

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology

MS in Physiology Final Examination/2016

Semester: January-June

Course Title: Body fluids and Circulatory Physiology (Theory)

Course Code: BCP - 601

Total Marks: 40, Time: 2 hours

(Figures in the margin indicate full marks. Answer any 4 (Four) from the following Questions)

- 1 a. What is leukopoiesis? Mention the lineages of WBC formation, show only in sketch form. 4
- b. List the plasma proteins and write their functions. 3
- c. What are the factors necessary for hemoglobin synthesis? Describe the synthesis of hemoglobin. 3
- 2 a. What is erythropoiesis? Discuss the role of kidney and liver in erythropoiesis. 3
- b. Define blood group. Enlist the importance of blood grouping. What are the major blood groups of clinical interest in canine and bovine. 4
- c. Mention the properties and important functions of platelet. 3
- 3 a. Classify fluid compartments of an animal body? Mention the functions of extracellular and intracellular fluid? 3
- b. Define lymph. Briefly discuss about the mechanism of lymph formation in animal body? 4
- c. Write down the functions of fluids that are present in joint, pericardium and peritoneum. 3
- 4 a. Define the cardiac output and stroke volume. What are the factors affecting to the cardiac output? 3
- b. Where does the conduction of heart start and write it's spreading sequentially? What are the conditions that must be maintained for normal conducting system? 4
- c. Briefly discuss the chemical regulation of heart. 3
- 5 a. What is heart block? Name different types of heart block. What is the difference between in heart block and heart failure? 4
- b. Define blood pressure. Classify blood vessels with their specific functions. 3
- c. Write short note on "Fetal Circulation". 3

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology, January-June Semester, Final Examination-2016
Course Title: Molecular Cell Physiology (Theory)
Course Code: MCP-601
Full marks: 40; Time: 2 hours

Figures in the right margin indicate full marks. Answer any four (4) from the following questions.

1. a. What is membrane potential? Briefly describe different steps of action potential with their graphical representation? 5
b. Define cytolysis and plasmolysis? Describe different types of transport through cell membrane? 5
2. a. What is RT-PCR? Briefly describe different steps of conventional PCR? Enlist some application of PCR? 5
b. Define cellular communication? Describe different stages of cell communication? 5
3. a. Enlist different types of death receptor that are found in cell? Sketch the process of FADD and TRADD mediated apoptosis? 5
b. Draw the figure of multiprotein complexes in electron transport chain? Describe the role of Cytochromes and Flavoproteins in ETC? 5
4. a. What is lipid raft? Describe the biosynthesis process of formation of insulin from β -cell of pancreas? 5
b. Enlist different products of signal transduction? Write down the details procedure of signal transduction pathway? 5
5. a. What is TATA box? Write down the post transcriptional modification of mRNA in eukaryotes? 5
b. What is nuclear receptor? Briefly describe the mechanism of Class II nuclear receptor action? 5

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology

MS in Physiology Final Examination/2016

Semester: January-June

Course Title: Endocrine and Reproductive Physiology (Theory)

Course Code:ERP - 601

Total Marks:40, Time: 2 hours

(Figures in the margin indicate full marks. Answer any 4 (Four) from the ^{following} Questions)

- 1 a. Write down the length of estrous cycle, duration of estrus, time of ovulation and gestation period of cow, ewe, goat and mare. Mention the hormonal changes during estrous cycle by graphical illustration. 4
- b. What are the factors that influence fetal growth? Write down the origin and functions of fetal fluids. 3
- c. How sperm is transported through the oviduct? Write down the endocrine control of sperm transport. 3
- 2 a. What are the accessory sex organs of a bull? Write down the functions of these. Why does bull secrete large volume of semen? 4
- b. Briefly discuss about the stages of male sexual act. What is capacitation? 3
- c. List the name of male reproductive hormones. Write down the composition of semen. 3
- 3 a. What are the local hormones? Give the functions of cholecystokinin and leukotriens. 3
- b. Write down the ketogenic and diabetogenic effects of growth hormone. How ADH secretion is regulated? 4
- c. Briefly discuss about "Neuroendocrine control of ovulatory gonadotropic discharge". 3
- 4 a. Define hormone. Classify hormones on the basis of chemical structure. How steroid hormones are synthesized in animal body? 4
- b. Write down the effect of hypoglycemic hormone in animal body. How this hormone is regulated? 3
- c. Show the schematic way about the activation of vitamin-D in kidney. How parathormone and calcitonin hormones are regulated in animal body? 3
- 5 a. What are the hormones secreted from kidney and heart? Give their effects on animal body. 3
- b. How thyroid hormones are synthesized in animal body? Write their effects on BMR, growth, sleep, GIT, CNS and sexual functions. 4
- c. Why aldosterone is known as life saving hormone? Write down the physiological effects of medullary hormones on animal body. 3

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology, January-June Semester, Final Examination-2016
Course Title: Immunophysiology (Theory)
Course Code: IPH-601
Full marks: 40; Time: 2 hours

Figures in the right margin indicate full marks. Answer any four (4) from the following questions.

