

Chittagong Veterinary and Animal Sciences University
DVM Second Year First Semester Final Examination, 2012
Course Title: General Parasitology and Platyhelminthes (Theory)
Course Code: GPP -201
Full Marks – 70, Time: 3 hours

201

(Figures in the right margin indicate full marks. Answer any **five (5)** questions from each section. Use separate answer scripts for each section)

Section-A

- 1 a) Define parasites. Classify it on the basis of duration, the laying stages, the habitat of the parasites on / in host and pathogenicity with example. 4.0
 b) What are the immunity and resistant? Write down the factors responsible for break down immunity. 3.0
- 2 a) What is metacestode? Write down the name of the different types of metacestodes with example in each case. 4.0
 b) Briefly describe the life cycle, pathogenic significance and control measures against the parasite causing "Circling disease" in goats. 3.0
- 3 a) Write down the names of the body parts of an adult cestodes and briefly describe the morphology of a mature proglottid. 4.0
 b) Differentiate between Psudophyllidea and Cyclophyllidea. 3.0
- 4 a) Write down the name of the cercariae and infective stages of the members of the following family: (i) Schistosomatidae (ii) Fasciolidae (iii) Opsthorchiidae 3.0
 b) Write scientific name of the following parasites: (i) Cat liver fluke (ii) Elephant liver fluke (iii) Lancet fluke (iv) Poultry blood fluke 0.5X4=2
 c) How does the *Schistosoma* spp differ morphologically from other trematodes? 2.0
- 5 a) Draw and label a typical trematode. 2.0
 b) Describe briefly different body parts of trematodes. 3.0
 c) Name important trematodes of buffalo. 2.0
- 6 a) "The immature amphistomes are more pathogenic than adult."- Explan. 2.0
 b) Briefly describe the life cycle, pathogenic significance and control measures of the parasite causing Echinococcosis in dog. 5.0

Section-B

- 7 a) What is helminth? Describe the developmental stages of a typical digenetic trematode. 4.0
 b) Describe the zoological nomenclature of a parasite. 3.0
- 8 a) Compare between the following terms: 5.0
 (i) Histozoic and Coelozoic parasite (ii) Facultative and obligatory parasite (iii) Transport and Paratenic host (iv) Carrier and reservoir host (v) Mutualism and symbiosis.
 b) Write down the different sources and routes of parasitic infection. 2.0
- 9 a) What are the striking difference in the life cycle of liver fluke and blood fluke? 3.0
 b) Write down the life cycle of liver fluke in cow. 4.0
- 10 a) Give a list of trematodes of poultry. 2.0
 b) Briefly describe the life cycle, pathogenic significance and control measures of *Echinostoma revolutum* infection in poultry. 5.0
- 11 a) How will you confirm the following diseases in the laboratory (any two): 2X2=4.0
 (i) Paramphistomiosis (ii) Moniezirosis (iii) Snoring disease
 b) With example in each case describe the morphological features of different genera of the family Fasciolidae.
- 12 a) Write short notes on any two (2) of the following: 3.5X2=7
 (i) Moniezirosis (ii) Swimmer itch (iii) Bottle jaw

Chittagong Veterinary and Animal Sciences University
DVM Second Year First Semester Final Examination, 2012

Course Title: General Pathology-I (Theory)

Course Code: GPT -201

Full Marks – 70, Time: 3 hours

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(Figures in the right margin indicate full marks. Answer any 5 (Five) questions from each section. Use separate answer scripts for each section)

Section-A

- 1 (a) Define cellular death. 1
(b) What are the early indications of postmortem autolysis. Briefly discuss each of them. 3
(c) What is rigormortis? How will you determine the approximate time of death by examining the left ventricle of the heart? 3
- 2 (a) What do you mean by intracellular and extra cellular deposits? Give their example in each case. 2
(b) Name three intracytoplasmic vacuolation in H and E staining and differentiate them. 3
(c) How does starvation lead to fatty change in liver and kidney? 2
- 3 (a) What do you mean by amyloidosis? Give the gross and microscopic features of amyloidosis. 3
(b) Give the pathogenesis of primary amyloidosis. 2
(c) Classify amyloidosis with its significance. 2
- 4 (a) How will you determine icterus clinically and by laboratory test? 3
(b) Give the pathogenesis and causes of type II / congenital erythropoietic porphyria 3
(c) Give the significance of DOPA test. 1
- 5 (a) Classify infarcts with their gross features. 2
(b) Give the gross and microscopic lesions of caseous necrosis. 2
(c) List the outcome of necrosis. Name the most beneficial and most dangerous outcome of necrosis. 3
- 6 (a) Describe the fate of erythrocytes. 3
(b) Describe the pathogenesis and causes of obstructive jaundice. 3
(c) Which test is used to classify jaundice? 1

