of Photosensitization in a sketch form. 2
    b) How may Phenothiazine cause photosesitization? 2
    c) Write down the gross and microscopic lesions of dystrophic calcification and mention the special stains for calcium. 3

12. a) Write down the gross and microscopic lesions of caseation and Zenker's necrosis. 4
    b) Write a short note on visceral gout. 3

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 1st Semester Final Examination-2015
Course Title: Animal Genetics (Theory)
Course Code: AGN – 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 **5** are compulsory. Fractions of the questions must be answered together. Use separate answer script for each section.)

Section-A

1.	a)	What do you mean by the term "Genetics"? State the branches of Genetics.	3
	b)	Describe the contribution of Gregor Johann Mendel in the field of Genetics.	6
	c)	Define allele, heterozygous, co-dominant and hybridization.	2
2.	a)	What is crossing over? Write down the process of meiotic crossing over.	6
	b)	Write down the process of genetic mapping.	6
3.	a)	Illustrate the law of segregation under an animal example.	3
	b)	Mention different types of gene action. Give an example in each case.	4
	c)	Explain non-epistatic genetic interaction with a suitable example.	5
4	a)	Define gene. Indicate the size of a gene.	2
	b)	Describe genetic recombination in bacteria through transformation.	4
	c)	Write in detail about protein biosynthesis in higher organism.	6

Section-B

5.	a)	Differentiate linkage from independent assortment.	3
	b)	Describe incomplete linkage with an example.	5
	c)	Explain double crossing over with example.	3
6.	a)	If a gene has five alleles, how many heterozygotes and homozygotes are possible?	3
	b)	Describe sex linked inheritance with examples.	4
	c)	How will you determine the sex of chicken using sex chromosomal mechanism?	5
7.	a)	What do you mean by interference and coincidence.	2
	b)	Write in detail about the determination of map distance and gene order.	6
	c)	Write down the causes, signs and symptoms and control measures of bovine leukocytes adhesion deficiency.	4

8. Write short notes on any (three) from the followings : 3x4=12

a) Heredity and variation
b) Polyploidy
c) Operon model
d) Genetic disorder

A

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

(Figures in the right margin indicate full marks. Answer any **three** questions from each section of which question No.1 and 5 are compulsory. Use separate answer script for each section.)

Section-A

1. a) Write down the zoological classification of water buffalo. 2
   b) State the effect of climatic factors on buffalo production in the globe. 5
   c) "Draught cattle power is gradually reducing in Bangladesh"- Justify this statement. 4

2. a) How will you raise the replacement heifer in a commercial farm? 4
   b) Write about the feeding of HYV dairy cow in detail. 4
   c) Differentiate between commercial and backyard dairy farming in Bangladesh. 4

3. a) List five beef and draught cattle breeds each. 2
   b) Write on how will you select draught cattle for use? 5
   c) Describe the feeding and management for beef cattle fattening. 5

4. Write short note on any three of the followings: 4×3= 12
   a) Climatic influence and beef cattle production, b) Principles of feeding draught cattle,
   c) Criteria for selecting beef cattle and d) Conservation of wild buffaloes

Section-B

5. a) State the distribution of buffaloes in the world. 3
   b) Enumerate the differences between river and swamp buffaloes in tabular form. 4
   c) State the productive and reproductive characteristics of common buffaloes in bathan areas of Bangladesh. 4

6. a) Write down the different systems of beef cattle production as practised in elsewhere in the beef producing countries. 4
   b) Considering the present scenario of the cattle industry in Bangladesh, write a note on future of beef production in Bangladesh. 4
   c) State a note on "Draught Cattle Industry". 4

7. a) List different types of houses in a modern commercial dairy farm. 3
   b) Write down the routine activities for a milking shed. 5
   c) How will you judge a heifer for the use of milking purpose? 4

8. Write short notes on any three of the followings: 3×4= 12
   a) Calf starter, b) Rotational grazing, c) Identifying cows in byre shed for insemination,
   d) Record keeping in a commercial dairy farm and e) Pricing milk

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 1st Semester Final Examination/2015
Course Title: Biochemistry I&II (Theory)
Course Code: BIC 201
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 and 5 are compulsory**. Use separate answer scripts for each section.