1. a. Define immunity? Write down the basic requirements of the immune system? 5
Enlist some differences between specific and non-specific immunity?
- b. What is chemotaxis? Briefly describe different stages of phagocytosis with their respective diagram? 5
2. a. Enlist different components of innate immunity? Write down the differences between innate and adaptive immunity? 5
- b. Briefly describe the structure of Class I and Class II MHC molecule? Show the different groups of antigen presenting cells with their types and specific location? 5
3. a. What is superantigen? Describe the domain structure of the peptide chain of TCR with diagram? 5
- b. Write down the instructive and selective theory of antibody formation? Draw and label the figure of Ig G and Ig A? 5
4. a. Define tolerance? Give the mechanism of B cell and T cell tolerance? 5
- b. Differentiate allograft and xenograft? Enlist different types of common allograft? Write down the details procedure of presentation of graft antigen? 5
5. a. Define hypersensitivity and classify it? Write down the details mechanism of arthus reaction? 5
- b. What is adjuvant? Write down the properties of an ideal vaccine? Enlist some vaccine produced by LRI with their type, dose and route of administration? 5

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology January-June Semester Final Examination-2016
Course Title: Animal Behavior and Welfare
Course Code: ABW-601
Total Marks: 40.0; Time: 2 hours

Figures in the right margin indicate full marks. Answer any Four (4) questions from the followings:

1. a) Define and classify animal behavior. What are the justifications to learn behavior of an animal? 3.0
- b) State the behavior indicators of normal animal. Discuss about the natural behavior of chicken. 4.0
- c) How do pheromones help in eliciting sexual, communicating and territory making in animals? 3.0

2. a) What is ethogram. Point out a chart on the special adaptive features of camel, giraffe, penguin and leopard in their respective environment. 4.0
- b) Define and classify vision of an animal. Schematically depict the flight zone and point of balance. 3.0
- c) How does animal adjust their body temperature while exposed to warm and humid weather? 3.0

3. a) List the five freedom of animal welfare. Why assessing poor welfare is vital in study of wild life? 3.0
- b) Define stress and distress. Write down the critical points of welfare during cattle handling and transport. 3.0
- c) What are the general principles before slaughter of cattle? Discuss the methods of slaughtering. 4.0

4. a) Explain the term courtship? How will you describe the parturient behavior of a cow? 3.0
- b) What is stereotypy? Write down the juvenile behavior of calves and lambs. 3.0
- c) How cattle communicate by olfactory substances? Discuss about leadership, hierarchies and dominance characters of sheep. 4.0

5. a) What are Human-Animal Relationships (HARs)? How does it improve the welfare and productivity of dairy animal? 3.0
- b) Express your opinion about the ways of mitigating Human-Elephant/ Human-Tiger conflict in Bangladesh to conserve them. 4.0
- c) Write a short note on recent evolution of animal welfare in Bangladesh. 3.0

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology January-June Semester Final Examination-2016
Course Title: Avian Physiology
Course Code: AVP-601
Total Marks: 40.0; Time: 2 hours

Figures in the right margin indicate full marks. Answer any Four (4) questions from the followings:

1. a) What are the gastrointestinal hormones secreted from the domestic fowl? 5.0
Explain with their biological actions.
- b) Briefly describe the food intake regulation in chicken. 5.0
2. a) Define O₂ Cascade. What are the factors affecting O₂ capacity in duck? 3.0
- b) List the air sacs present in poultry. Write down the role of it in respiration. 3.0
- c) Cite the name of primary immune tissue and secondary lymphoid tissue in chicken. How cytokines play a vital function in regulation of immune response in birds? 4.0
3. a) Differentiate between heterophil and neutrophil. 3.0
- b) Write down the defensive properties of heterophil and monocyte in birds. 3.0
- c) Illustrate the process of erythropoiesis in chicken. What is the significance of nucleus on those erythrocytes? 4.0
4. a) Define foam gland. What is the importance of rectum and cloaca in fowl? 3.0
- b) Write down the role of ceca in osmoregulation of birds. 3.0
- c) What is spermiogenesis? Schematically depict the hormonal control of sperm production in a cock. 4.0
5. a) Explain the phrase ovulation-oviposition cycle? Lighting associated with hormonal and physiological factors are mainly helpful for ovulation in birds - justify the statement. 5.0
- b) Mention the fertilization site of chicken, duck, pigeon and geese. Write down the physiology of albumen secretion in oviduct of birds. 5.0

Chittagong Veterinary and Animal Sciences University
MS in Biochemistry
Session: January-June Semester'2016
Final Examination
Course Title: Biochemistry of Natural Products
Course code: BNP-601
Total marks: 40 Time: 2 hours

NB: Answer any eight (8) the following questions. Figure in the right margin indicates full marks.

