

## COURSE SPECIFICATION

(2016 / 2017)

### 1- Basic Information:

Code number.....

Course title: Nutrition and Clinical Nutrition (A and B)

Academic Year: 3<sup>rd</sup> year of B. V. Sc. Programme

Total teaching hours: 150hrs

- Lectures: 90hrs

- Practical: 60hrs

### 2- OVERALL AIMS OF THE COURSE:

The course aimed to provide the students with a basic educational science about basic animal nutrition which includes nutrients function, sources and clinical deficiency symptoms of nutritional diseases. Further aim of the course is to provide the students with the nutrient requirements for animals, available feed stuffs and to enable them to gain the skills required for the practice of ration formulation.

### 3- INTENDED LEARNING OUTCOMES (I. L. Os.):

#### 3-A: KNOWLEDGE and UNDERSTANDING:

*By the end of the course, students should be able to:*

- A1. Define basics of animal nutrition.
- A2. Recognize the functions, sources and clinical deficiency symptoms of nutritional diseases.
- A3. Illustrate the proper use of different feedstuffs in the local environment to achieve maximum animal production.
- A4. Define the maintenance, growth, lactation and reproductive requirements for different animals.
- A5. Identify the maintenance, growth, lactation and reproductive requirements for different animals.
- A6. Describe the proper use of different feedstuffs in the local environment to achieve maximum animal production.
- A7. Memorize the basic knowledge about the nutrient requirements of different animal species and its relation with the suitable feedstuffs.

### **3-B: INTELLECTUAL SKILLS:**

***By the end of the course, students should be able to:***

- B1.** Combine the fitness of feedstuffs for animal feeding
- B2.** Compose the nutritive value of nutrients and feedstuff
- B3.** Generate the alternative economic feedstuff which could be used in replacement of the expensive one.
- B4.** Interpret the fitness of feedstuffs for animal feeding
- B5.** Apply the best method of animal feeding to achieve maximum production and least cost of ration.
- B6.** Plan to solve problems associated with animal feeding.

### **3- C: PRACTICAL AND PROFESSIONAL SKILLS:**

***By the end of the course, students should be able to:***

- C1.** Solve nutritional problems and suggestions to improve the production ability of an animal enterprise.
- C2.** Show the problems of feed preparation
- C3.** Organize the methods of feed manufacturing
- C4.** Evaluate the problems of feed preparation and explain the methods of solving in quick and reliable manner.
- C5.** Perform and practice the best and reliable method of ration formulation

### **3- D: GENERAL SKILLS:**

***By the end of studying the course, the graduate should be able to:***

- D1.** Work in a team
- D2.** Use computers, software and CDs for educational purposes
- D3.** Communicate with others
- D4.** Conduct a search in digital library
- D5.** Presentation skills: capacity to make oral presentations



## 4- COURSE CONTENTS:

### 4- A: Nutrition and Clinical Nutrition A and B:-

TOPIC	Total hours (Semester)	Hours for lecture	Hours for practical
<b>1<sup>st</sup> Semister</b>			
<b>Water</b>	<b>3</b>	<b>3</b>	<b>-</b>
<b>The carbohydrates and its metabolism</b>	<b>8</b>	<b>8</b>	<b>-</b>
<b>The proteins and its metabolism</b>	<b>8</b>	<b>8</b>	<b>-</b>
<b>The lipids and its metabolism</b>	<b>6</b>	<b>6</b>	<b>-</b>
<b>Nutritional problems</b>	<b>5</b>	<b>5</b>	
<b>Vitamins</b>	<b>8</b>	<b>8</b>	<b>-</b>
<b>Minerals</b>	<b>7</b>	<b>7</b>	
<b>Technical terms</b>	<b>2</b>	<b>-</b>	<b>2</b>
<b>Evaluation of feedstuffs</b>	<b>8</b>	<b>-</b>	<b>8</b>
<b>Feedstuffs</b>	<b>20</b>	<b>-</b>	<b>20</b>
<b>1<sup>st</sup> Semister Total</b>	<b>75</b>	<b>45</b>	<b>30</b>
<b>2<sup>nd</sup> Semister</b>			
<b>Feeding standards for maintenance, growth and fattening.</b>	<b>4</b>	<b>4</b>	<b>-</b>
<b>Requirements of reproduction, lactation, wool and growth</b>	<b>4</b>	<b>4</b>	<b>-</b>
<b>Dairy Nutrition</b>	<b>11</b>	<b>11</b>	<b>-</b>
<b>Beef Nutrition</b>	<b>6</b>	<b>6</b>	<b>-</b>
<b>Sheep and goat nutrition</b>	<b>6</b>	<b>6</b>	<b>-</b>
<b>Fish nutrition</b>	<b>4</b>	<b>4</b>	<b>-</b>
<b>Poultry and rabbit nutrition</b>	<b>10</b>	<b>10</b>	<b>-</b>
<b>Ration formulation for different animal</b>	<b>26</b>		<b>26</b>



species.			
Feed processing and storage	4		4
2 <sup>nd</sup> Semister total	75	45	30
<b>Total</b>	<b>150</b>	<b>90</b>	<b>60</b>

## 5– Teaching and Learning Methods:

5.1- Lectures

5.2- Power-point presentations and multimedia programs.

