Chittagong Veterinary and Animal Sciences University DVM 2ndYear 1st Semester Final Examination 2011

Subject Title: Biochemistry I & II (Theory)

Course Code: BIC-201

Full Marks -70; Time: 3.0 Hours

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

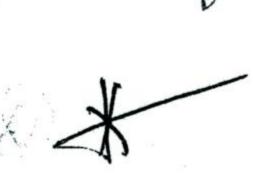
SECTION-A

1.	 a. Write the structure of α-D fructose and epimer and enantiomer of α-D glucose. b. Give evidence of ring structure of glucose. c. Show the difference among amylese, amylopectin and glycogen. d. Write down the importance of cellulose and lignin in ruminant nutrition. 	3 3 2
2.	 a. Show the structure of any oil. Explain why soybean oil is more stable than beef fat. b. Write the structure of phospholipids and steroid. c. Define the following terminology: Saponification number, Iodine number and RM value. d. Distinguish between the following pairs: Apoenzyme and Holozyme and specific activity and turn over number. 	3 3 3
3.	 a. What is an enzyme? Explain the mode of action of enzymes. b. Write down the Mechaelis-Manten Equation for enzyme catalyzed reaction and from prove that Km=[S] at ½ Vmax. c. Define coenzyme. Name the coenzymes which are involved in the following group transferring reaction: Hydrogen, Aldehyde and Acyl group. 	4
4.	a. Show the structure of ATP and TMP.b. Point out the characteristics of Watson-Crick model of DNA.c. Write down Chargaff's rule.d. Give evidence that nucleic acid acts as genetic material.	2 3 3 4
2	Section-B	
5.	 a. "V-M-Y-Y-E-N"-this is the single letter of amino acid abbreviation for a peptide. Draw the structure of this peptide. b. A protein sample is submitted by a client and asks for determining the primary structure of protein. How do you determine the amino acids sequence in that protein sample? c. Classify proteins. Describe the forces responsible for protein structures. 	4 3
6.	a. Write down the activation step of β -oxidation. Calculate ATP production in complete oxidation of stearic acid.	3
*I	 b. Define ketosis. How ketone bodies are formed? c. Write the reactions of β-oxidation where NADH⁺H⁺ and FADH₂ are produced. d. Define phosphorylation. Show the reaction of substrate level phosphorylation that takes place in TCA cycle. 	3 3
7.	a. Write down the functions of metabolism.b. Write down the steps of glycolytic pathway in which ATP is produced. Mention the enzymes and coenzymes involved in this process.c. "TCA cycle is the most common pathway of metabolism"-justify this statement.	2 3
	d. How is blood glucose regulated?	3
8.	Write short notes on any four of the followings: a. Cori's cycle b. Glycogenolysis c. Deamination d. Amino acid pool	4×3=

Lipoproteins

Chittagong Veterinary and Animal Sciences University DVM 2nd Year 1st Semester Final Examination, 2011 Subject: General Pathology-1 (Theory)

Course Code: GPT- 201
Full Marks: 70, Time: 3 Hours



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

	1.	(a) Define necrosis, heterolysis and autolysis.(b) What is apoptosis? Give the examples of pathologic and physiologic apoptosis.Differentiate apoptosis from accidental cell death in a tabular form.	3
	2.	(a) What types of infarcts are found in heart, kidney, intestine, brain and spleen.(b) Write down the significance and effects of gangrene.(c) Write down the microscopic lesions of an infarct.	2 3 2
	3.	(a) Discuss the basic mechanisms involved in the pathogenesis of fatty change.(b) Write down the gross and microscopic lesions of fatty change in different organs.	4
	4.	(a) Write down the causes and pathogenesis of hemolytic & toxic jaundice.(b) What type of reactions is given by three types of jaundice during Vanden Bergh test.	6 1
	5.	(a) What is photosensitization? How photosensitization is produced?(b) Write down the causes of hepatotoxic and primary photosensitization.(c) How phenothiazine produce primary photosensitization?	3 3 1
	6.	(a) Write down the causes, microscopic lesions and significance of hemosiderosis.(b) Differentiate homosiderosis from hemochromatosis.	5 2
		Section-B	
	7.	(a) What are the factors that may influence the time of occurrence of post mortem change?(b) Enlist the causes of necrosis.(c) What do you mean by the term "Pathognesis"? Explain with example.	3 2 2
	8.	(a) Prepare a list of lipogenic and lipotropic pigments.(b) What are the names of photodynamic pigments of plant and animal origin?(c) Write down the mechanism of formation of heart failure cell.	2 2 3
	9.	(a) Write down the microscopic lesions of coagulation and caseation necrosis.(b) Write down the causes and lesions of fat necrosis.	4
	10.	(a) Prepare a list of intra and extra cellular deposits that may occur due to metabolic disturbances.(b) Write down the causes and lesions of amyloidosis.	2 5
(11.	(a) What is pathologic calcification? Write down the causes of metastatic calcification.(b) How would you differentiate anthracosis from pneumoconiosis? Write down the significance of anthracosis in lungs.	4
,	12.	Write short notes on any three. (b)Bronze diabetes; (b)Gout; (c) Glycogen storage diseases and (d) Toxic jaundice	7

