

Mahatma Jyotiba Fule College of Veterinary & Animal Sciences, Chomu, Jaipur (R.J.)

Department of Animal Nutrition

Course Outline for Theory (session: 2020-21)

Teaching Programme

Duration of Lecture Class:-06.08.2020 to 10.07.2021

Unit- 1, 2, 3, 4

Subject- Animal Nutrition

Credit Hrs- 3+1= 4

S.N.	Date	period	Topic	Hrs
1	06-08-20	1	<u>UNIT-1 (Principles of Animal Nutrition & Feed Technology):</u> General introduction and syllabus	1
2	07-08-20	2	history of animal nutrition, scientists contribution	1
3	08-08-20	3	importance of nutrients in animal production & health	1
4	13-08-20	4	composition of plant forages	1
5	14-08-20	5	composition of animal body	1
6	20-08-20	6	nutritional terms and their definition	1
7	21-08-20	7	nutritional aspect of carbohydrates	1
8	22-08-20	8	nutritional aspects of protein	1
9	27-08-20	9	nutritional aspects of fat	1
10	28-08-20	10	role and requirement of water	1
11	29-08-20	11	properties of water	1
12	03-09-20	12	factor modifying the water requirement	1
13	04-09-20	13	metabolic water	1
14	05-09-20	14	effect of water restrictions, water sources	1
15	10-09-20	15	importance of minerals	1
16	11-09-20	16	classification of minerals	1
17	12-09-20	17	mineral absorption, imbalance and prevention	1
18	17-09-20	18	factor affecting requirement of minerals	1
19	18-09-20	19	Calcium- functions and regulation of calcium metabolism	1
20	19-09-20	20	deficiency symptoms - rickets and osteomalacia,	1
21	24-09-20	21	milk fever/ parturient paresis	1
22	25-09-20	22	Nutritional secondary hypoparathyroidism/ big head disease	1
23	26-09-20	23	phosphorus functions and deficiency- depraved appetite or pica, Nutritional secondary hyperparathyroidism	1
24	01-10-20	24	magnesium-function	1
25	03-10-20	25	magnesium- deficiency and supplementation	1
26	08-10-20	26	sodium-function	1
27	09-10-20	27	sodium- deficiency and supplementation	1
28	10-10-20	28	chlorine-function	1

29	15-10-20	29	chlorine- deficiency and supplementation	1
30	16-10-20	30	potassium-function	1
31	17-10-20	31	potassium- deficiency and supplementation	1
32	22-10-20	32	sulphur-function	1
33	23-10-20	33	sulphur- deficiency and supplementation	1
34	24-10-20	34	iron-function	1
35	29-10-20	35	iron- deficiency and supplementation	1
36	30-10-20	36	copper-function	1
37	31-10-20	37	copper- deficiency and supplementation	1
38	05-11-20	38	zinc-function	1
39	06-11-20	39	zinc- deficiency and supplementation	1
40	07-11-20	40	magnanease-function, deficiency and supplementation	1
41	12-11-20	41	Cobalt -function, deficiency and supplementation	1
42	13-11-20	42	Iodine - function, deficiency and supplementation	1
43	19-11-20	43	Molybdenum - function, deficiency and supplementation	1
44	20-11-20	44	selenium- function, deficiency and supplementation	1
45	21-11-20	45	Arsenic- function, and deficiency	1
46	26-11-20	46	chromium and other minerals- function, and deficiency	1
47	27-11-20	47	importance of vitamins in animal health and production	1
48	28-11-20	48	classification of vitamins	1
49	03-12-20	49	Vitamin A- function, deficiency and requirement	1
50	04-12-20	50	Vitamin D- function, deficiency and requirement	1
51	05-12-20	51	Vitamin E- function, deficiency and requirement	1
52	10-12-20	52	Vitamin K- function, deficiency and requirement	1
53	11-12-20	53	Vitamin C- function, deficiency and requirement	1
54	12-12-20	54	thiamin- function, deficiency and requirement	1
55	17-12-20	55	riboflavin- function, deficiency and requirement	1
56	18-12-20	56	niacin- function, deficiency and requirement	1
57	19-12-20	57	pantothenic acid- function, deficiency and requirement	1
58	24-12-20	58	pyridoxin- function, deficiency and requirement	1
59	26-12-20	59	cyanocobalamine- function, deficiency and requirement	1
60	31-12-20	60	folic acid- function, deficiency and requirement	1
61	01-01-21	61	biotin- function, deficiency and requirement	1
62	02-01-21	62	Feed additives in the ration of livestock & poultry	1
63	07-01-21	63	Feed additives in the ration of livestock & poultry	1
64	08-01-21	64	Feed additives in the ration of livestock & poultry	1
65	09-01-21	65	evolution of energy- measure of food energy and their application	1
66	15-01-21	66	gross energy, digestible energy, metabolizable and net energy	1
67	16-01-21	67	total digestible nutrients, starch equivalent, food units, Physiological fuel value	1
68	21-01-21	68	direct calorimetry&indirect calorimetry	1
69	22-01-21	69	carbon and nitrogen balance studies	1