5.3- Demonstration of different feedstuffs.

5.4- Demonstration of feed analytical methods.

5.5- Demonstration of nutritional deficiency diseases of different animal species using slide projector.

## 6- Methods for students with limited capabilities:

6.1- Multimedia

6.2- Lectures

6.3- Power-point presentations

6.4- Demonstration of different feedstuffs.

6.5- Demonstration of feed analytical methods.

6.6- Demonstration of nutritional deficiency diseases of different animal species using slide projector.

## 7. STUDENT ASSESSMENT:

<u>7.a Used methods</u>	Written exam	Oral exam	Practical exam	Activities
<u>7.b time</u>	At the end of each semester	At the end of each semester	Before the end of each semester	After the 5 <sup>th</sup> and 10 <sup>th</sup> week of each term
<u>7.c Marks</u>	50	20	20	10

## 8- List of References:

8.1.Lectures notes

8.2.Practical notes

8.3.EssentialBooks (Text books):

- Basic Animal Nutrition and Feeding (*W.G. Pond; D.C. Church; K.R. Pond*).
- Animal Nutrition (*P. McDonald*).
- Nutrient Requirements of Domestic Animals published by *National Research Council (NRC)*.
- Vitamins in Animal Nutrition (*Lee Russell McDowell*).
- Laboratory Manual for Nutrition Research (*Gopal Krishna and S.K.han*).

#### **8.4.Recommended books:**

- Animal Nutrition.
- Basic Animal Nutrition and Feeding.

#### **8.5.Periodicals, Web sites,..... etc:**

- Journal of American Veterinary Medical Association.
- Nutritional Abstract and Review
- Veterinary Bulletin.
- Archives of Animal Nutrition.

### **9- Facilities Required for Teaching and Learning:**

- Facilities of Student Nutritional Laboratory
- Small Unit of Feed Preparation
- Computer lab and internet connection.
- Unit for experimental and lab animals.

#### **content-ILOs matrix**

Content	ILOs			
	Knowledge and understanding	Intellectual	Professional and practical	General and transferable
1 <sup>st</sup> Semister				
Water	a1, a2			d1, d2, d3,d4, d5
The carbohydrates and its metabolism	a1, a2	b2,b3		d1, d2, d3,d4, d5
The proteins and its metabolism	a1, a2	b2,b3		d1, d2, d3,d4, d5
The lipids and its metabolism	a1, a2	b2,b3		d1, d2, d3,d4, d5
The nutritional problems	a1, a2	b1		d1, d2, d3,d4, d5



Content	ILOs			
	Knowledge and understanding	Intellectual	Professional and practical	General and transferable
Vitamins	a1, a2, a3	b1		d1, d2, d3,d4, d5
Minerals	a1, a2, a3	b1		d1, d2, d3,d4, d5
Technical terms	A4			d1, d2, d3,d4, d5
Evaluation of feedstuffs	-	b4, b5, b6	c1,c2	d1, d2, d3,d4, d5
Feedstuffs	-	b4, b5, b6	c1,c2	d1, d2, d3,d4, d5
<b>2<sup>nd</sup> Semister</b>				
Feeding standards for maintenance, growth and fattening.	a4, a5, a6, a7,			d1,d2,d3,d4,d5
Requirements of reproduction , lactation, wool and growth	a4, a5, a6, a7,			d1, d2, d3,d4, d5,
Dairy nutrition	a4, a5, a6, a7,	b4, b5, b6		d1, d2, d3,d4, d5,
Beef nutrition	a4, a5, a6, a7,	b4, b5, b6		d1, d2, d3,d4, d5,
Sheep and goat nutrition	a4, a5, a6, a7,	b4, b5, b6		d1, d2, d3,d4, d5,
Fish nutrition	a4, a5, a6, a7,	b4, b5, b6		d1, d2, d3,d4, d5,
Poultry and rabbit nutrition	a4, a5, a6, a7,	b4, b5, b6		d1, d2, d3,d4, d5,
Ration formulation for different animal species.			c3, c4 , c5,	
Feed processing and storage.			c3, c4 , c5,	

### **Assessment-ILOS matrix**

Assessment	ILOs				Weighting of assessment
	Knowledge and understanding	Intellectual	Professional and practical	General and transferable	%
Mid – Term exam	a1, a2,a3	b1,b2,b3			10%
Practical exam			c1, c2, c3, c4 , c5	d1, d2, d3,d4, d5	20%
Oral exam		b1,b2,b3,	c1, c2, c3, c4	d1, d2,	20%



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	a1, a2,a3, a4,a5, a6, a 7,	b4, b5, b6	, c5	d3,d4, d5	
Written exam	a1, a2,a3, a4, a5, a6, a7,	b1,b2,b3			50%

**Course Coordinator**

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