

ANDHRA UNIVERSITY

Telegrams: UNIVERSITY
Telephone: 284 4000
Fax: 0891 - 2755324



All Official letters, packages
etc, should be addressed to
the Registrar by designation
and not by name

No. L I (1)/UG Courses/Syllabus & MQP/ B. Vocational course – Dairying & Animal Husbandry/2021.

Visakhapatnam,

Dt: 31-07-2021.

From: THE REGISTRAR

To

The Principal,
A.M.A.L. College,
Anakapalle.

Sir/Madam,

Sub : Approval of Syllabus B. Vocational course – Dairying & Animal Husbandry, w.e.f. 2020-21 – Requesting - Reg.

Ref : 1.Letter dt. 22-07-2021 received from Principal, A.M.A.L. College, Anakapalle.
2.This office Proceedings of the V.C. dated 19-07-2021.
3.Minutes of the meeting of the Board of Studies, dt.21-07-2021.

* * *

I am by direction to inform that the Principals of the affiliated colleges to strictly adhere to the APSCHE guidelines for the revised Choice Based Credit System, Approval of Syllabus of B. Vocational course-Dairying & Animal Husbandry, w.e.f. 2020-21 academic year placed in A.U. website.

Thanking you,

Yours faithfully,

(B. RAMACHANDER)
ASSISTANT REGISTRAR (ACADEMIC)

Copies to:

1. The Dean of Academic Affairs, A.U., VSP.
2. The Dean, U.G. & P.G, Professional Courses, A.U., Vsp.
3. The Dean, CDC, A.U., Vsp.
4. The Dean, Confidential, A.U., Vsp.
5. The Controller of Examinations, A.U., Vsp.
6. The Principal, A.M.A.L. College, Anakapalle.
7. The Secretary to V.C., Rector Table, P.A. to Registrar, A.U., Vsp.
8. The Director, Computer Centre, A.U., Vsp.
9. The Secretary to APSCHE.
10. The Veterinary Council of India,
11. The Registrar, Veterinary Council. A.P.
12. The Secretary to ICAR.
13. O.C. & O.O.F.

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No. L.I(1)/U.G. Courses//Syllabus /B. Vocational-course- Dairying & Animal
Husbandry /2020-21.

Visakhapatnam,
Dt: 31-07-2021.

PROCEEDINGS OF THE VICE-CHANCELLOR

Sub: Approval of Syllabus B. Vocational course- Dairying & Animal
Husbandry Course, w.e.f. 2020-21 – Orders – Issued.

Read: 1.Letter dt. 22-07-2021 received from Principal, A.M.A.L. College,
Anakapalle.
2.This office Proceedings of the V.C. dated 19-07-2021.
3.Minutes of the meeting of the Board of Studies, dt.21-07-2021.

* * *

ORDER:

The Hon'ble Vice-Chancellor has ordered that the ref read above on
the revised Choice Based Credit System (CBCS) Approval of Syllabus of
B. Vocational course – Dairying & Animal Husbandry, w.e.f. 2020-21
academic year and be placed in A.U. website.

It is further ordered to place the matter before the ensuing meeting of
the Academic Senate for ratification.

(BY ORDER)

(B. RAMACHANDER)
ASSISTANT REGISTRAR (ACADEMIC)

To:

The Dean, Academic Affairs, A.U. Vsp.

Copies to:

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13. O.C. & O.O.F.

