Chattogram Veterinary and Animal Sciences University

MS in Biochemistry; January-June'2023

Department of Physiology, Biochemistry and Pharmacology

Course Title: Advanced Molecular Biology

Course Code: AMB-601

Total Marks:40; Time: 2 hours

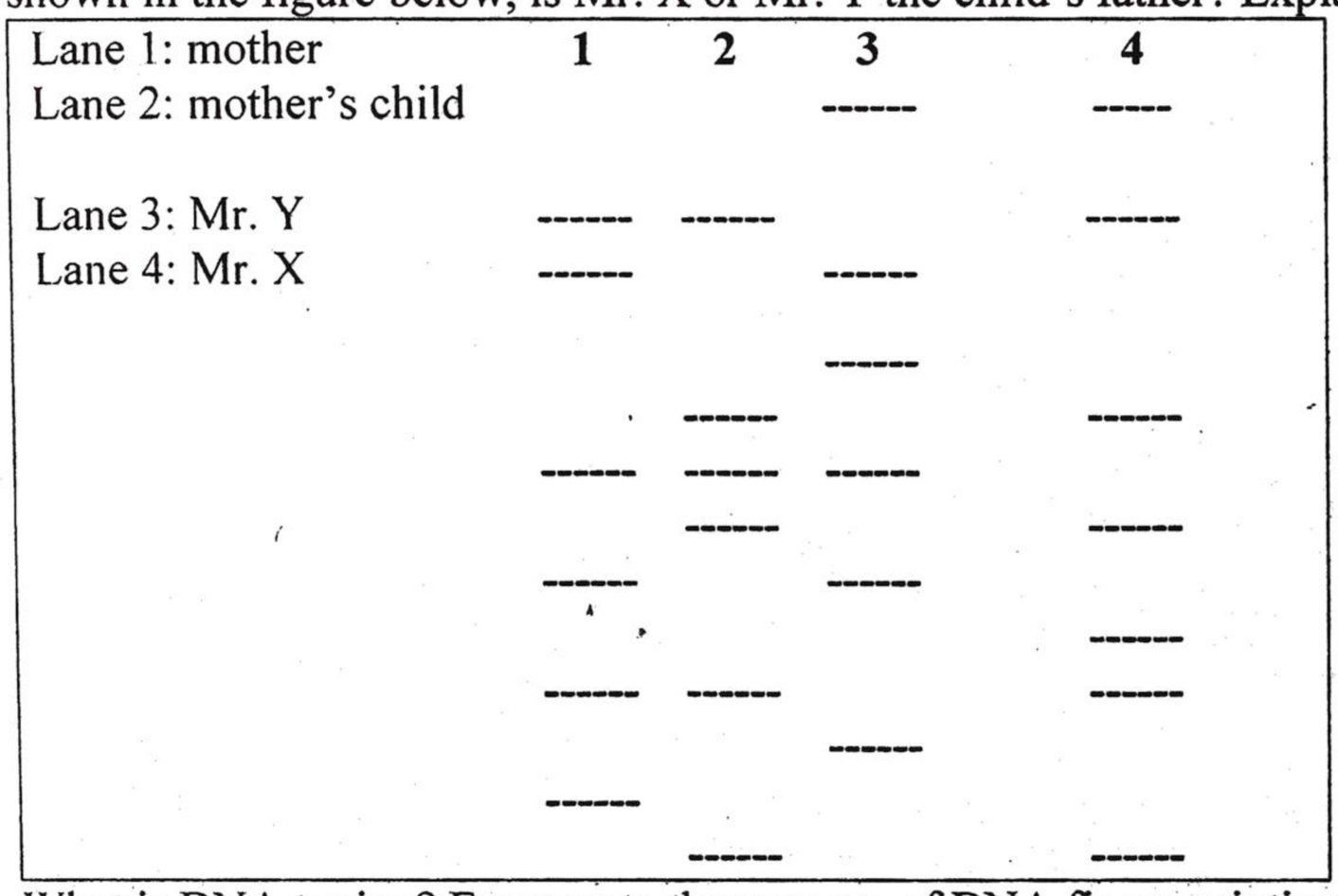
Answer any **eight (8)** of the following. Figure in the right margin indicate full marks.

