

Department of Veterinary Physiology
Bihar Veterinary College, Patna-14

Course Outline: M.V.Sc. course (Veterinary Physiology)

Course Instructors: Dr Pramod Kumar

VPY 601

PHYSIOLOGY OF DIGESTION

2+1

19

S.No	Topic	No	Name of Instructor
1	Basic characteristics and comparative physiology of digestive system of domestic animals.	3	
2	Gastro-intestinal motility, secretory functions of gastro-intestinal tract, their regulation and gastro-intestinal hormones.	5	
3	Absorption, metabolism and excretion of various nutrients, appetite and control of feed intake.	3	
4	Development of ruminant system and rumen environment. Ruminant microbial digestion, its advantages and disadvantages. Rumino-reticular motility, its significance and control.	5	
5	Rumen microbiology.	2	
6	Digestion in birds.	1	

VPY 603

RENAL PHYSIOLOGY AND BODY FLUID DYNAMICS

2+1

20

S.No.	Topic	No	
1	An overview of nephron structure and function. Renal homeostatic function and renal excretory function.	2	
2	Quantitative analysis of renal function, renal haemodynamics. Glomerular filtration- its mechanism and measurement. Permselectivity of the glomerular capillary wall, structural basis of GFR, tubular reabsorption and transport.	6	
3	Role of kidney in acid-base balance.	1	
4	Physiology of micturition, endocrine control of renal function. Non excretory functions of kidney.	5	
5	Skin- general anatomy of epidermis, dermis, hypodermis, mechanical protection, permeability, actinic irradiation, sweat glands, sebaceous glands.	3	
6	Skin grafting. Immune properties of skin.	1	
7	Composition of body fluids and their regulation.	1	
8	Excretory system in birds.	1	

VPY 605

VITAMINS AND MINERALS IN ANIMAL PHYSIOLOGY

2+0

11

S.No.	Topic	No	
1	Introduction and brief history, definition, general properties and overview of functions.	3	
2	Fat soluble vitamins, their functions and deficiency diseases.	2	
3	Water soluble vitamins and vitamin-like compounds, their functions and deficiency diseases.	3	
4	Physiological functions of trace elements, their role in metabolism, toxicity, deficiency diseases.	3	

VPY 606

PHYSIOLOGY OF ANIMAL REPRODUCTION

2+1

26

S.No.	Topic	No	
1	Functional histomorphology of male and female reproductive system, development of male and female sex organs.	4	
2	Endocrine and neuroendocrine relation in male and female reproductive function in different domestic animals.	4	
3	Sexual cycles and mating behaviours in females, oogenesis, folliculogenesis and ovulation.	4	
4	Secretions of female reproductive tract in different species of animals.	2	
5	Male mating behaviour, spermatogenesis, spermiogenesis, Seminiferous, epithelial cycles.	3	
6	Spermatozoa- structure and composition, maturation and transportation.	2	

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7	Secretions of male reproductive tract.	1	
8	Transport of male and female gametes, fertilization, implantation.	3	
9	Pregnancy and parturition.	2	
10	Post-partum recovery in different species of domestic animals.	1	

Practicals

VPY 601

PHYSIOLOGY OF DIGESTION

2+1

10

S.No.	Topic	No	
1	Collection of saliva and its enzymatic studies	1	
2	Activity of pepsin and trypsin enzymes.	1	
3	Gastric and intestinal motility.	1	
4	Estimation of digestive metabolites such as glucose, ketone bodies, triglycerides, cholesterol, ureanitrogen and total proteins.	1	
5	Liver function tests.	1	
6	Method of collection of rumen liquor, merits and demerits.	1	
7	Determination of pH, total volatile fatty acids, ammonia-nitrogen and total-nitrogen in strained rumen liquor.	1	
8	Rate of passage of digesta and its estimation.	1	
9	Rumino-reticular movements.	1	
10	Artificial rumen, counting of protozoa and bacteria.	1	

VPY 603

RENAL PHYSIOLOGY AND BODY FLUID DYNAMICS

2+1

07

S.No.	Topic	No	
1	Collection and preservation of urine.	1	
2	Physical and chemical analysis of urine and its interpretation in health and disease condition.	2	
3	Demonstration of various kidney function tests, glomerular filtration rate, creatinine clearance rate, urea clearance rate and glucose tolerance test.	4	

VPY 606

PHYSIOLOGY OF ANIMAL REPRODUCTION

2+1

12

S.No.	Topic	No	
1	Heat detection in different animals, palpation of reproductive organs.	4	
2	Physical and biochemical evaluation of semen, determination of sperm enzyme, leakage during freezing.	5	
3	Preservation of semen, RIA of steroid hormones.	3	

BOOKS

1. Dukes' Physiology of Domestic Animals. 13th Edition. Editor William O Reece
2. Cunningham's Textbook of Vety. Physiology - 5th Ed. Editor Bradley G. Klein
3. Textbook of Medical Physiology - 12th Ed. Editors/Authors Arthur C. Guyton, John E. Hall
4. Veterinary Endocrinology & Reproduction by L.E.Mc Donald
5. Reproduction in Farm Animals by E.S.E.Hafez
6. Adaptation of Domestic Animals by E.S.E.Hafez

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28/9/18
(Pramod Kumar)
Course Instructor

M
(HEAD)
Deptt. of Vety. Physiology

DEPARTMENT OF VETERINARY PHYSIOLOGY

BIHAR VETERINARY COLLEGE, PATNA – 14


Time Table of Post-Graduate courses for Monsoon semester 2018-19

Day /Time	9:00 To 10:00 AM	10:00 To 11:00 AM	11:00 To 12:00	12:00 To 1:00 PM	1:00 To 2:00 PM	2:00 To 3:00 PM	3:00 To 4:00 PM	4:00 To 5:00 PM
Monday	603 (T)	601(T)	-	-	LUNCH	-	-	-
Tuesday	603 (T)	-	-	-		-	-	-
Wednesday	605 (T)	-	-	-		-	-	-
Thursday	605 (T)	-	-	-		-	-	-
Friday	606 (T)	606 (P)		-		-	-	-
Saturday	606 (T)	-		603 (P)		-	601 (T)	601 (P)

Memo No. ...47.../VPY/BVC, Patna

dated 29/09/2018

Copy forwarded to all concerned HOD/students/Notice Board, BVC/PG (Acad.), BASU, Patna-14 for information and needful.


(HEAD)
 Deptt. of Vety. Physiology