Section-B

- 7 (a) Define pathology and General Pathology. Give examples of basic alterations. 3
(b) What are the common causes of cell injury? Give mechanism of acute cellular swelling in sketch form. 4
- 8 (a) What is gout? Write down the causes and pathogenesis of gout formation. 4
(b) Describe the gross and microscopic lesions seen in visceral gout. 3
- 9 (a) Describe the gross and microscopic lesions of caseation and liquefaction necrosis. 5
(b) What are the possible ways of disposal of necrotic tissue from a living body? 2
- 10 (a) Define photosensitization. Write down the pathogenesis of hepatotoxic photosensitization. 4
(b) How do you differentiate melanosis and melanoma in laboratory? 3
- 11 (a) Write down the causes of fat necrosis. What is the significance of such changes to veterinarian? 3
(b) Describe the basic mechanisms behind the fatty liver disease in poultry. 4
- 12 Write short notes (any two) 2.5x2=7
a) Prussian blue reaction b) Hemolytic Jaundice c) Heart failure cell d) Brown induration of lung

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Chittagong Veterinary and Animal Sciences University
DVM Second Year First Semester Final Examination, 2012

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 3 (Three) questions from each section of which Question No. 1 and 5 are compulsory. Use separate answer scripts for each section)

Section-A

- 1 a) Write down the Haworth structures of α -D fructofuranose and its anomer. 2.0
b) Name the main products formed when glucose reacts with i) Concentrated H_2SO_4 2.0
ii) Bromine water iii) Concentrated HNO_3 and iv) Dilute alkali
c) Mention the occurrence, monomeric units and linkage of the following i) Heparin 3.0
ii) Lactose iii) Trehalose
d) Write down the name of biomolecules with bonds, building block and major functions. 4.0
- 2 a) Briefly describe different structures of protein. Write short note on secondary structure of protein. 3.0
b) Give any reaction to determine C-terminal residue of a polypeptide chain. Why Edman reagent is preferable than Sanger to determine N-terminal residue? 3.0
c) Classify proteins on the basis of solubility and function. 3.0
d) Explain denaturation and renaturation of proteins. Why enzyme hydrolysis is preferable than acid or alkali hydrolysis of protein? 3.0
- 3 a) Give the structural formulae of the following compounds: 3.0
i) ω 3 series fatty acid ii) Lecithin iii) Volatile fatty acid
b) Define and indicate the significance of following compounds: 4.0
i) Iodine number ii) Saponification number iii) Peroxide number iv) Reichert-Missl number
c) Give the hydrolytic products of sphingomyelin. 2.0
d) Define Lipids. Classify lipoproteins. 3.0
- 4 a) Write down the modern classification of enzymes. 3.0
b) Briefly discuss feedback and allosteric regulation of enzyme. 3.0
c) Write down the factors affecting enzyme action. Briefly describe the effects of different types of reversible inhibitors on enzyme actions with graph. 4.0
d) Show some uses of enzymes in veterinary practice. 2.0

Section-B

- 5 a) Define gluconeogenesis. Write down the steps to show how ruminants produce glucose from propionic acid 3.0
b) Show the steps of glycolysis where $NADH^+ H^+$ is produced. Write down the importance of the reaction. 3.0
c) Write the steps of PPP where ribose is produced from glucose. 3.0
d) Give the sketch of Maltose-Aspartate and Glycerophosphate shuttle. 2.0
- 6 a) Write down the structure of pyrimidine nucleotides. Give an evidence in favor of DNA as genetic material. 4.0
b) Define replications. Show in figure how a daughter DNA is formed from parental DNA. 4.0
c) Define the following terms: i) Gene ii) Codon iii) Proteomics iv) Cloning v) Translation vi) Plasmid vii) Genome viii) Metabolomics 4.0
- 7 a) What is BUN? Write down the reaction catalyzed by SGOT and GPT. 4.0
b) Why glycogen stored as fuel reserve? 4.0
c) Mention metabolic end products of nitrogenous substances in poultry, mammals and fish. Why ammonia is toxic to animal? 4.0
- 8 a) Briefly discuss Kncop's experiment. 3.0
b) Write down the structure of carnitine with its role in β -oxidation. 3.0
c) Show the steps to produce lactic acid from lactose. 3.0
d) How uric acid is produced in birds? 3.0