1. Define epigenetic. Briefly illustrate the cytosine DNA methylation marks genes for silencing. **1+4=5**

2. a. What is gene express? Glucagon genes are found in nuclei of all body cells, but glucagon is synthesized in alpha cells of islets of Langerhans-Explain. **2**
   b. Briefly describe the biogenesis of miRNA. **3**

3. a. Differentiate between the followings: **2.5*2=5**
      i. Dicer vs RISC
      ii. DNA vs RNA

4. Based on the DNA fingerprinting (minisatellite analysis with a multilocus probe) results shown in the figure below, is Mr. X or Mr. Y the child's father? Explain your answer. **5**



5. a. What is DNA typing? Enumerate the purpose of DNA finger printing. **1+2=3**
   b. Sketch the organization of the human genome. **2**

6. a. Define bioinformatics. What does Bioinformatics comprise of? **1+2=3**
   b. Enumerate at least one database of the following: **0.5*4=2**
   i. Protein sequence (primary), ii. Protein sequence (secondary) iii. Macromolecular structures, iv. Nucleotide sequences

7. a. Tabulate the basics of the biological macromolecules in terms of backbone, repeating units, length and role. **3**
   b. Draw the structure of bases found in DNA. **2**

8. a. Define proteomics. Schematically show the overview of general functional genomics. **1+2=3**
   b. Show the approaches of proteome analysis in figure. **2**

9. a. Define the following terms:
   i. Accession Number, ii. Autoradiography, iii. BAC iv. Analogy **0.5*4=2**
   b. Briefly describe the role of proteomics in disease diagnosis. **3**

10. Write short notes any two of the following: **2.5*2=5**
    i. DNA microarray, ii. Protein array and iii. SNP

Chattogram Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Biochemistry, January-June Semester, Final Examination-2023
Course Title: Principles of Biochemical Techniques
Course Code: PBT-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.	Write down the procedure of perfusion of isolated organ. Mention the advantages and limitations of organ perfusion.	5
	b.	Describe some common methods of tissue and cell homogenization.	5
2.	a.	How will you differentiate between isopycnic and density gradient rate zonal centrifugation based on their principle, steps and uses.	5
	b.	What is SDS-PAGE. Write down the role of SDS and β-mercaptoethanol in this special electrophoretic techniques.	5
3.	a.	Enlist different types of chromatographic techniques. Write down the principle and uses of different chromatographic techniques.	5
	b.	Briefly describe about the sample gel, stacking gel and resolving gel region in disc electrophoresis.	5
4.	a.	What is radioactive decay? Briefly describe some methods that are commonly use for detection of radioactivity.	5
	b.	What is gene probe? How do gene probes work? Write down the application of gene probes.	5
5.	a.	Define Blotting. Differentiate among southern, northern and western blotting.	5
	b.	What is IR? Explain Lambert-Beers law in the field of spectrophotometry.	5

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

Masters in Biochemistry January-June Semester Final Examination 2023

Course Title: Biochemistry of Natural Products (Theory);

Course Code: BNP-601

Total Marks: 40

Note: Figures in the right margin indicates full marks. Answer **any eight (8)** of the following questions where question number **1&2** are compulsory.