**ANDHRA UNIVERSITY
VISAKHAPATNAM**

**SYLLABUS OF
B. Vocational Course**

DAIRYING & ANIMAL HUSBANDRY

**UGC- NATIONAL SKILLS
QUALIFICATIONS FRAMEWORK**

**2020-21
ADMITTED BATCH**

1st Sem	1.	English -1	Language	3+0=3
	2.	Telugu	Language	3+0=3
	3.	Human values and professional ethics	Life skill	2+0=2
	4.	Veterinarian in society	Skill Development	2+0=2
	5.	Basics of Veterinary anatomy	Core subject	4+2=6
	6.	Veterinary Physiology	Core subject	4+2=6
	7.	Veterinary biochemistry	Core subject	4+2=6
Total			22+6=28	
2nd Sem	1.	English -2	Language	3+0=3
	2.	Telugu	Language	3+0=3
	3.	Information and communication technology	Life skills	2+0=2
	4.	Pet and zoo animal management	Skill development	2+0=2
	5.	Dairy farm general management	Skill development	2+0=2
	6.	Livestock production and management	Core subject	4+2=6
	7.	Avian production and management	Core subject	4+2=6
	8.	Animal genetics and breeding	Core subject	4+2=6
Total			24+6=30	
3rd Sem	1.	English – 3	Language	3+0=3
	2.	Organic chemistry		3+0=3
	3.	Health and hygiene	Life skills	2+0=2
	4.	Environmental education	Life skills	2+0=2
	5.	Disaster management	Skill development	2+0=2
	6.	Basics of animal nutrition	Core subject	4+2=6
	7.	Fodder production and conservation	Core subject	4+2=6
	8.	Veterinary public health and food safety	Core subject	4+2=6
Total			24+6=30	
4th Sem	1.	Infectious diseases of livestock and poultry	Core subject	4+2=6
	2.	Veterinary immunology and vaccines	Core subject	4+2=6
	3.	Milk and milk products technology	Core subject	4+2=6
	4.	Meat production and abattoir management	Core subject	4+2=6
	5.	Principles of Dairy chemistry and Dairy microbiology	Core subject	4+2=6
	6.	Laboratory diagnostic techniques	Core subject	4+2=6
Total			24+12=36	
5th Sem	1.	Veterinary pharmacology	Core subject	4+2=6
	2.	Dairy plant management	Core subject	4+2=6
	3.	Fundamentals of Veterinary medicine	Core subject	4+2=6
	4.	Veterinary jurisprudence, animal welfare acts and ABC	Core subject	4+2=6
	5.	Basics of Veterinary surgery	Core subject	4+2=6
	6.	Veterinary Gynaecology, obstetrics and AI	Core subject	4+2=6
Total			24+12=36	
6th Sem	1.	Internship in Veterinary dispensaries	Field work	0+6=6
	2.	Visakha Dairy		0+2=2
	3.	Zoological park		0+2=2
	4.	Avian hatchery		0+2=2
	5.	Mechanised slaughter house		0+2=2
	6.	Pig breeding station		0+2=2
	7.	Cattle feed mixing plant		0+2=2
	8.	Animal birth control programme		0+2=2
Total			0+20=20	
Grand total			115+65+180	

CURRICULAR FRAME WORK
B.Vocational course
Dairying and animal husbandry
2020-21 ADMITTED BATCH

Subjects	Semes ter I	Semes ter II	Semes ter III	Semes ter IV	Semes ter V	Semes ter VI (Field work)	Total credits
English	3+0=3	3+0=3	3+0=3				9+0=9
Telugu	3+0=3	3+0=3					6+0=6
Organic chemistry			3+0=3				3+0=3
Life skills-1	2+0=2	2+0=2	2+0=2				6+0=6
Life skills-2			2+0=2				2+0=2
Skill developm ent-1	2+0=2	2+0=2	2+0=2				6+0=6
Skill developm ent-2		2+0=2					2+0=2
Core subject-1	4+2=6	4+2=6	4+2=6	4+2=6	4+2=6		20+10=30
Core subject-2	4+2=6	4+2=6	4+2=6	4+2=6	4+2=6		20+10=30
Core subject-3	4+2=6	4+2=6	4+2=6	4+2=6	4+2=6		20+10=30
Core subject-4				4+2=6	4+2=6		8+4=12
Core subject-5				4+2=6	4+2=6		8+4=12
Core subject-6				4+2=6	4+2=6		8+4=12
Total credits	22+6= 28	24+6= 30	24+6= 30	24+12 =36	24+12 =36	0+20= 20	114+66= 180

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
English - 1
(Credits 3+0=3)

By the end of the course the learner will be able to :

- Use grammar effectively in writing and speaking.
- Demonstrate the use of good vocabulary
- Demonstrate an understating of writing skills
- Acquire ability to use Soft Skills in professional and daily life.
- Confidently use the tools of communication skills

I. UNIT: Listening Skills

- i. Importance of Listening
- ii. Types of Listening
- iii. Barriers to Listening
- iv. Effective Listening

II. UNIT: Speaking Skills

- a. Sounds of English: Vowels and Consonants
- b. Word Accent
- c. Intonation

III. UNIT: Grammar

- a) Concord
- b) Modals
- c) Tenses (Present/Past/Future)
- d) Articles
- e) Prepositions
- f) Question Tags
- g) Sentence Transformation (Voice, Reported Speech & Degrees of Comparison)
- h) Error Correction