Chittagong Veterinary and Animal Sciences University
DVM Second Year First Semester Final Examination, 2012
Course Title: Platyhelminthes and Malacology (Theory)
Course Code: PLM -201
Full Marks – 70, Time: 3 hours

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(Figures in the right margin indicate full marks. Answer any five (5) questions from each section. Use separate answer scripts for each section)

Section-A

- 1 a) Define parasites. Classify it on the basis of duration, the laying stages, the habitat of the parasites on / in host and pathogenicity with example. 4.0
- b) What are the immunity and resistant? Write down the factors responsible for break down immunity. 3.0
- 2 a) What is metacestode? Write down the name of the different types of metacestodes with example in each case. 4.0
- b) Briefly describe the life cycle, pathogenic significance and control measures against the parasite causing "Circling disease" in goats. 3.0
- 3 a) Write down the names of the body parts of an adult cestodes and briefly describe the morphology of a mature proglottid. 4.0
- b) Differentiate between Psudophyllidea and Cyclophyllidea. 3.0
- 4 a) Write down the name of the cercariae and infective stages of the members of the following family: (i) Schistosomatidae (ii) Fasciolidae (iii) Opsthorchiidae 3.0
- b) Write scientific name of the following parasites: (i) Cat liver fluke (ii) Elephant liver fluke (iii) Lancet fluke (iv) Poultry blood fluke 0.5X4=2
- c) How does the *Schistosoma* spp differ morphologically from other trematodes? 2.0
- 5 a) Define Malacology with importance of shell characters for identifying them. 2.0
- b) List the names of the fresh water snails who act as intermediate host of trematode parasites of veterinary importance. 3.0
- c) Describe the biological and chemical control of snail in a pasture land. 2.0
- 6 a) "The immature amphistomes are more pathogenic than adult."- Explan. 2.0
- b) Briefly describe the life cycle, pathogenic significance and control measures of the parasite causing Echinococcosis in dog. 5.0

Section-B

- 7 a) What is helminth? Describe the developmental stages of a typical digenetic trematode. 4.0
- b) Describe the zoological nomenclature of a parasite. 3.0
- 8 a) Compare between the following terms: 5.0
- ✓ (i) Histozoic and Coelozoic parasite (ii) Facultative and obligatory parasite (iii) Transport and Paratenic host (iv) Carrier and reservoir host (v) Mutualism and symbiosis.
- b) Write down the different sources and routes of parasitic infection. 2.0
- 9 a) What are the striking difference in the life cycle of liver fluke and blood fluke? 3.0
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- 10 a) Give a list of trematodes of poultry. 2.0
- b) Briefly describe the life cycle, pathogenic significance and control measures of *Echinostoma revolutum* infection in poultry. 5.0
- 11 a) How will you confirm the following diseases in the laboratory (any two): 2X2=4.0
- (i) Paramphistomiosis (ii) Monieziosis (iii) Snoring disease
- b) With example in each case describe the morphological features of different genera of the family Fasciolidae.
- 12 a) Write short notes on any two (2) of the following: 3.5X2=7
- (i) Monieziosis (ii) Swimmer itch (iii) Bottle jaw

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Chittagong Veterinary and Animal Sciences University
DVM Second Year First Semester Final Examination, 2012
Course Title: Animal Production (Cattle and Buffalo) (Theory)

Course Code: APR -201

Full Marks – 70, Time: 3 hours

(Figures in the right margin indicate full marks. Answer any 3 (Three) questions from each section where Q. No. 1 (One) and 5 (Five) are compulsory. Use separate answer scripts for each section)