Section-A

1.	a)	What is polysaccharide? Classify polysaccharide with examples.	1+2=3
	b)	Write down the differences between Chemistry and Biochemistry. What are the objectives of Biochemistry?	1+2=3
	c)	Show the reaction how osazone is formed. Differentiate between Starch and Glycogen.	3+2=5
2.	a)	Define the following: i) Amino acid, ii). Peptide, iii) Polypeptide, and iv) Protein. Classify amino acids on the basis of backbone structure.	2+3=5
	b)	What is meant by denaturation of protein? Discuss the factors responsible for denaturation of protein.	1+3=4
	c)	Define Zwitterion. Write down the structure of an amino acid of each group: i) Acidic amino acid and ii) Basic amino acid.	1+2=3
3.	a)	Write down the names of essential fatty acids. Why are they so called? Discuss their major functions.	1+1+2=4
	b)	Explain rancidity of fats. What are the differences between fats and oils?	2+2=4
	c)	Enlist analytic methods for characterization of lipids. Why vegetable oil is more stable than animal fat?	4
4.	a)	What is feedback inhibition? Briefly describe the different types of enzymatic inhibition with diagram.	4
	b)	Define active site. Write down the salient features of active site.	4
	c)	What is Chargaff's rule? Enlist the enzymes that are involved in DNA replication and give their functions.	2+2=4

Section-B

5.	a)	Differentiate the following pairs: i) Nucleoside and Nucleotide and ii) DNA and RNA	3
	b)	What is transcription? Briefly explain the transcription with flow diagram.	1+3=4
	c)	Briefly explain the following: i) Central dogma of molecular biology, ii) T_m, iii) Codon and iv) Genetic code	1×4=4
6.	a)	What do you understand by aerobic and anaerobic Glycoslysis? Mention their end products.	2+2=4
	b)	What is meant by anaplerotic reaction? Give examples from carbohydrate metabolism.	1+2=3
	c)	Name the irreversible steps of Glycolysis with reaction. Show, with mentioning the steps, how many molecules of ATP are produced by oxidation of 1 molecule of glucose vai Glycolysis and TCA cycle.	2+3=5
7.	a)	Define enzyme. Classify enzyme with examples.	1+3=4
	b)	Define specificity of enzyme. Discuss the nomenclature of enzymes.	1+3=4
	c)	Urea cycle, mentioning with the essential enzymes and co-enzymes in a flow diagram.	4
8.	a)	Write short notes on any three of the followings: a) Toxicity of ammonia, b) DNA replication, c) Amino acid pool, d) Shuttle system and e) Factors affecting enzyme action.	3×4=12

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 1st Semester Final Examination-2015
Course Title: Platyhelminthes and Malacology (Theory)
Course Code: PLM– 201 (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) Mention the deleterious effects of parasites on their hosts. 4
   b) Differentiate the followings (any two): 3
   (i) Transport host and paratinic host, (ii) Temporary parasite and periodic parasite and
   (iii) Symbiosis and mutualism.

2. a) Mention the structures of a typical digenetic trematode with functions. 5
   b) "Fecal examination has a little value in diagnosis of Paramphistomiasis"- justify this statement. 2

3. a) Mention the measures you should adopt to control the liver fluke infection in Bangladesh. 3
   b) Sketch the life cycle of *Schistosoma nasalis*. Mention its pathogenic significance. 4

4. a) Compare the life cycle of *Fasciola* sp. and *Paramphistomum* sp. in a tabular form. 4
   b) Mention the general control measures of snails in Bangladesh. 3

5. a) Mention the life cycle and pathogenic significance of the smallest tape worm of dog. 5
   b) How will you differentiate *Taenia saginata* from *Moniezia expansa*? 2

6. a) Enlist 10 common snails that act as intermediate hosts of veterinary important parasites. 3
   b) Describe snail culture in laboratory for studying veterinary important parasites. 4

Section-B

7. a) Mention briefly how body's immune system reacts against exogenous and endogenous antigens. 3
   b) Explain briefly how parasites evade, modulate and suppress host immune system. 4

8. a) Enlist the parasites which require two intermediate hosts to complete their life cycle. 3
   b) Mention the scientific name, host (definitive and intermediate), predilection site and geographical distribution of the following parasites. 4
   (i) Chinese liver fluke, (ii) Lung fluke, (iii) Rumen fluke and (iv) Oviduct fluke.

9. a) Describe the general morphological features of typical cestode with diagram. 3
   b) How will you differentiate between Pseudophyllidean and Cyclophyllidean cestodes? 4

10. a) Enlist the important trematodes of poultry with their host and predilection sites. 3
    b) Mention the life cycle, clinical signs and pathogenesis of the most pathogenic trematode of poultry. 4

11. a) Describe different metacestodes with diagram. 3
    b) Mention the larval stage, larval site, definitive and intermediate hosts of important *Taenia* spp. 4

12. a) Define parasitism. State the sources of parasitic infections with example. 3
    b) Enlist the important trematodes and cestodes of dogs and cats. 3
    c) Mention 4 important genus of the family Fasciolidae. 1

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

(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): Wildlife, Captive breeding, Reintroduction, Extinction, Ecological succession, *In situ* breeding, Wildlife sanctuary and Botanical garden.	6.0
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: – 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?	3.0
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

(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