1.	Define the following term: i. Atom, ii. Molecule, iii. Relative abundance, iv. Isotope peak, v. Metastable ion	**1*5=5**
2.	a. Mass spectrometry is the most accurate method for determining the .... of the compound and its elemental composition. b. In MS, molecules are .....with a beam of energetic electrons. c. The molecules are ionized and broken up into many ..... d. Each kind of ion has a particular ratio of ..... to .....(m/e). e. The intensity of each signal in MS represents the .... of the ion producing the signal. f. The largest peak is called the ....and its intensity is taken as 100. g. .... of a compound is a plot which represents the intensities of the signals at various m/e values. h. .....produced in fragmentation cannot be detected in the mass spectrometer. i. The first and an important step in obtaining the mass spectrum is to.....the sample under examination. j. The minimum energy required to ionize an atom or a molecule is called	**0.5*10=5**
3.	a. Which of the following atoms do not exhibit nuclear magnetic resonance? C^{12}, O^{16}, N^{14}, N^{15}, H^{2}, F^{19}, C^{13}, P^{31}	**2**
	b.Write a brief note on the shielding and de-shielding of a nucleus.	**2**
	c. GC/MS	**1**
4.	a. Arrange the following radiations in order of their increasing wave number: Ultra violet, X-rays, Visible light, Microwaves, Cosmic rays	**1**
	b. What is the range of frequencies of visible light? Express it in wavelengths and also in terms of wave numbers.	**1**
	c. Write down the basic principles and theory of mass spectroscopy	**3**
5.	a. Describe the process of Mclafferty Rearrangement	**2.5**
	b. What is Nitrogen Rule? Write down the fragmentation of the following compounds: a. CH3-CH2-CH2-CH2, (b) Carboxylic acid	**1+1.5=2.5**
6.	a. Determine the structure of the compound whose m/e values are m/e 74(molecular ion), 56, 43, and 31(base peak).	**2**
	b. What are flavonoids? Write down the classification with their biological and physiological functions	**1+2=3**
7.	a. What is meant by the term chemical shift? Briefly describe the factors affecting chemical shift.	**2+3=5**
8.	Write short notes on any 2 (two) of the following: i. NOE, ii. COSY, iii. LCMS iv. Drug resistance	**2.5*2=5**
9.	a. Define antibiotics. Classify antibiotics with their mode of action.	**2+3=5**
10.	Briefly describe the isolation, purification and structure determination of Ergocalciferol.	**5**

Chattogram Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Biochemistry, January-June Semester, Final Examination-2023
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.	Which pathway helps to convert fat into carbohydrates? Write down the different reactions of this pathway?	5
	b.	Briefly describe the mechanism of muscle contraction.	5
2.	a.	Write down the regulation process of glycogenesis and gluconeogenesis.	5
	b.	Define anapleurotic reaction? Give two examples of this reaction?	5
3.	a.	Define photosynthesis? Write down the mechanism of it? Briefly describe the factors affecting the rate of photosynthesis.	5
	b.	Differentiate the following i) cyclic and non-cyclic photophosphorylation ii) C_3 and C_4 cycle.	5
4.	a.	Briefly describe about the hormonal control of metabolism.	5
	b.	Write down the short note on "Biosynthesis of essential amino acid".	5
5.	a.	Write down the Chemiosmotic hypothesis for oxidative phosphorylation. Differentiate between substrate level phosphorylation and oxidative phosphorylation.	5
	b.	Briefly describe the mechanism of Cholesterol biosynthesis.	5

Chattogram Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Physiology, Biochemistry and Pharmacology
MS in (Biochemistry) January-June semester final - 2023
Course title: Advanced Cell Biology
Course code: ADB-601 (Theory)
Total Marks: 40

Figure in the right margin indicate full marks. Please answer **4 (Four)** questions from below list

1. Cytoskeleton framework plays a role in positioning of the cell organelles- justify this statement. Which type of cytoskeleton components undergo dynamic polymerization and depolymerization. How they control muscle contraction, mitosis, cytokinesis and other cellular transformations. 10

2. Describe the control mechanism of cell growth, division and death in the perspective of information processing system in a typical living cell. 10

3. Mention the biological applications of protein transduction technology. Describe the intracellular signaling cascades and cAMP pathway in signal transduction process. Illustrate the tyrosine kinase and G-protein coupled receptors and their entire signaling cascades, second messenger systems, scaffolds and cellular effects. 10