Section-A

- 1 (a) Sketch and briefly discuss the dairy production cycle. 3
(b) Discuss the factors that affect the successful business management of dairy farm. 4
(c) What are the constraints of dairy farming in Bangladesh? Suggest the remedies to overcome those constraints? 4
- 2 (a) State the common production programs of beef-cattle in the tropics. 2
(b) Make a detail plan for beef fattening program to Bangladesh context. 5
(c) What are the challenges and opportunities for beef cattle production in developing countries like Bangladesh? 5
- 3 (a) What are the different buffalo rearing systems in Bangladesh? 2
(b) Describe the intensive buffalo rearing in "Bathan" in terms of feeding, drinking, housing, breeding, milking and buffalo management. 5
(c) What are the common reproductive characteristics of river buffalo? How do those differ from those of swamp type? 5
- 4 Write short notes (any four) 4X3=12
(a) Selection of cattle for dairy herd replacement;
(b) Small-holder dairy production in Bangladesh;
(c) Breeding efficiency in a dairy herd;
(d) Calf-mortality in buffalo farming;
(e) Heritability and repeatability of dairy characters; and
(f) Essential record keeping for better management

Section-B

- 5 (a) State the sequential steps of care and management of calves of dairy cattle from the day of birth to weaning. 3
(b) Suggest a formula of milk replacer for calves. Why antibiotics are frequently used in milk replacer? 4
(c) State the sequential steps of feeding strategies for high producing cows. 4
- 6 (a) How will you train a pair of newly purchased bullock for ploughing purpose? 4
(b) How will be sure that a working cattle is in good working condition? 2
(c) Discuss the points that are necessarily be considered for ideal characteristics of a pair of draught cattle. 3
(d) What are major problems of draught cattle in Bangladesh? 3
- 7 (a) What is drying off? State the proper period of drying off and justify your answer. 4
(b) What are common methods and procedures of drying off? 4
(c) How does drying off benefit to farming? 4
- 8 Write short notes (any four) 4X3=12
(a) Sequential development of an udder;
(b) Physiology of milk production;
(c) Yolk-gall in draught cattle;
(d) Phenotypic and production characteristics of common buffalo in Bangladesh;
(e) Geographical distribution of buffalo; and
(f) Varieties of swamp buffalo.

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Chittagong Veterinary and Animal Sciences University
DVM Second Year First Semester Final Examination, 2012

Course Title: General Microbiology (Theory)

Course Code: GMC -201

Full Marks – 70, Time: 3 hours

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(Figures in the right margin indicate full marks. Answer 3 (Three) questions from each section of which Question No. 1 and 5 are compulsory. Use separate answer scripts for each section)

Section-A

- 1 (a) Define bacterial chromosome, gene and plasmid. What is bacterial genetic recombination? How many types of genetic recombination occur in bacteria? 6
(b) Describe with labeled diagram the transformation mechanism in bacteria. 5
- 2 (a) Define virulence, pathogenicity and immunity. 3
(b) Describe the non-specific mechanisms of host resistance and its importance. 6
(c) Discuss the portals of entry of pathogenic microbes into a healthy animal. 3
- 3 (a) What do you mean by bacterial growth and development? Distinguish between synchronized and randomized growth of bacteria. 5
(b) With labeled diagram describe a typical growth curve of bacteria. 7
- 4 Write short notes on: 3x4=12
(a) Phenol coefficient; (b) Bacterial endospore;
(c) Mycoses; (d) Bacterial Gram staining

Section-B

- 5 (a) Differentiate "S" colony from that of "R" type. Classify bacteriological media based on purposes with examples. 3
(b) Mention the characteristics of endotoxins produced by bacteria. 3
(c) List the theories of the cause of disease. Who was the initiator of Germ theory? State the contributions of Robert Koch in establishing the Germ theory. 5
- 6 (a) What are the purine and pyrimidine bases of DNA molecule? How does a bacterial DNA replicate? 6
(b) Draw and label molecular structure of a tRNA and describe the functions of different parts of it. 6
- 7 (a) Make a list of commonly used methods for obtaining homogenous bacterial culture from suspected field specimens. 3
(b) What do you mean by rate of bacterial death? 2
(c) Write short note on intermittent sterilization. 3
(d) Illustrate the teleomorphic pathway of fungal reproduction. 4
- 8 (a) Categorize all microorganisms based on requirement of nutrient substances. 4
(b) Explain the terms "convalescent carrier animals" and "nosocomial infection". 4
(c) Classify fungi with examples. Differentiate macroconidia from microconidia. 4