1. What is meant by electromagnetic radiation? Enumerate the characteristics of electromagnetic radiations. 1+4=5
2. a. Define mass spectroscopy. Write down the principle of mass spectroscopy. 1+2=3
b. Describe the importance of metastable peaks. 2
3. a. What do you understand by base peak? 1
b. What are basic functions of MS? Draw the mass spectrum of neopentane. 1+3=4
4. Define NMR. Briefly describe the instrumentation process of NMR. 1+4=5
5. What is chemical shift? Write down the factors affecting chemical shift. 1+4=5
6. Which vitamin is necessary for synthesis of TPP? Write down the biochemical changes of its deficiency. 1+4=5
7. Differentiate among the mode of action of the following antibiotics: 5
 - a. β -lactam antibiotics
 - b. Aminoglycoside
 - c. Tetracycline
 - d. Quinolones
8. Define steroid. Describe the chemical synthesis of cholesterol. 1+4=5
9. What do you mean by bleaching? Describe briefly the Wald's visual cycle. 1+4=5
10. Write short notes on any two (2) of the following: 2.5 \times 2=5
 - a. Spin-spin splitting
 - b. LC/MS
 - c. MALDI

Chittagong Veterinary and Animal Sciences University

MS in Biochemistry

Session: January-June Semester'2016

Final Examination

Course Title: Advanced Molecular Biology

Course code: AMB-601

Total marks: 40 Time: 2 hour

[N.B.- The figures in the right margin indicate full marks. All questions are of equal value. Answer any five questions.]

- 1.a) What do you mean by post-transcriptional gene silencing? 2
b) Describe the similarities and differences between miRNA & SiRNA. 2
c) Describe the role of following in the generation of miRNA: 1.5x4=6
i) RNA polymerase II; ii) DGCR8; iii) exportin 5 and iv) TRBP = 10
- 2.a) Why a map is an important aid to genome sequencing? 3
b) Why are not genes ideal markers for gene mapping? What are the DNA markers used for genetic mapping? 4+1=5
c) "Linkage analysis is the basis of genetic mapping" – explain. 2
= 10
- 3.a) What measures could be taken for fine-scale physical mapping by FISH? 3
b) What advantage do clone libraries have over radiation hybrid panels for STS mapping? 3
c) How can the problems of repeat sequences be avoided during sequence assembly in whole genome shotgun sequencing? 4
= 10
4. a). Proteome plays crucial role in genomic alteration. Explain. 2
b). Pattern of genomic expression can not confirm their function. Why? 2
c). Number of genes in cell never determinant of qualitative or quantitative value of protein. 3
d). How are the following cellular functions involved in proteomic diversity? 1 x 3 = 3
i) Alternative splicing, ii). Proteomic cleavage, iii). Poly adenylation

= 10

5. a). How does p53 may be modified in cellular process? Post translational modification of p53 protein tune it's shape for cellular function. Explain. 2 + 2

b). Write down the mood of p53 in following cellular condition 3 x 2 =

i). Proliferative stage, ii). Metastasis, iii). Cellular Homeostasis 6
= 10

6. 2D GE helps to screen exact target to avoid non specific proteins. Explain. What is the principle of 1DGE? 2+1 = 3
1 x 7

Write down the application of following bio-tools:

i) IntAct ii). tblastx, iii). tblastn, iv). Uniport, v). Ensembl vi) NCBI data base vii) Blastn = 10

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Biochemistry, January-June Semester, Final Examination-2016
Course Title: Intermediary Metabolism and Regulation (Theory)
Course Code: IMR-601
Full marks: 40; Time: 2 hours