4. How you describe the intracellular and intercellular transport mechanism. Enumerate their role in a lining cell and describe their contrasted scenario. Describe the regulation of cellular ionic environment. 10

5. Describe the relationship of different cellular organelles to the formation of protein. Provide details about the structure and function of drug discovery strategy in terms of G protein couple receptor. 10

6. The plasma membrane acts a capacitor for energy and metabolism- how you defend this statement. Describe the steps of vesicle formation and cargo sorting. Enumerate the major groups and biochemical mechanisms of membrane transporters, ion pumps and channels. 10

Chattogram Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology Final Examination-2023
Semester: January-June
Course Title: **Body fluids and Circulatory Physiology** (Theory)
Course Code: **BCP-601**
Total marks: **40, Time: 2hours**

(Figures in the right indicate full marks, Answer any **Ten (10)** questions)
Questions are equal value 10x4=40

1. What are the indications of blood transfusion? Name the precautions you will observe before and during blood transfusion.
2. In sketch form, write down the cardiovascular responses during hemorrhage.
3. List the name of special circulations. Briefly discuss about systemic and pulmonary circulation.
4. How lymph is formed in the animal body? Write down the factors that are responsible for lymph flow.
5. Diagrammatically show the fate of RBC in animal body. Mention the functions of RE system.
6. List the name of transcellular fluid. Write down the functions and courses of CSF.
7. 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?
8. Describe different types of heart block. What are the differences between heart block and heart failure.
9. Write down the life span and origin of different types of leukocytes in cattle. How are neutrophils and monocytes show their defensive properties?
10. Classify T-cells with their different functions. Show the effects of leukopenia and leukemia in animal body.
11. Write short notes on: Vasomotor mechanisms and hepatic-portal circulation.
12. Differentiate the followings:
    (a) Plasma and lymph
    (b) ECF and ICF
    (c) Artery and vein
    (d) Bradycardia and Tachycardia

Chattogram Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology Final Examination 2023
Semester: January-June
Course Title: Molecular Cell Physiology (Theory)
Course Code: MCP-601 (T)
Total marks: 40, Time: 2 hours

(Figures in the right indicate full marks. Answer any FOUR (4) questions).

1	a.	Define hormone and neurotransmitter.	3
	b.	Describe three different types of membrane receptors.	4
	c.	Explain briefly the transduction process.	3
2	a.	Define cell signaling, ligand.	3
	b.	Sketch an intracellular signaling pathway.	3
	c.	What are the four forms of intercellular signaling? Explain briefly.	4
3	a	What are the types of signaling ligands?	4
	b	Briefly describe the second messenger system.	4
	c	Give an example of hormone stimulated enzyme cascade.	2
4	a	Enumerate the central dogma of molecular biology.	2
	b	What are the four different types of nucleotides?	3
	c	How do the nucleotides form DNA chains?	5
5	a	Explain the role of lysosome in cell.	2
	b	Differentiate between prokaryotic cell and eukaryotic cell.	3
	c	Explain the physiological role of golgi complex and mitochondria in cell.	4

Chattogram Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Physiology, Biochemistry and Pharmacology

MS in Physiology Final Exam

Session: January-June 2023

Subject: Endocrine and Reproductive Physiology (Theory)

Marks: 40 Time: 2 Hours

Answer any four questions.
The marks for each question are given in the right side.