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Chittagong Veterinary and Animal Sciences University
DVM Second Year First Semester Final Examination, 2012
Course Title: Zoo and Lab. Animal Management (Theory)
Course Code: ZAM -201
Full Marks – 55, Time: 3 hours

(Figures in the right margin indicate full marks. Answer 3 (Three) questions from each section of which Question No. 5 are compulsory. Use separate answer scripts for each section)

Section-A

- 1 (a) Distinguish between zoo and safari park. 2
(b) What are the general guides to be followed while establishing a zoo? 3
(c) Discuss the objectives and functions of a zoo 4
- 2 (a) What is lab. animal? Classify laboratory animal with examples. 4
(b) Describe the feeding behaviour of rabbit. 3
(c) Write down the points to be considered in formulation of balanced ration for laboratory animals. 2
- 3 (a) What is biodiversity and ecology? 2
(b) Write down the importance of biodiversity in context of human welfare. 4
(c) Mention the park and protected area of Bangladesh with their location and forest type. 3
- 4 (a) What do you mean by wildlife management? 2
(b) Discuss the major causes of extinction of wildlife in Bangladesh. 4
(c) Discuss the value of wildlife in different aspects? 3

Section-B

- 5 (a) What do you know about animal conservation? Discuss about the types of conservation. 4
(b) Discuss about the Bangladesh national categories and criteria of threatened mammals. 3
(c) Elaborate IUCN, SAZARC, Zoo, WWF, PHVA and WILD. 3
- 6 (a) Discuss about wildlife habit. 3
(b) What are the major components of wildlife habitat? 3
(c) Mention the efficient housing and management system of wild life in captivity. 3
- 7 (a) Briefly discuss about the reproduction and breeding of rat. 3
(b) What is restraining? Briefly discuss about the physical restraining of wild animal. 3
(c) Discuss the veterinary facilities that should be ensured in a zoo. 3
- 8 Write short notes on any three of the followings. 3X3=9
 - a) Reproduction of a tiger.
 - b) Safari park visit.
 - c) Animal behaviour.
 - d) Captive breeding.

Chittagong Veterinary and Animal Sciences University
DVM Second Year First Semester Final Examination, 2012

Course Title: Basic and Circulatory (Theory)

Course Code: BCP-201

Full Marks – 70; Time: 3 hours

(Figures in the right margin indicate full marks. Answer any three (3) questions from each section of which Questions 1 and 5 are compulsory. Use separate answer scripts for each section)

Section-A

1. a. Draw and label a typical animal cell. 3
b. State the functions of a cell membrane, mitochondria and endoplasmic reticulum. 3
c. State how a cell volume is maintained. 5
2. a. List the physiological phenomena exist in the body. 3
b. Differentiate osmosis from diffusion. Classify solutions on the basis of osmotic pressure. 5
c. State the factors regulating the net rate of diffusion. 4
3. a. What is hemagglutination? Classify different types of hemagglutination. 4
b. List the blood coagulation factors. 3
c. Briefly describe extrinsic mechanism of blood coagulation. 5
4. a. Name the junctional tissues of heart. 2
b. State the conduction of impulses through myocardium during a heart beat. 5
c. Define heart block. State different types of heart block. 5

Section-B

5. a. Write down the composition of blood. 3
b. What are the principle plasma proteins of blood? Enumerate their functions. 3
c. How urobilinogen is formed from a degraded RBC? 4
d. Cite the functions of basophil. 1
6. a. Define lymph. 1
b. How lymph is formed in the body? Briefly describe. 5
c. List the functions of cerebrospinal fluid and synovial fluid. 3
d. What are the functions of tissue-macrophage system? 3
7. a. Define erythropoiesis and granulopoiesis. 2
b. Why blood is not coagulated inside the blood vessel? 3
c. Write down the role of hepcidine and erythropoietin in erythropoiesis. 4
d. Why does erythroblastosis fetalis occur in an off-spring from Rh^{+ve} father and Rh^{-ve} mother? 3
8. Write short notes on any four: 4*3=12
 - a. Phagocytosis
 - b. Blood pressure
 - c. Vasoconstriction
 - d. Regulation of heart
 - e. Blood groups