IV. UNIT: Writing

- i. Punctuation
- ii. Spelling
- iii. Paragraph Writing

V. UNIT: Soft Skills

- a. SWOC
- b. Attitude
- c. Emotional Intelligence
- d. Telephone Etiquette
- e. Interpersonal Skills

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
Telugu
(Credits 3+0=3)

♦ అభ్యసన ఫలితాలు:-

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. ప్రాచీన తెలుగుసాహిత్యం యొక్క ప్రాచీనతను, విశిష్టతను గుర్తిస్తారు. తెలుగుసాహిత్యంలో ఆదికవి నన్నయ కాలంనాటి భాషాసంస్కృతులను, ఇతిహాసకాలం నాటి రాజనీతి విషయాలపట్ల పరిజ్ఞానాన్ని సంపాదించగలరు.
2. శివకవుల కాలంనాటి మతపరిస్థితులను, భాషావిశేషాలను గ్రహిస్తారు. తెలుగు నుడికారం, సామెతలు, లోకోక్తులు మొదలైన భాషాంశాల పట్ల పరిజ్ఞానాన్ని పొందగలరు.
3. తిక్కన భారతంనాటి మత, ధార్మిక పరిస్థితులను, తిక్కన కవితాశిల్పాన్ని, నాటకీయతను అవగాహన చేసుకోగలరు.
4. ఎఱ్ఱన సూక్తివైచిత్రిని, ఇతిహాస కవితల్లోని విభిన్న రీతులపట్ల అభిరుచిని పొందగలరు. శ్రీనాథుని కాలం నాటి కవితావిశేషాలను, మొల్ల కవితా విశిష్టతను గుర్తించగలరు.
5. తెలుగు పద్యం స్వరూప-స్వభావాలను, సాహిత్యాభిరుచిని పెంపొందించుకుంటారు. ప్రాచీన కావ్యభాషలోని వ్యాకరణాంశాలను అధ్యయనం చేయడం ద్వారా భాషాసామర్థ్యాన్ని, రచనల మెళకువలను గ్రహించగలరు.

పాఠ్య ప్రణాళిక

యూనిట్-I

రాజనీతి - సన్నయ
మహాభారతం-సభాపర్వం-ప్రథమాశ్వాసం-(26-57 పద్యాలు)

యూనిట్-II

దక్షయజ్ఞం - సన్నెచోడుడు
కుమారసంభవం-ద్వితీయాశ్వాసం-(49-86 పద్యాలు)

యూనిట్-III

ధౌమ్య ధర్మోపదేశము - తిక్కన
మహాభారతం-విరాటపర్వం-ప్రథమాశ్వాసం-(116-146) పద్యాలు

యూనిట్-IV

పలనాటి బెబ్బలి - శ్రీనాథుడు (పలనాటి వీరచరిత్ర-ద్విపద కావ్యం పుట 108-112
'బాలచంద్రుడు భీమంబగు సంగ్రామం బొనర్చుట.. (108)..
..... వెఱగంది కుంది' (112) సం. అక్కిరాజు ఉమాకాంతం
ముద్రణ.వి.కె.స్వామి, బెజవాడ 1911.

యూనిట్-V

సీతారావణ సంవాదం - మొల్ల
రామాయణము-సుందరకాండము-(40-87 పద్యాలు)

♦వ్యాకరణం

సంధులు: ఉత్ప, త్రిక, ద్రుతప్రకృతిక, నుగాగమ,ద్విరుక్తటకారాదేశ, యణాదేశ, వృద్ధి, శ్చుత్వ,
జశ్చ, అనునాసిక సంధులు.

సమాసాలు: అవ్యయీభావ, తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

అలంకారాలు:

అర్థాలంకారాలు : ఉపమ, ఉత్పేక్ష, రూపక, స్వభావోక్తి, అర్థాంతరవ్యాస, అతిశయోక్తి.