1.	a.	Sketch the process of synthesis of a protein hormone. How does it work at the cellular level?	6
	b.	Differentiate between protein and steroid hormones.	4
2.	a.	Which factors are responsible for a good udder development in a high-yielding cow? How do they help in the excellent development of udder?	4
	b.	How are the homeostasis of calcium and glucose maintained in animals' bodies? Sketch and briefly describe the mechanisms.	6
3.	a.	Describe the mechanism and stages of parturition of a calf.	6
	b.	Briefly describe the functions of accessory sex glands and pampiniform plexus of a bull?	4
4.	a.	Chronologically describe the structural and functional developments of ovarian follicles.	6
	b.	Differentiate between T3 and T4. What are their precursors and how do these hormones synthesize?	4
5.	a.	Define estrus and the estrous cycle. What are the stages of an estrous cycle in a cow? Mention the dominating hormones in each stage of the estrous cycle.	7
	b.	By observing which signs a vet can understand that a cow, a mare and a queen are in estrus?	3

Chattogram Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology Final Examination-2023
Semester: January-June
Course Title: **Avian Physiology** (Theory)
Course Code: **AVP-601**
Total marks**: 40, Time: 2hours**

(Figures in the right indicate full marks; Answer any **Ten (10)** questions)
Questions are equal value 10x4=40

1. Describe briefly about the mechanisms of thermoregulation in the young bird.
2. Write down the physiological importance of crop, mechanical stomach, glandular stomach and ceca in chicken.
3. Show the functions of different parts of avian brain. What is fight or flight reflex?
4. How the end products of carbohydrates, protein and fat are absorbed in birds?
5. Write down the defensive properties of heterophil and monocyte in birds.
6. Describe the process of erythropoiesis in chickens. Mention the significance of nucleus in bird's RBC.
7. Give the definition of cardiac cycle and venous return. Discuss the conduction system of heart in chicken.
8. List the apparatus of avian respiratory system. How is bird's respiration controlled?
9. The avian reproductive system is heterosexual, justify it. Write down the functions of male chicken reproductive organs and structures.
10. Write down the composition of urine of birds. Briefly describe the mechanism of urine formation in chicken.
11. Describe the effects of thyroxin and parathormone of blood constituents in chicken.
12. Write down the name of principal gonadal hormones of poultry. Briefly describe their effects on secondary sexual characteristics in birds.
13. Write short note on
    (i)Granulopoiesis in birds
    (ii) Role of kidneys on blood volume

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

MS in Physiology Final Examination 2023

Semester: January-June

Course Title: Environmental Physiology (Theory)

Course Code: AVP-601

Total marks: 40, Time: 2 hours

(Figures in the right indicate full marks. Answer any FOUR (4) questions).

1. a. Explain the terms "heat dissipation" and "heat tolerance." Describe the factors that impact cattle's tolerance to heat. 5

   b. What is Homeostasis? How does animal maintain the homeostasis? 5

2. a. Differentiate between *Bos taurus* and *Bos indicus* in terms of adaptation to environment. 5

   b. How does the environmental stress affect the disease susceptibility? 5

3. a. Describe how heat stress affects an animal's production and metabolism. 5

   b. What is Heat stress? What are the effects of hair coat and its color of animal on evaporative cooling of animal? 5

4. a. What is cold stress and which animals are more susceptible to it? Give a brief explanation of the effects of cold stress and what could be the possible way of mitigating it. 5

   b. How does the temperature of the surroundings and relative humidity affect the body temperature of poultry? 5

5. a. Which variables facilitate the heat exchange between dairy cows and the environment? How to better the heat exchange from the animal to environment? 5

   b. Describe briefly how photoperiod affects an animal's biological processes. 5

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology Final Examination 2023
Semester: January-June
Course Title: Animal Behavior and Welfare (Theory)
Course Code: ABW-601
Total marks: 40, Time: 2 hours

(Figures in the right indicate full marks. Answer any FOUR (4) questions).