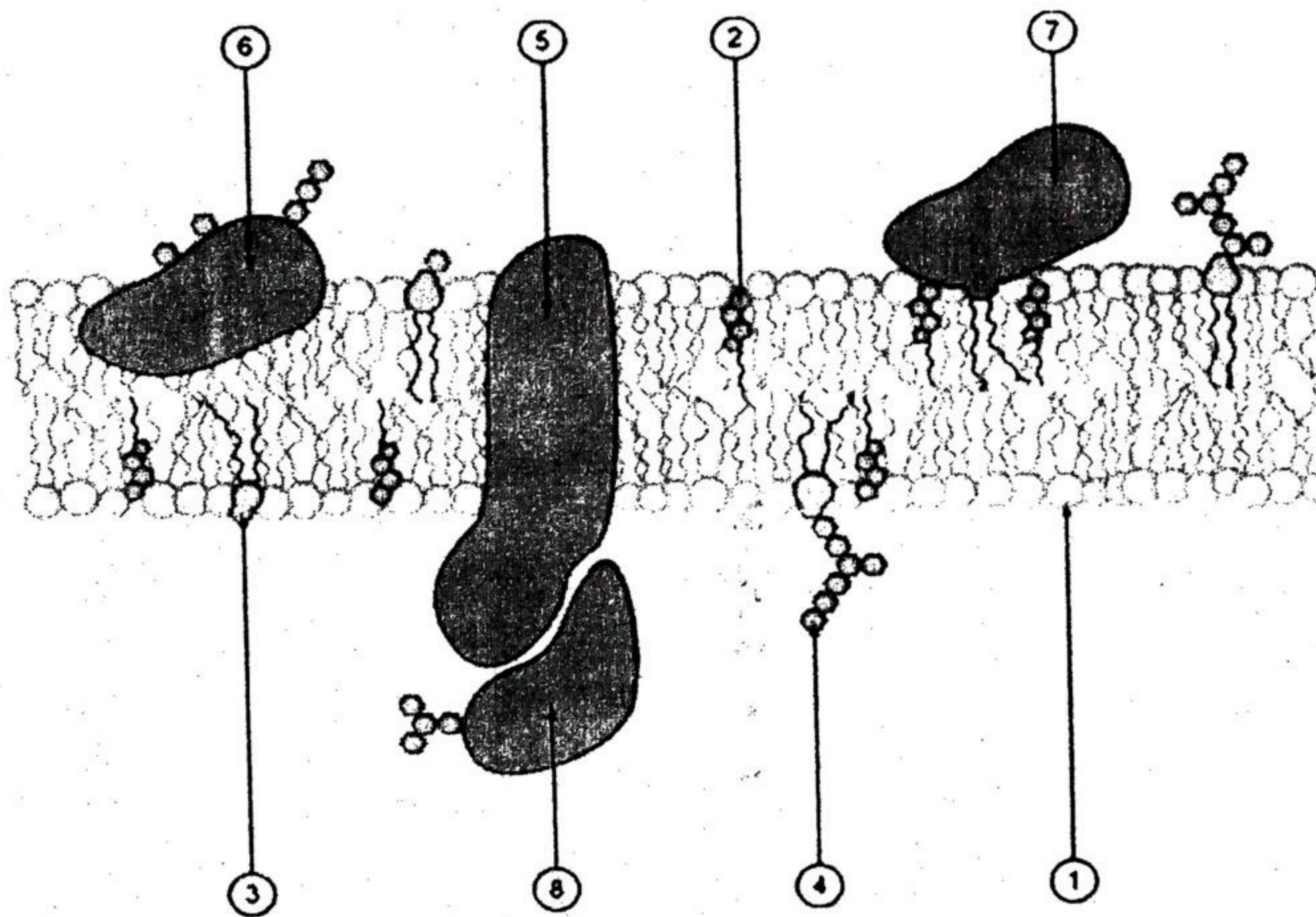
Figures in the right margin indicate full marks. Answer any four (4) from the following questions.

1. a. What is photosynthesis? Write down the specific site of photosynthesis in plant? 5
Briefly describe the light independent phase of photosynthesis?
- b. Define gluconeogenesis? How propionic acid is converted into glucose? 5
2. a. Which pathway is called as central metabolic pathway? Draw the line diagram of EMP pathway? 5
- b. Why TCA cycle is called an open cycle? Write down the energy involvement steps of TCA cycle? 5
3. a. Enlist some plants in which crassulacean acid metabolism occur? Write down the reactions of CAM cycle? 5
- b. Define oxidative phosphorylation? Briefly describe the chemiosmotic hypothesis for oxidative phosphorylation with diagram? 5
4. a. How long chain fatty acids enter into mitochondria through mitochondrial membrane? Calculate total number of energy after complete oxidation of one mole stearic acid? 5
- b. Enlist some raw materials of urea cycle? Show the relationship between urea cycle and krebs cycle? 5
5. a. Draw the structure of cholesterol nucleus? Briefly describe the biosynthesis process of an animal sterol? 5
- b. Briefly describe the process of glyoxylate cycle in plants? Enlist some differences between glyoxylate cycle and TCA cycle? 5

Chittagong Veterinary and Animal Sciences University
MS in Biochemistry
Session: January-June Semester'2016
Final Examination
Course Title: Advanced Cell Biology
Course code: ADB-601
Total marks: 40 Time: 2 hour

[N.B.: The figures in the right margin indicate full marks. All questions are of equal value. Answer any four questions.]

1.a) Write down the name & function of following membrane bound molecules. 1 x 8
= 8



b) Write short notes on following protein types:

1 x 2
= 2

a). Antiporter, ii) Symporte

2. a. Discuss how unicellular organism mediates their body physiology? 2 + 3
= 5
Cytosol is an important part to maintain organelle functions. Explain.

b. Write short notes on endomembrane organelle system. Energy related organelles are independent and self-sufficient. Explain. 2 + 3
= 5

3. Microtubules are essential factor for formation of cytoskeleton. Explain. 3 + 4
How do Dynamic microtubules mediate the direction of cellular + 3
movement? What are the roles of stable microtubules in this process? Take = 10
support from following figure:

Chittagong Veterinary and Animal Sciences University

MS in Biochemistry

Session: January-June Semester'2016

Final Examination

Course Title: Principle of Biochemical Techniques

Course code: PBT-601

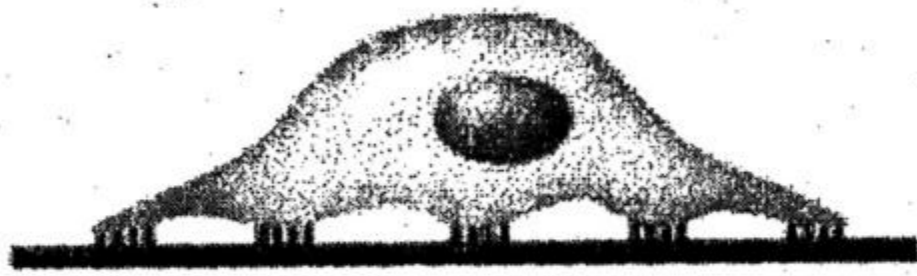
Total marks: 40 Time: 2 hours

NB: Answer any eight (8) the following questions. Figure in the right margin indicates full marks.

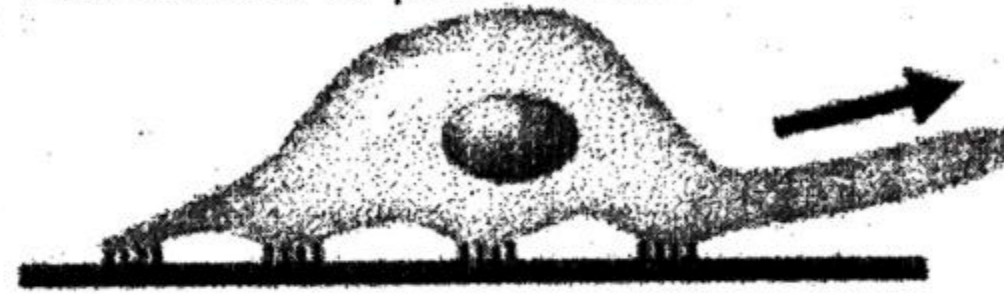
1. What is chromatography? Classify the chromatographic techniques based on mobile phase. Mention the applications of these techniques. **1+2+2=5**
2. Differentiate between any **two (2)** of the following: **2.5×2=5**
 - a. Mobile phase vs Stationary phase
 - b. Polar solvent vs Non-polar solvent
 - c. Normal phase vs Reverse phase
3. What is HPLC? Draw and level the instrumentation technique of HPLC machine. **1+4=5**
4. Define cell culture. Classify cell culture based on their appearance. **1+4=5**
5. a. Define the following term: **1×3=3**
 - (i) Primary cell culture
 - (ii) Cell line
 - (iii) Cell strain

b. Differentiate between the finite and continuous cell line. **2**
6. What is electrophoresis? Differentiate between paper electrophoresis and gel electrophoresis. **1+4=5**
7. Write short notes on the following: **2.5×2=5**
 - a. Iso-electric focusing
 - b. Ultracentrifugation
8. Define PCR? Write down the application of PCR. **1+4=5**
9. What is recombinant DNA technology? Write down the basic principle of recombinant DNA technology. **1+4=5**
10. Write down the uses on the following techniques: **1×5=5**
 - (i) Southern blot
 - (ii) RFLP
 - (iii) RT-PCR
 - (iv) In situ hybridization
 - (v) Northern blot