శబ్దాలంకారాలు : అనుప్రాస (వృత్త్యనుప్రాస, ఛేకామప్రాస లాటానుప్రాస, అంత్యానుప్రాస)

ఛందస్సు

వృత్తాలు: ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము;

జాతులు : కందం, ద్విపద; ఉపజాతులు : ఆటవెలది, తేటగీతి, సీసం మరియు ముత్యాలసరాలు

ఆధార గ్రంథాలు:

1. శ్రీమదాంధ్ర మహాభారతము : సభాపర్వము-తిరుమల తిరుపతి దేవస్థానం ప్రచురణ
2. శ్రీమదాంధ్ర మహాభారతము : విరాటపర్వము-తిరుమల తిరుపతి దేవస్థానం ప్రచురణ
3. కుమార సంభవం - నన్నెచోడుడు
4. పలనాటి వీరచరిత్ర - శ్రీనాథుడు
5. రామాయణము - మొల్ల

♦ సూచించబడిన సహపాఠ్య కార్యక్రమాలు:

1. నన్నయ్య, తిక్కన, ఎఱ్ఱన మొదలైన ప్రసిద్ధ కవుల పాఠ్యాంశేతర పద్యాలను ఇచ్చి, విద్యార్థులచేత సమీక్షలు రాయించడం; ఆయా పద్యాల్లోని యతిప్రాసాది ఛందోవిశేషాలను గుర్తింపజేయడం.
2. విద్యార్థులచేత పాఠ్యాంశాలకు సంబంధించిన వ్యాసాలు రాయించడం (సెమినార్/అసైన్మెంట్)
3. ప్రాచీన పాఠ్యాంశాలలోని సమకాలీనతను గూర్చిన బృంద చర్చ, ప్రాచీన సాహిత్యాన్ని నేటి సామాజిక దృష్టితో పునర్మూల్యాంకనం చేయించడం.
4. చారిత్రక, సాంస్కృతిక అంశాలకు సంబంధించిన పర్యాటక ప్రదేశాలను సందర్శించడం.
5. వ్యక్తిగత/బృంద ప్రాజెక్టులు చేయించడం. ప్రశ్నాపత్ర నిర్మాతలకు సూచనలు ప్రతిపదార్థ పద్యాలు, కంఠస్థ పద్యాలు “రాజనీతి, దక్షయజ్ఞం, ధౌమ్య ధర్మోపదేశం, సీతారావణ సంవాదం” అనే నాలుగు పాఠ్యాంశాల నుండి మాత్రమే ఇవ్వాలి.

ప్రశ్నాపత్ర నమూనా

అ. ప్రతిపదార్థ పద్యాలు-(అంతర్గత ఛాయీస్) (2-1)	1×8=8 మా
ఆ. కంఠస్థ పద్యం-(అంతర్గత ఛాయీస్) (2-1)	1×3=3 మా
ఇ. సందర్భ వాక్యాలు-	(6-4) 4×3=12 మా
ఈ. సంగ్రహ సమాధాన ప్రశ్నలు (6-4)	4×3=12 మా
ఉ. వ్యాస ప్రశ్నలు (అంతర్గత ఛాయీస్) (6-3)	3×8=24 మా
ఊ. వ్యాకరణం-సంధులు (6-4)	4×1=4 మా
సమాసాలు (6-4)	4×1=4 మా
అలంకారాలు (2-1)	1×4=4 మా
ఛందస్సు (2-1)	1×4=4 మా

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
HUMAN VALUES AND PROFESSIONAL ETHICS
(Credits 4+2=6)

Learning Outcome:

On completion of this course, the UG students will be able to

Understand the significance of value inputs in a classroom and start applying them in their life and profession

Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc.

Understand the value of harmonious relationship based on trust and respect in their life and profession

Understand the role of a human being in ensuring harmony in society and nature.

Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

UNIT: 1 Introduction – Definition, Importance, Process & Classifications of Value Education

Understanding the need, basic guidelines, content and process for Value Education

Understanding the thought provoking issues; need for Values in our daily life

Choices making – Choosing, Cherishing & Acting

Classification of Value Education: understanding Personal Values, Social Values, Moral Values & Spiritual Values.

UNIT: 2 Harmony in the Family – Understanding Values in Human Relationships

Understanding harmony in the Family- the basic unit of human interaction

Understanding the set of proposals to verify the Harmony in the Family;

Trust (Vishwas) and Respect (Samman) as the foundational values of relationship

Present Scenario: Differentiation (Disrespect) in relationships on the basis of body, physical facilities, or beliefs.