1. a. Classify behavior of farm animals. Briefly describe the social behavior of cattle. 5

   b. Briefly discuss on-farm welfare issues identified at dairy farm and improvement strategy for welfare-friendly and economically sustainable dairy farm in Bangladesh? 5

2. a. What are the welfare indicators during loading and unloading of animals? Mention the critical points of welfare during cattle handling and transport. 5

   b. What types of care should be considered during transport, sale yard practice and humane slaughter of cattle? 5

3. a. Why the vet responsible for better welfare of animal and they will play the role? 5

   b. How the animal welfare and human welfare are connected in between? 5

4. a. List the hormone involved in parturition? Write down the parturition behavior of Holstein Frisian cow. 5

   b. What are the behavior indicators of good welfare in cattle? "Good welfare in farm linked with better outcome" – justify this statement. 5

5. a. What are the duties of meat inspector at the slaughterhouses? Write down the common welfare issues at the traditional beef slaughterhouses in Bangladesh. 5

   b. Briefly discuss the welfare violation of broiler farm and ways to mitigate those. 5

Chattogram Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Physiology, Biochemistry and Pharmacology
MS in (Pharmacology) January -June semester final - 2023
Course title: Food toxicology and public health
Course code: FTP-601 (Theory)
Total Marks: 40

Figure in the right margin indicate full marks. Please answer **4 (Four)** questions from below list

1.	Food safety is being challenged nowadays by the global dimensions of food supply chains- How Bangladesh will deal this to achieve the Millennium developmental goal (MDG).	10
2.	Describe the Food adulteration aspect in Bangladesh food industry and discuss its sources, health risks, and detection methods.	10
3.	Provide a detail scenario of Food Safety Challenges towards Safe, Healthy, and Nutritious Street Foods in Bangladesh	10
4.	Illustrate the Food safety issues, trade and WTO rules: Please provide a developing country perspective document.	10
5.	*Salmonella* and *Escherichia coli* contamination of poultry meat in the live bird market pose a serious impact on health system in Bangladesh. How we could mitigate this issue.	10
6.	What is the Adverse Health Effect of Naturally Occurring Toxicants in Foods. How they develop	10

Chattogram Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology, January-June Semester, Final Examination-2023
Course Title: General Toxicology
Course Code: GTL-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.	Write down the differences between toxin and poison. Briefly describe about the classification of toxicant based on organ/ system affected.	5
	b.	Describe different steps of Biotransformation.	5
2.	a.	"Toxicants have specific and non-specific mode of action"- justify and explain this statement.	5
	b.	Briefly describe about the general principals of diagnosis of poisoning.	5
3.	a.	Describe about the different branches of toxicology.	5
	b.	Write down the short notes on "Toxicological evolution".	5
4.	a.	What are the sources of lead poisoning? How will you diagnose of lead poisoning in animal?	5
	b.	Briefly describe the toxicokinetics of nitrate poisoning in ruminant.	5
5.	a.	Discuss about the mode of action of iron poisoning.	5
	b.	Write down the treatment of phosphorous poisoning in cattle. "Milk/ any oily substance should not administer during the treatment of phosphorous poisoning"- Justify this statements.	5

Chattogram Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Physiology, Biochemistry and Pharmacology
MS in (Pharmacology) January -June semester final - 2023
Course title: Chemotherapy
Course code: (CHT)-601 (Theory)
Total Marks: 40

Figure in the right margin indicate full marks. Please answer **4 (Four)** questions from below list

1. Provide the list of antibacterial drugs and their dose (Cattle and Dog) for the following pathogen: *Escherichia coli*, *Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis and Streptococcus pneumoniae.* — 10

2. Describe the Fluoroquinolone resistance mechanisms, impact on bacteria, and their role in evolutionary success. Illustrate the Inhibiting bacterial secretion systems in the fight against antibiotic resistance. — 10

3. Discuss the advances in antifungal development. Describe the discovery of new drugs and drug repurposing — 10

4. What is the classification of antiviral drugs and their mechanism of action? Enlist at least two drugs from each category. — 10

5. What do you understand about Protein based polypeptide antimicrobial. Describe their properties, classification, available commercial preparation, therapeutic use, dose and contraindication. — 10

6. The Demand for New Antibiotics, Antimicrobial Peptides, Nanoparticles, and Combinatorial Therapies as Future Strategies in Antibacterial Agent Design- Please discuss these agents as potential antibacterial candidate and provide your valuable thoughts. — 10