Chittagong Veterinary and Animal Sciences University DVM 2nd Year 1st Semester Final Examination, 2011

Subject: General Parasitology and Platyhelminthes (Theory)

Course Code: GPP-201 Full Marks – 70, Time: 3 Hours



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

0		
1.	(a) With example in each case describe the morphological features of the parasites belonging to the different genera of the family Fasciolidae.	4
	(b) What is bladder worm? Briefly describe the different types of bladder worms causing harm in cattle.	3
2.	(a) How an egg of tapeworm comes out from gravid proglottid?	2
	(b) Describe the life cycle, pathogenic significance and control measures of <i>Echinococcus</i> granulosus infection in its final host and intermediate host.	5
3.	(a) Write down the names of the body parts of an adult cestode and briefly describe the morphology of a mature proglottid.	4
	(b) Differentiate between Pseudophyllidea and Cyclophyllidea.	3
4.	(a) "The densities and distribution of parasites are largely dependant on the climatic condition and availablity of intermediate hosts"-justify the statement.	2
	(b) Discuss the various injurious effects of parasites on their hosts with example.	. 5
5.	(a) Name the blood flukes of veterinary importance. Describe the life cycle, pathogenesis, clinical signs and diagnosis of a fluke causing nasal granuloma in cattle.	5
	(b) Mention how the parasitic diseases is efficiently treated and controlled in a herd.	2
6.	(a) Write down the names of the cercaria and infective stages of the members of the following families- i. Echinostomatidae ii. Fasciolidae	2
	iii. Ophisthorchiidae iv. Schistosomatidae	_
2	(b) Write down the scientific names of the following parasites-	2
35	i. Poultry blood fluke ii. Lancet fluke iii. Elephant liver fluke iv. Cat liver fluke	
	(c) List the morphological features of a typical digenetic trematode which is found in the gall bladder or in liver of cattle.	3
2		
	Section-B	31
7.	(a) Define host and parasite. List different types of parasites with example.	3
	(b) What is symbiosis? Differentiate between parasitism and commensalism.	2
	(c) Define paratenic host and carrier host with example.	2
8.	(a) Briefly describe the pathogenesis, clinical sign of echinostomiasis in birds	5
9.	(b) "The immature amphistomes are more pathogenic than the adults"- explain.(a) What do you mean parasitic immunity?	1
	(b) Distinguish between-	6
10	i. Vectors and intermediate host ii. Hydatid cyst and Coenurus cyst	
10.	(a) What are the striking differences in the life cycles of liver and blood fluke of cattle.(b) Describe the development of Fasciola gigantica and Paramphistomum cervi following	4
	ingestion of metacercaria by final host.	
11.	and the state of t	
	Moniezia benedeni. (b) Define anthelmintics. Write down the characteristics of an ideal anthelmintic.	4
12.	Write short notes on (any TWO):- $3.5x2 =$	7
*	i. Slime ballii. Swimmers' itchiii. Inverse age resistance	
	in invoise age resistance	

Chittagong Veterinary and Animal Sciences University DVM 2nd Year 1st Semester Final Examination, 2011 Course Title: Basic and Circulatory Physiology (Theory)

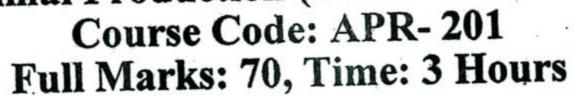
Course Code: BCP) 201
Full Marks: 70, Time: 3 Hours