70	23-01-21	70	evaluation of protein	1
71	28-01-21	71	biological value	1
72	29-01-21	72	protein efficiency ratio (PER)	1
73	30-01-21	73	protein equivalent, Digestible crude protein	1
74	04-02-21	74	calorie protein ratio, and nutritive ratio	1
75	05-02-21	75	common feed and fodder their classifications	1
76	06-02-21	76	Common feed and fodders availability and importance for Livestock	1
77	11-02-21	77	preparation storage & conservation of livestock feed through silage and hay	1
78	12-02-21	78	silage making, and its characteristics	1
79	13-02-21	79	methods of hay making, and losses of nutrients in hay making	1
80	18-02-21	80	harmful natural constituents and common adulterants of feed and fodder.	1
81	19-02-21	81	harmful natural constituents and common adulterants of feed and fodder.	1
82	20-02-21	82	introduction to feed technology	1
83	25-02-21	83	feed industry; processing of concentrates and roughages	1
84	26-02-21	84	various methods for improving nutritive value of inferior quality roughages	1
85	27-02-21	85	various methods for improving nutritive value of inferior quality roughages	1
86	06-03-21	86	UNIT-2 (Applied Ruminant Nutrition I): Importance of scientific feeding	1
87	08-03-21	87	feeding experiments	1
88	09-03-21	88	digestion and metabolism trial	1
89	10-03-21	89	norms adopted in conducting digestion trial	1
90	12-03-21	90	measurement of digestibility of a feed	1
91	13-03-21	91	feeding standards, their uses & significance	1
92	18-03-21	92	merits & demerits of various feeding standards with reference to ruminants	1
93	19-03-21	93	balanced ration, characteristics of balance ration	1
94	20-03-21	94	UNIT-3 (Applied Ruminants Nutrition II): nutrient requirements & methods for assessing the energy and protein requirement for maintenance	1
95	25-03-21	95	nutrient requirements & methods for assessing the energy and protein requirement for production	1
96	26-03-21	96	nutrient requirements for production in terms of growth, reproduction	1
97	27-03-21	97	nutrient requirements for production in terms of milk, meat, wool	1
98	01-04-21	98	nutrient requirements for production in terms of draft purpose	1
99	03-04-21	99	general principles of computation of rations	1

100	08-04-21	100	methods employed in formulating a ration	1
101	09-04-21	101	least cost ration	1
102	10-04-21	102	feeding of cattle & buffaloes by Thumb rule	1
103	15-04-21	103	computation of ration for a herd	1
104	16-04-21	104	formulation of rations and feeding of dairy cattle/buffalo during- neonate, young, adult	1
105	17-04-21	105	formulation of rations and feeding of dairy cattle/buffalo during- pregnant, lactating, dry animals	1
106	22-04-21	106	formulation of rations and feeding of dairy cattle/buffalo during- breeding bulls and working animals	1
107	23-04-21	107	formulation of ration & Feeding of Sheep during phases-milk	1
108	24-04-21	108	formulation of ration & Feeding of Sheep during phases-meat and wool	1
109	29-04-21	109	formulation of ration & Feeding of Goat during phases-milk	1
110	30-04-21	110	formulation of ration & Feeding of Goat during phases-meat	1
111	01-05-21	111	feeding of high yielding animals	1
112	13-05-21	112	role of bypass protein	1
113	15-05-21	113	role of bypass Fat	1
114	20-04-21	114	metabolic disorders & nutritional interventions	1
115	21-04-21	115	use of NPN compounds for Ruminants	1
116	22-04-21	116	<u>Unit-4 (Applied Non Ruminant Nutrition):</u> Introduction to poultry nutrition	1
117	27-05-21	117	energy & Protein requirement for maintenance	1
118	28-05-21	118	methods adopted for arriving at energy & Protein requirement	1
119	29-05-21	119	requirement for production (egg, meat, work), growth and reproduction	1
120	03-06-21	120	feeding standards for poultry (BIS, NRC)	1
121	04-06-21	121	Formulation of ration as per BIS (Bureau of Indian standard) and ICAR specifications	1
122	05-06-21	122	Feeding of chicken- broiler	1
123	10-06-21	123	Feeding of chicken- layers	1
124	11-06-21	124	Feeding of ducks, quails, turkey, etc	1

125	12-06-21	125	Indroduction to swine nutrition, Nutrient requirement for swine	1
126	17-06-21	126	feeding standards for swine (BIS, NRC)	1
127	18-06-21	127	Feeding of Swine- piglets, growers, pregnant sows & lactating sows	1
128	19-06-21	128	Feeding of Swine- breeding boars & fattening animals	1
129	24-06-21	129	Nutrient requirement for horses	1
130	25-06-21	130	feeding of equines	1
131	26-06-21	131	Nutrient requirement of mice, rat, rabbit and guinea pig	1
132	01-07-21	132	Nutrient requirement and feeding of Dogs	1
133	02-07-21	133	feeding of different categories of Dogs	1
134	03-07-21	134	Nutrient requirement and feeding of Cats	1
135	08-07-21	135	Feeding of wild animals in captivity	1
136	09-07-21	136	Feeding of wild birds in captivity	1
137	10-07-21	137	metabolic disorders and nutritional interventions	1

Signature of Head of Department