Chattogram Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology, January-June Semester, Final Examination-2023
Course Title: Autacoids and their Pharmacological Modulators
Course Code: APM-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.	Write down the major receptors, its location and pharmacological effects of eicosanoids.	5
	b.	Which antihistaminic drugs are commonly use in veterinary practices? Mention their generic name, trade name and dosage.	5
2.	a.	Describe the biosynthesis process, mode of action and pharmacological effect of "platelet activating factor".	5
	b.	Draw the different processes of histamine release from mast cell.	5
3.	a.	How cytokines are released? Write down the functions of following cytokines: Interleukin, Interferon-γ, TNF- α.	5
	b.	Briefly describe about the metabolism and pharmacological effects of angiotensin.	5
4.	a.	Write down the indications and contraindications of antibiotic, antifungal, and anti-inflammatory drugs that are commonly use for treatment of eye/ ear.	5
	b.	Why paracetamol drugs are not use in Cat/ Dog? Briefly explain about this.	5
5.	a.	Explain the therapeutic values of O_2, CO_2 and Helium gases in veterinary practices.	5
	b.	Briefly describe about the following drugs: Demulcents, Counterirritants, Emollients, Skin disinfectants, and Astringents.	5

Chattogram Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology Final Examination 2023
Semester: January-June
Course Title: Phyto-Toxicology (Theory)
Course Code: PTL-601 (P)
Total marks: 40, Time: 2 hours

(Figures in the right indicate full marks. Answer any FOUR (4) questions).

1	a.	Enlist toxic principle of *Aconitum* spp., Peanut, Sweet clover, Spinach and Ratti seeds.	5
	b.	Briefly describe the different factors affecting toxicity of animals.	5
2	a.	Explain the mechanism of toxicity of *Lantana camera.*	5
	b.	What are the toxic symptoms of *Ipomea carnea* poisoning?	5
3	a	Enumerate the toxic symptoms and pathological findings of *Datura* poisoning in cattle.	5
	b	How does will you treat a case of *Ricinus communis* poisoning in horse?	5
4	a	Suppose you have found dark colour venous blood, engorged lungs and meninges, congested internal organs as a pathological finding in a dog suspected with plant poisoning. Which plant poison might cause this poisoning? How does it make toxicity in a dog?	5
	b	Provide the line of treatment of the above toxicity for dog.	5
5	a	What are the cyanogenic and oxalate producing plants?	5
	b	Describe the line of treatment of Sorghum and Amaranthus poisoning in sheep.	5

Chattogram Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Physiology, Biochemistry and Pharmacology
MS in (Pharmacology) January June semester final - 2023
Course title: General Pharmacology
Course code: GPH-601 (Theory)
Total Marks: 40

Figure in the right margin indicate full marks. Please answer **4 (Four)** questions from below list

1. Drug disposition is a key factor in pharmacokinetic process- justify this statement. describe the factors that modifying drug absorption. 10

2. Describe the different systemic mechanism of drug administration. Provide detail about the physiological aspect of a drug and its bioavailability phenomenon. Enumerate the Importance of Bioavailability and Bioequivalence of Drugs. 10

3. Enumerate the relationship among drug clearance, plasma half-life, therapeutic index and therapeutic window. 10

4. Briefly describe the different receptor mediated drug action. Could you be able to provide molecular mechanism of G protein coupled receptors (metabotropic). Please provide few examples of drugs that followed this mechanism. 10

5. Describe the concept of agonist, partial agonist, inverse agonist and antagonist. How do Ionic interaction: cation & anion, Hydrogen bonding, Lipophilic interaction, and Covalent bond acting pharmacodynamic process. 10

6. Biotransformation could be able to convert a prodrug into active drug. How this process being operate into a living cell. Do you have any idea about GIT microflora mediated drug metabolic process. 10