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

2 / //		
1.	 a. Define second messenger. b. Enumerate the functions of two widely used second messenger c. Differentiate active and passive transport system. c. Cite the major examples of osmosis in animal body. 	1 4 4 2
2.	 a. Define phagocytosis, endocytosis and pinocytosis. b. Describe the different steps of phagocytosis. c. Differentiate extracellular and intracellular fluids on the basis of their composition. d. List the functions of lymph. 	3 4 3 2
3.	 a. Define erythropoiesis and haemopoiesis. b. Mention the role of kidney, liver, bone marrow and stomach in the erythrocyte production process. c. Write down the degradation process of haemoglobin. d. Write down the basic concepts of erythrocyte production. 	2 4 2
4.	 a. Explain how do nutritional deficiencies lead to anaemia? b. Define haemostasis. c. Briefly describe the different ways of haemostasis mechanism. d. Differentiate the extrinsic and intrinsic ways of blood clotting. e. List the factors that accelerate and inhibit blood clot formation. 	1 1 4 3 3
	Section-B	
5.	 a. Draw and label a typical animal cell. b. State the functions of cell membrane, endoplasmic reticulum and ribosome. c. State how does Na⁺-K⁺ pump work to maintain cell volume? 	3 5 3
6.	a. Write the composition of blood plasma. How does it differ from lymph?b. Narrate lymph formation in the body.c. List the functions of synovial fluid.	4 5 3
7.	 a. Write down the requirement of normal heart beat. b. Briefly describe the mechanism of regulation of heart rate. c. Describe hepato-portal circulation and state the advantages of such circulation in the body. 	4 4 4
8.	Write short notes on any three a. Heart block b. Action potential c. Donnan's theory of membrane equilibrium d. Vasomotor mechanism	3×4=10

Chittagong Veterinary and Animal Sciences University DVM 2nd Year 1st Semester Final Examination, 2011

Subject: Animal Production (Cattle & Buffalo) (Theory)





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

Section A

 1. a) Discuss the direct effect of climate on cattle. b) What are the existing breeding and housing practices of backyard dairying in Bangladesh? c) Indicate the current trends in the use of draft power in Bangladesh. 	4 3
 2. a) What is silage? b) Mention the factors affecting the value of silage. c) Indicate the strategies for feeding dairy cattle on low nutrient-content feeds. d) How will you take care of new-born calf in terms of feeding? 	2 4 3 3
 3. a) What is milking? List the procedures of milking. b) Discuss the routine activities in a commercial dairy farm. c) What is your impression on backyard dairy farm of Bangladesh? 	3 4 5
 Write short notes (any four) a) Record-keeping; b) Australian beef-cattle; c) Development history of Jersey and Guernsey; d) Residual and hold-up milk; e) White-faced cattle; and f) Drying-off. 	4X3=12
Section B	
5. a) Mention the reasons behind not developing exclusive beef-cattle farming like broiler for Bangladesh.b) Discuss the beef-cattle feeding standard suggested by Bangladesh Livestock Research Institute, BLRI.	9
 6. a) What do you mean by calf-starter and milk-replacer? b) Mention the methods of separation of calves from dams after birth with relative merit demerits. c) Discuss briefly the care and management of calves from weaning to puberty. 	ts and 4
 7. a) What do you mean by Selection and Judging? b) Discuss the production systems of beef-cattle in the tropics. c) Briefly discuss the common diseases of calves. 	3 5

8. a) Write the common breeds of buffaloes available in Bangladesh.

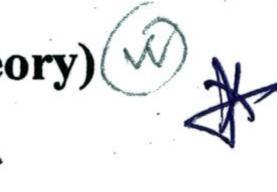
b) Discuss the adaptability mechanism of buffaloes in the nature.

c) Mention the economic importance of buffaloes in Bangladesh.

Chittagong Veterinary and Animal Sciences University DVM 2nd Year 1st Semester Final Examination, 2011

Course Title: Zoo and Laboratory Animal Management (Theory)

Course Code: ZAM-201 Full Marks: 55, Time: 3 Hours

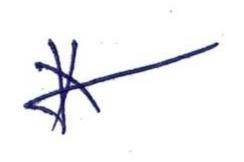


(Figures in the right margin indicate full marks. Answer any THREE questions from each section where question No. 5 is compulsory. Use separate answer script for each section.)