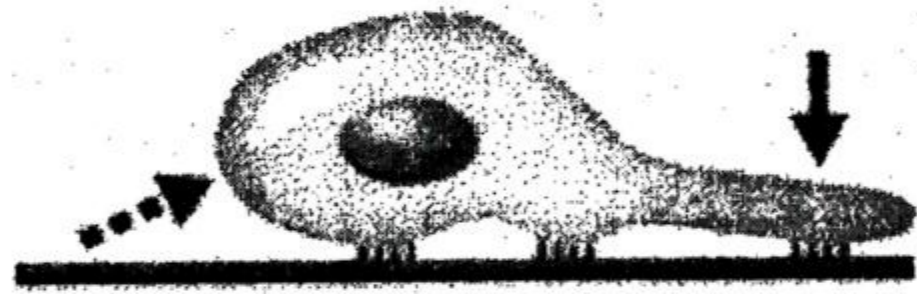
Resting state



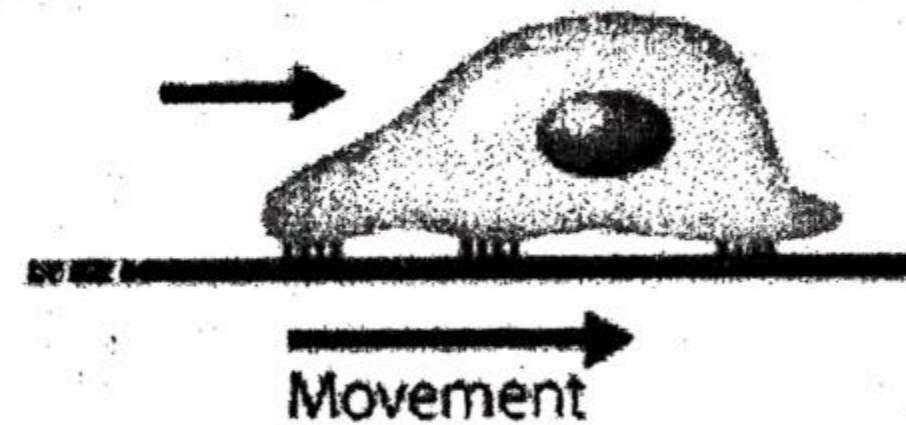
Formation of protrusion



Attachment of protrusion and detachment of adhesive site of the posterior portion



Cell movement



4. How does cell mediate intracellular peptide/protein secretion? How DBP mediate genetic changes in this secretion process? 3 + 3
+ 4
= 10

Differentiate between autocrine & paracrine secretion process.

5. What are the roles of CDKs in following phase of cell cycle?
Go, G1, M, S, G2 2 x 5
= 10
6. Discuss the role of following protein in maintaining cellular homeostasis: 2 x 5 =
10
- i). CDK ii), ERK1/2 iii). Myc iv) NF-kB v) TGF-B

Chittagong Veterinary and Animal Sciences University

MS in Biochemistry

Session: January-June Semester'2016

Final Examination

Course Title: Advanced Molecular Biology

Course code: AMB-601

Total marks: 40 Time: 2 hour

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- 1.a) What do you mean by post-transcriptional gene silencing? 2
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c) Describe the role of following in the generation of miRNA: 1.5x4=6
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c) How can the problems of repeat sequences be avoided during sequence assembly in whole genome shotgun sequencing? 4 = 10
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b). Pattern of genomic expression can not confirm their function. Why? 2
c). Number of genes in cell never determinant of qualitative or quantitative value of protein. 3
d). How are the following cellular functions involved in proteomic diversity? 1 x 3 = 3
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5. a). How does p53 may be modified in cellular process? Post translational modification of p53 protein tune it's shape for cellular function. Explain. 2 + 2
- b). Write down the mood of p53 in following cellular condition 3 x 2 =
- i). Proliferative stage, ii). Metastasis, iii). Cellular Homeostasis 6
= 10
6. 2D GE helps to screen exact target to avoid non specific proteins. Explain. What is the principle of 1DGE? 2+1 = 3
1 x 7

Write down the application of following bio-tools:

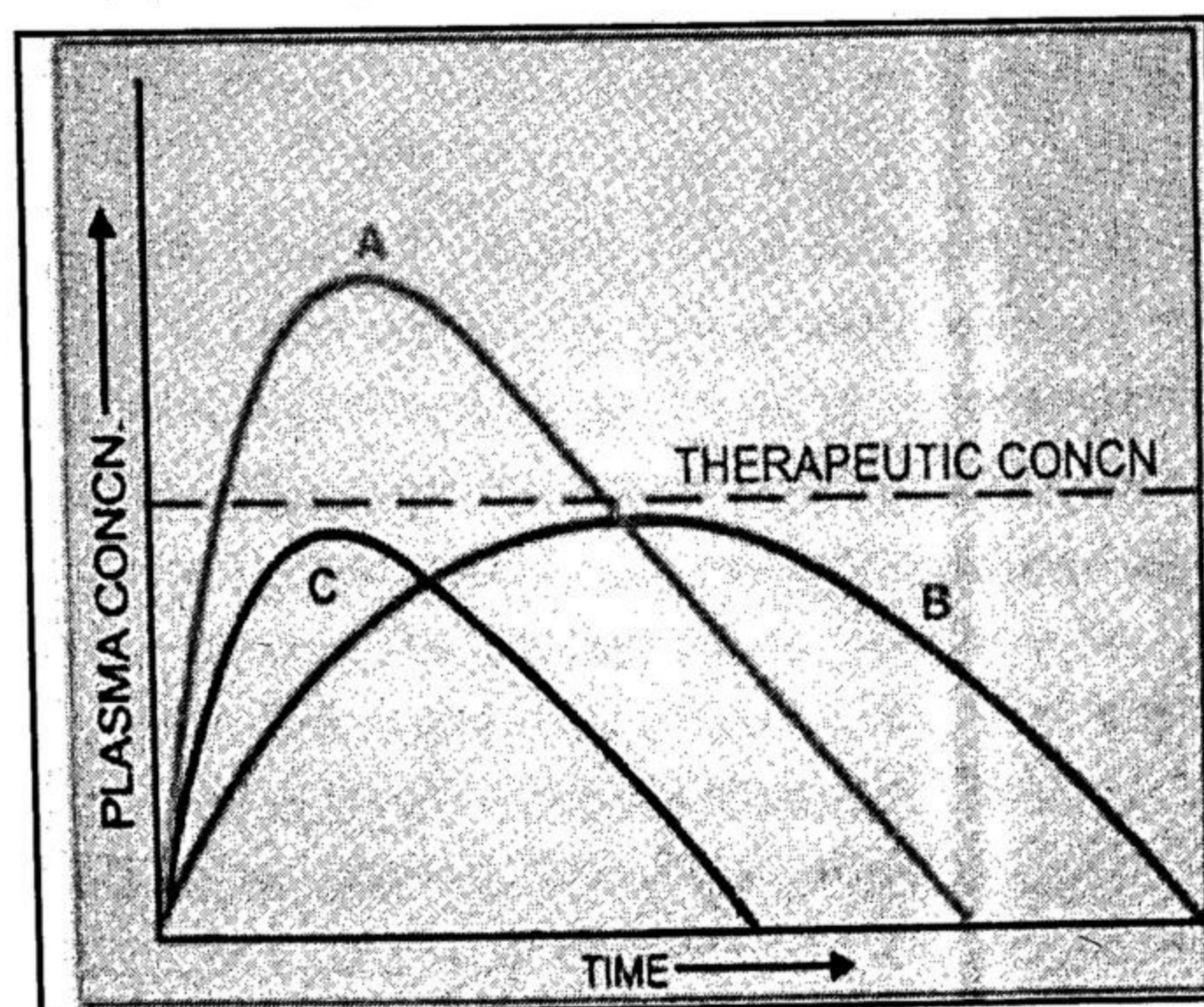
- i) IntAct ii). tblastx, iii). tblastn, iv). Uniport, v). Ensembl vi) NCBI data base vii) Blastn = 10