Understanding the Problems faced due to differentiation in Relationships

Understanding the harmony in the society (society being an extension of family):

Samadhan, Samridhi, Abhay, Sah-astitva as comprehensive Human Goals

Visualizing a universal harmonious order in society- Undivided Society (AkhandSamaj),

Universal Order (SarvabhaumVyawastha)- from family to world family.

UNIT: 3 Professional Ethics in Education

Understanding about Professional Integrity, Respect & Equality, Privacy, Building Trusting Relationships.

Understanding the concepts; Positive co-operation, Respecting the competence of other professions.

Understanding about Taking initiative and Promoting the culture of openness.

Depicting Loyalty towards Goals and objectives.

Text Books:

R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

Bhatia, R. & Bhatia, A (2015) Role of Ethical Values in Indian Higher Education.

References:

□□ Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, U

□□ E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.

□□ Susan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991

□□ Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.

□□ A Nagraj, 1998, Jeevan Vidya EkParichay, Divya Path Sansthan, Amarkantak.

□□ P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.

□□ A N Tripathy, 2003, Human Values, New Age International Publishers.

Mode of Evaluation:

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam.

Co curricular Activities:

1. Visit to an Old Age Home and spending with the inmates for a day.
2. Conduct of Group Discussions on the topics related to the syllabus.
3. Participation in community service activities.
4. Working with a NGO like Rotary Club or Lions International, etc.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
VETERINARIAN IN SOCIETY
(Credits 2+0=2)

UNIT - 1

Man, animal and society.
Client dealing.
Client oriented approach to physical examination of animals.
Veterinary public health as component of society.
Human animal bond.

UNIT - 2

veterinarians interaction with health, drug and food regulatory authorities.
Social responsibilities of Veterinarians in public hospital and practice management
Professional development.
prevention activities.

UNIT - 3

Disaster management.
Role of the Veterinary services in food safety.
Role of Veterinarian in Natural calamities.

References:

<https://www.drvet.in/p/e-books.html>

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
VETERINARIAN IN SOCIETY
(Credits 2+0=2)

Model paper

Time: 2hrs

Maximum: 50marks

SECTION – A

Answer any **Four** questions. Each question carries five marks.

(4*5 =20)

- 1) Write in detail about physical examination of an animal?
- 2) Name some veterinary institutes?
- 3) What are the food regulatory authorities?
- 4) What are the drug regulatory authorities?
- 5) What are the important components of client dealing?
- 6) Benefits of pets for people?
- 7) Write in detail about meat inspection?

SECTION – B

Answer any three Questions. Each question carries ten marks

(3*10 =30)

- 1) Write in detail about societal responsibilities of Veterinarians?
- 2) Define Public health? Discuss in detail about role of Veterinarian and Public health?
- 3) What are Natural calamities? Role of Veterinarian in Natural calamities?
- 4) Role of Veterinarian in food safety?
- 5) Write in detail about prevention activities before disaster seasons. And write down response activities also.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
BASICS OF VETERINARY ANATOMY
(Credits 4+2=6)

UNIT - 1

Introduction to anatomy and branches of anatomy and descriptive terms used in anatomy and study of anatomical planes. General Osteology. Study of structure of bone. Study of skeletal system and different bones of cow. General arthrology. Study of different joints. General myology. Study of muscles of different regions of the body **(excluding origin, insertion, blood supply & nerve supply)**.

UNIT – 2

Splanchnology. Study of different boundaries of thoracic, abdominal and pelvic cavities. Study of digestive systems of cow.. Study of salivary glands, liver, pancreas, and spleen. Study of respiratory system and urinary system. Study of male and female genital systems. Study of mammary gland of cow.

UNIT – 3

Study of skeletal system of dog. Study of digestive, respiratory, and urogenital systems of dog and poultry.

UNIT-4

Angiology. Study of heart and systemic circulation. Study of major blood vessels. Blood supply to Brain and different internal organs. Lymphatic system. Position of different lymph nodes.

UNIT-5

Neurology. Study of neuron, nerve trunk, meninges, brain and spinal cord. Study of cranial nerves, spinal nerves, brachial plexus, lumbo sacral plexus. Organs of special senses. Study of eye, ear, skin, and hoof. Study of endocrine glands

PRACTICALS

- Demonstration of bones of different species.
- Demonstration of organs of digestive, respiratory and urogenital systems.
- Study of rumen, reticulum, omasum and abomasum of ox.
- Study of digestive system of dog.
- Study of digestive system of poultry
- Identification of boundaries of thoracic, abdominal and pelvic cavities.