	Decion 1 m	
1.	(a) How laboratory animals are serving for the well being of human survivability? Write down their important characteristics.(b) Briefly describe about the housing requirements of laboratory animals.(c) Write down the importance of bedding for laboratory animal with their characteristics.	3 3
2.	(a) State the cleanliness and waste disposal system of the house of laboratory animals.(b) What should be the staffing pattern for a zoo?(c) What are the ethical points that should be consider for using laboratory animals in research?	3
3.	 (a) Write down the classification of vertebrates with examples mentioning orders of four classes. (b) Compare between zoo and safari park, Write down the objectives /functions of zoo. (c) Elaborate the abbreviation mentioning their mission/objectives of IUCN, SAZARC and CITES. 	3
4.	(a) Define restraining. Write down the importance of restraining zoo and wild animals.(b) Briefly describe about different methods of restraining zoo animals and bird.(c) Describe different types of tools used in chemical restraining of animals.	3 3
		25
	Section-B	
5.	Section-B (a) What do you mean by wildlife management? Shortly describe about different types of wildlife management. (b) Define animal ecology. Draw the ecology wheel mentioning its components. (c) Compare between conservation and preservation.	4 4 2
5.	(a) What do you mean by wildlife management? Shortly describe about different types of wildlife management. (b) Define animal ecology. Draw the ecology wheel mentioning its components.	4 4 2 2 4 3
	 (a) What do you mean by wildlife management? Shortly describe about different types of wildlife management. (b) Define animal ecology. Draw the ecology wheel mentioning its components. (c) Compare between conservation and preservation. (a) Write down about general consideration while establishing a zoo. (b) Shortly describe about the nutrition of guineapig. (c) State about common diseases of rabbit. (a) How can you define biological diversity? State genetic, species and ecosystem diversity. 	4 4 2 4 3
	 (a) What do you mean by wildlife management? Shortly describe about different types of wildlife management. (b) Define animal ecology. Draw the ecology wheel mentioning its components. (c) Compare between conservation and preservation. (a) Write down about general consideration while establishing a zoo. (b) Shortly describe about the nutrition of guineapig. (c) State about common diseases of rabbit. (a) How can you define biological diversity? State genetic, species and ecosystem 	4 2 2 4 3
	 (a) What do you mean by wildlife management? Shortly describe about different types of wildlife management. (b) Define animal ecology. Draw the ecology wheel mentioning its components. (c) Compare between conservation and preservation. (a) Write down about general consideration while establishing a zoo. (b) Shortly describe about the nutrition of guineapig. (c) State about common diseases of rabbit. (a) How can you define biological diversity? State genetic, species and ecosystem diversity. (b) What do you mean by extinction? What are the different processes responsible for extinction of animal species? 	4 2 2 4 3 4 3

Chittagong Veterinary and Animal Sciences University DVM 2nd Year 1st Semester Final Examination, 2011 Subject: General Microbiology (Theory)

Course Code: GMC-201 Full Marks: 70, Time: 3 Hours



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

Section-A

	SCCIIOII-A	P
	1. (a) Give labeled diagram of a typical bacterium. (b) Describe the physical, chemical nature and functions of bacterial cell wall.	5
	 (a) What is plasmid? With basic characteristics classify plasmids. (b) Define F-factor and Hfr. Describe with labeled diagram the genetic recombination in bacteria through transduction mechanism. 	6
	 (a) Define toxin, endo-toxin and mycotoxin. (b) Describe the preparation process of toxoid. (c) Define virulence, pathogenicity and pathotoxin. 	3 6 3
	 Write notes on(Any three): (a) Disinfectants; (b) Mycoses; (c) Phenol coefficient of a disinfectant; (d) Bacterial Gram staining 	4x3=
590	Section-B	
19	 5. (a) Define prokaryotes. Classify bacteria based on flageller distribution. (b) Write down the contributions of Louis Pasteur and Hippocrates in the development of medical bacteriology. 	3
	(a) Name some enriched media for cultivation of bacteria.	6
		2
(6. (a) List the Gram positive and Gram negative bacteria where natural transformation occurs.	3
	(b). What is a difficient fungus! Illustrate the morphology of yearts and molds	5
	(c) What are the basic steps for recombinant DNA technology? Mention the function of "r" determinant in drug resistance transfer(R) plasmids.	4
*		
	7. (a) Define the followings terms:	,
	7. (a) Define the followings terms: Glycocalyx, codon, anticoden, endospore, symbiosis, nosocomial infection.	6
	 7. (a) Define the followings terms: Glycocalyx, codon, anticoden, endospore, symbiosis, nosocomial infection. (b) Classify bacteria based on temperature and oxygen requirements for growth. 	6

8. (a) Differentiate between innate and adaptive mechanisms of host resistance.

pathways of fungal reproduction.

(c) Briefly describe the protein synthesis in bacteria.

(b) What is meant by fungi imperfecti? Write down the teleomorphic and anamorphic