**Y E A R : S E C O N D**

S U B J E C T : A N I M A L N U T R I T I O Nتغذية حيوان

**Theoretical hours: 2**

**Practical hours: 2**

**Units: 6**

**FIRST & SECOND SEMESTERS**

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| **ANIMAL NUTRITION: THEORETICAL SUBJECTS** | **HOURS** |
| Introduction and importance of nutrition of farm animals | **2** |
| THE ANIMAL AND ITS FOOD |
| a. Water and its functions, regulation and comparativeuse by farm animals. | **5** |
| b. Energy metabolism. | **5** |
| c. Carbohydrate metabolism. | **5** |
| d. Protein and nucleic acids metabolism | **5** |
| e. Lipid metabolism. | **5** |
| f. Trace elements , functions and deficiency symptoms. | **5** |
| g. Vitamins, functions and deficiency symptoms | **3** |
| THE EVALUATION OF FOOD |
| a. Digestibility. | **3** |
| b. Energy content of foods and partition. | **3** |
| c. Symptoms of expressing the energy value of foods | **3** |
| d. Protein. | **3** |
| FEEDING STANDARDS FOR MAINTENANCE AND GROWTH |
| a. Ruminant. | **1** |
| b. Rabbits | **1** |

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| **ANIMAL NUTRITION: THEORETICAL SUBJECTS** | **HOURS** |
| c. Poultry | **1** |
| FEEDING STANDARDS FOR REPRODUCTION AND GROWTH |
| a. Ruminants. | **1** |
| b. Rabbits | **1** |
| Effect of environmental stress on nutrient needs | **3** |
| Nutritional problems related to nutrition | **5** |
| **Total** | **60** |

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| **ANIMAL NUTRITION: PRACTICAL SUBJECTS** | **HOURS** |
| Using the nutrition lab | **2** |
| Feedstuff approximate analysis | **2** |
| How to take samples for analysis | **4** |
| Moisture determination in feedstuff, green roughage, milk, meatand eggs | **8** |
| Determination of ash | **2** |
| Determination of silica | **2** |
| Preparing standard solutions | **4** |
| Determination of crude protein | **4** |
| Determination of crude fiber | **4** |
| Determination of ether extract | **4** |
| Determination of NFE by chemical method | **2** |
| Determination of NFE by calculation method | **2** |
| Determination of gross energy by chemical method | **2** |
| Determination of gross energy by calculation method | **2** |

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| **ANIMAL NUTRITION: PRACTICAL SUBJECTS** | **HOURS** |
| Determination of energy by Bomb calorimetry | **2** |
| Digestive trials | **6** |
| Making standard ration for farm animals | **8** |
| **Total** | **60** |