Reference books:

Text book of Veterinary Anatomy R.K.Ghosh

Text book of Veterinary Anatomy K.M.Dyce

Introduction to Veterinary Anatomy [Victoria Aspinall BVSc MRCVS](#) , Melanie Cappello
BSc(Hons)

ANDHRA UNIVERSITY
B. Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
BASICS OF VETERINARY ANATOMY
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum:75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

1. List out various branches of Anatomy and explain them in brief.
2. Describe the functions of rumen, reticulum, omasum and abomasum in ox.
3. What is pelvic cavity? Explain in detail.
4. Explain the location of various organs in thoracic cavity.
5. List out the cranial nerves, blood vessels and lymph nodes of head and neck region
6. Draw the diagram of digestive system of dog, label the parts and explain in brief the different parts.
7. Write in detail about respiratory system of poultry.
8. Write in detail about mammary gland in cow.

SECTION – B

Answer **All** the questions. Each question carries **TEN** marks (5*10 =50)

1. A) write the borders of badminal cavity and what are the various organs located in the abdominal cavity.
(or)
B) Draw the diagrams and explain the structure of Femur and Humerus.
2. A) How to determine the age by dentition in Ox?
(or)
B) What is linea alba. Describe its formation.
3. A) Describe the digestive system of poultry.
(or)
B) Describe the stifle joint of ox.
4. A) write in detail about sense organs.
(or)
B) What is brachial plexus. Explain in detail.
5. A) Draw the diagram of female reproductive system of ox and label the different components.
(or)
B) Explain the functioning of heart with the help of a well labelled diagram.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
VETERINARY PHYSIOLOGY
(Credits 4+2=6)

UNIT - 1

Introduction to Blood; Properties of blood as a body fluid, plasma, its functions, serum, erythropoiesis, factors influencing erythropoiesis, fate of R.B.C; Hemoglobin-chemical structure, physiological functions, derivatives of hemoglobin; Leucocytes, differential leucocyte count.
Thrombocytes, Haemorrhage haemostasis.
Blood groups.

UNIT - 2

Physiology of the gastrointestinal tracts of ruminants and monogastric animals
Prehension, defecation; vomition; function of saliva, stomach, intestine, pancreas; bile secretion; hunger, appetite control, developmental aspects of digestion.
Oesophageal groove, rumination, fermentation.

UNIT – 3

Physiology of respiration and mechanics of breathing. Transport of blood gases, foetal and neonatal oxygen transport.
Physiology of excretory system, nephron structure, urine formation.

UNIT - 4

Introduction and basics of endocrinology. Major endocrine glands and their hormones.
Hormones and their action on different systems of the body.

UNIT-5

Physiology of Puberty. Physiology of reproduction in male, spermatogenesis.
Physiology of reproduction in female, folliculogenesis, ovulation, estrus cycles.
Mating behaviour, fertilization, parturition.
Lactation.

PRACTICALS

Collection of blood samples - Separation of serum and plasma
Enumeration of erythrocytes.
Enumeration of leucocytes.
Differential leucocytic count .
Platelet count.
Estimation of haemoglobin.
Haematocrit - erythrocyte sedimentation rate - packed cell volume - coagulation time-bleeding time .
Counting of rumen motility
Urine analysis-physiological constituents and pathological determinates
Behavioural signs of oestrus.

Sperm motility.

Sperm concentration -live and dead - abnormal sperm count.

Health parameters of animals- body temperature, pulse, respiration and heart rate.

Reference books:

- | | |
|---------------------------------------|------------------------------|
| 1. Textbook of Veterinary Physiology | Bradley Klein, Elsevier |
| 2. Animal physiology | M. Armugam, A. Mariakuttukam |
| 3. Physiology of domestic animals | Dukes |
| 4. Text book of Veterinary physiology | B.Bhattacharya |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
VETERINARY PHYSIOLOGY
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

1. Write in detail about erythropoiesis and fate of RBC
2. Functions of saliva in ruminant and monogastric animals
3. Write in detail about structure of nephron and various factors affecting glomerular filtration rate.
4. Explain oesophageal groove.
5. What is estrus cycle? Briefly explain estrus behaviour.
6. Explain briefly about milking reflex in a cow.