Chittagong Veterinary and Animal Sciences University
 Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology January-June Semester Final Examination-2016
 Course Title: General Pharmacology
 Course Code: GPH-601
 Total Marks: 40.0; Time: 2 hours

Figures in the right margin indicate full marks. Answer any Four (4) questions from the followings:

1. a) Define Clinical Pharmacology. How will you differentiate between pharmacy and pharmacology? 3.0
- b) Which of the following statement concerning drug receptor is more preferable- 3.0
 - i) Drugs cannot act unless they are first bound to a receptor
 - ii) A drug can act as an antagonist even if it is bound to a drug receptor

Explain your opinion.
- c) What is signal transduction? Briefly explain the transduction mechanism of a drug. 4.0
2. a) Schematically depict the whole pharmacological processes of a drug. 2.0
- b) How will you differentiate drug from medicine? Write down the steps to improve a rational drug prescribing in a prescription. 4.0
- c) What are the unwanted effects and adverse drug reactions in human body? 4.0
3. a) Explain the factors influenced the drug distribution in animal body. 3.0
- b) Define $t_{1/2}$. Suppose, A 20kg dog is dosed with 50mg of drug X. If the half life of drug is 90 minutes. How long will it take for the animal to have less than 1mg of the drug remaining in the body? 3.0
- c) What do you mean by "Biotransformation of a drug"? Discuss comparatively between synthetic and non-synthetic reaction. 4.0
4. a) Illustrate the term drug clearance and drug accumulation. 3.0
- b) Discuss about the parameters should follow in a dose-response relationship. 3.0
- c) What is bioavailability of a drug? Clarify the figure indicating bioavailability differences between 3 preparations of a drug containing the same amount. 4.0



5. a) What are the major targets of drug action? 1.0
- b) Write a short note (any three): 9.0
 - i) Drug interaction
 - ii) Pharmacopeia
 - iii) Second messenger
 - iv) Therapeutic Index

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology January-June Semester Final Examination-2016
Course Title: General Toxicology
Course Code: GTL-601
Total Marks: 40.0; Time: 2 hours

Figures in the right margin indicate full marks. Answer any Four (4) questions from the followings:

1. a) Define toxinology. Justify the implications of forensic and regulatory toxicology in medical science. 3.0
b) Classify the toxicant on the basis of frequency and duration of exposure and toxicity potential. 3.0
c) Write down the mechanisms of toxicity in relation to a toxicant. 4.0
2. a) Define residual poisoning. What is the metabolic fate of a toxin? 2.0
b) What is LD₅₀? How LD₅₀ used to evaluate the extent of toxicity of toxicant in the body? 3.0
c) Explain the term "Universal antidote"? How will you build up a toxicological laboratory for maintaining proper diagnostic protocols? 5.0
3. a) List the factors that influencing the toxicity of nitrate in cattle. What is the common mechanism of nitrate poisoning in cattle? 4.0
b) Differentiate nitrate poisoning from other common toxicant which causes haemo-toxicity? 3.0
c) What is Toxaemic Jaundice? How will you diagnose and manage the case? 3.0
4. a) Now-a-days, how human are exposed to lead poisoning? What are the symptoms you observed on that case? Write about the line of treatment of it. 5.0
b) How will you diagnose chronic arsenic poisoning in human? Write down the clinical management of that case. 5.0
5. a) Define hazard. 1.0
b) Write short note (any three): 9.0
 - i) Blind staggers
 - ii) Teart disease
 - iii) Common salt poisoning
 - iv) Physico-chemical properties of toxicant

January-June MS in Pharmacology Final Examination-2016
Department of Physiology, Biochemistry and Pharmacology
Faculty of Veterinary Medicine
Chittagong Veterinary and Animal Sciences University
Course Title: Chemotherapy; Course code: CHT-601
Total Marks: 40; Time: 2.00 hours

Answer any four (4) questions from the following:

- Q1. a. Write down the mechanism of action of potentiated sulfonamides and penicillin. 5.0
b. What are the unwanted effects of sulfonamides and penicillin on host? Write down the precaution of them. 5.0
- Q2. a. Define fluroquinolones. Write down the mechanism of action and clinical application of ciprofloxacin. 5.0
b. Write down the mechanism of action of tetracycline. Why tetracycline is contraindicated to production and early life of development. 5.0
- Q3. a. Write down the mechanism of action of Gentamycin and Streptomycin. 5.0
b. Write down the clinical application of Griseofulvin, Amphotericin-B and Nystatin with doses. 5.0
- Q4. a. Write down the mechanism of action of Acyclovir and Gancyclovir. 5.0
b. Write down the clinical application of Amantadine and Ribavirin with doses. 5.0
- Q5. Write short notes on (any four): 2.5x 4 10
a. Antiseptics and disinfectants b. Chloramphenicol c. Macrolides d. Enrofloxacin e. Cephalosporin f. Metronidazole

Chittagong Veterinary and Animal Sciences University

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Final Examination-2016

January – June Semester

Sub: Food Toxicology & Public health (FTP-601)

Total Marks: 40 Time: 2 hours

Answer the following questions (Any four):

1. a. Define Health, Hygiene & Public health. 3
b. What do you mean by zoonoses & zoonotic disease? 2
c. Make a list of at least ten zoonotic disease with their principal animal's involved, probable means of spread to humans & clinical manifestations in humans. 5
2. a. Differentiate food & feed. How food contamination occur generally. Identify the sources of food contamination and distinguish between them. 4
b. Enumerate the sources of bacterial contaminations of pediatric milk & milk products. 3
c. What causal organisms must act to cause spoilage of an undamaged shell egg? 3
3. a. Define & classify food borne disease and present them in a schematic manner. 4
b. Outline briefly the epidemiological factors that influence the type of food-borne hazards. 3
c. What do you mean by disease outbreak? Mention the major categories considered in developing an outbreak case definition. 3
4. a. Differentiate food security & food safety. Write down the food adulteration & public health issues in Bangladesh. 5
b. What are the food safety basic laws? How fresh milk is usually adulterated & how artificial milk is being prepared? 5
5. **Short note : (any five)** 2 x 5 = 10
(a) Melamine in Food; (b) Ready to eat foods; (c) Tobacco poisoning;
(d) Antibiotic free low cholesterol egg; (e) Aquatic Biotoxins; f) HACCP

Chittagong Veterinary and Animal Sciences University

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Final Examination-2016

January – June Semester

Sub: Phytotoxicology (PTL-601)

Total Marks: 40 Time: 2 hours

Answer the following questions (Any four):

1. a. Define toxicology, phytotoxicology & zootoxicology? Why poison in plant? 3
- b. What do you mean by toxic principles & what are the toxic principle of Dhutara, Karabi & Rali with their scientific name. 3
- c. Describe common diagnosis & treatment protocol of plant poisoning. 4
2. a. What do you mean by toad stools? How many spp. of mashroom causes poisoning for human. Write their common name, genera, Spp. Family, Toxic constituents syndrome & treatment any five of them. 5
- b. Make a list of poisonous plants which effects nervous system blood circulation & causes stonmatitis in small animals . 5
3. a. How marijuana. Hemp & hashish cause poisoning in human beings write down the poisonous principal, clinical signs, treatment & prevention of them. 5
- b. Define cyanogenesis? Write down the sources, m/a, Pathogenesis, Lab diagnosis and treatment of cyanide poisoning. 5
4. a. List the estrogenic poisoning plants. Write down toxic constituent, m/a, clinical sign, diagnosis & treatment of estrogenic plant poisoning. 5
- b. Define & classify photo sensitization. List of photosensitizing agents, toxic constituent, m/a clinical sign, diagnoses & treatments of photosensitization. 5
5. a. What do you mean by arsenicals, arsenides, arsenates, arsine a arsenates? Write down the physical & chemical properties sources of exposure, primary symptoms, diagnosis and treatment of arsenic poisoning in livestock. 5
- b. How you differentiate Arsenic poisoning between human and animal health? How arsenic effect on the body enzymatic system? 5