SECTION – B

Answer All the questions. Each question carries **TEN** marks (5*10 =50)

1. A) Explain esophageal groove reflex
(or)
B) Describe in detail the hormones secreted by Hypothalamus
2. A) Explain the transport of blood gases
(or)
B) pulmonary volumes and pulmonary capacities.
3. A) What are the functions of kidney? Draw the structure of nephron & explain.
(or)
B) write in detail about thermoregulation in scrotum.
4. A) write in detail about spermatogenesis.
(or)
B) Write down the endocrine activity of GIT.
5. A) What are the functions of bile
(or)
B) Explain in detail about lactogenesis in cow.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
VETERINARY BIOCHEMISTRY
(Credits 4+2=6)

UNIT -1

Scope and Importance of Biochemistry

Disorders of Carbohydrate Metabolism: Diabetes mellitus, Ketosis, Bovine Ketosis, Pregnancy toxemia, hypoglycaemia in baby pigs, hyperinsulinism in Dogs.
Hormonal control of carbohydrate metabolism and regulation of blood sugar.

UNIT -2

Biochemical tests for the detection of disturbance in carbohydrate metabolism. Plasma Proteins and clinical significance, Proteins and Dysproteinemias,. Acute Phase proteins.

UNIT -3

Lipid Profile in disease diagnosis. Clinical Enzymology - Diagnostic importance of non-functional plasma enzymes and Isoenzymes,

UNIT -4

Liver function tests - Classification - Biochemical tests for differential diagnosis.
Biochemical tests of renal function - Urine analysis - Role of BUN, Uric acid and Creatinine in diagnosis.

UNIT -5

Disturbance in acid base balance and its diagnosis.
Biochemistry of digestive disorders. Biochemistry of oxidative stress and shock.
Biochemical basis of fluid therapy.

Practicals :

Detection of Pathological Constituents in Urine;
Assays of ALT and AST in Serum; Acute phase proteins (AorG Ratio);
Estimation of total serum cholesterol, Blood Urea Nitrogen, creatinine, serum bilirubin (Direct, Indirect and Total).
Principles of various diagnostic tests, normal and abnormal values in different species.

Reference books:

- | | |
|--|---|
| 1. Text book of Veterinary Biochemistry | R.S.Dhanotia |
| 2. Clinical Biochemistry of domestic animals | Charles E Cornelius |
| 3. Biochemistry of domestic animals | Jiro Jerry kaneko, John W.;Harvey,
Michael L.Bruss |
| 4. Principles of Biochemistry | Lehinger |
| 5. Clinical Biochemistry of domestic animals | Jerry Kaneko, John W Harvey,
Michel L Bruss |
| 6. Clinical Biochemistry | Racek, Jaroslav |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester I
2020-21 Admitted batch
VETERINARY BIOCHEMISTRY
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks.

(5*5 =25)

1. Enlist various digestive disorders in animals and explain any two in ruminates
2. Write in detail about various biochemical tests for renal function
3. What is ketosis? Explain about bovine Ketosis
4. Enlist various Liver function tests and biochemical significance of lactate dehydrogenase (LDH) and Alkaline phosphatase (ALP)
5. What are the different lipid profile tests used in veterinary practice?
6. What is an acid-base disturbance? What are the two systems that compensate for acid base disturbance?
7. What are indications of fluid therapy? Explain about biochemical basis of fluid therapy in veterinary practice?
8. Importance of Biochemistry and its significance for disease diagnosis in veterinary practice?

SECTION – B

Answer All the questions. Each question carries **TEN** marks

(5*10 =50)

1. A) What is Urine analysis
(or)
B) Explain the importance of Acute Phase proteins
2. A) Explain in detail the Diabetes mellitus in dogs
(or)
B) Write about Hypoglycaemia in baby pigs
3. A) Write in detail the Metabolic acidosis
(or)
B) Describe hormonal control of carbohydrate metabolism
4. A) Diagnostic importance of non-functional plasma enzymes
(or)
B) Hypothyroidism in dogs
5. A) Clinical significance of plasma proteins
(or)
B) Pregnancy toxaemia in cattle

2ndSem	1.	English -2	Language	3+0=3
	2.	Telugu	Language	3+0=3
	3.	Information and communication technology	Life skills	2+0=2
	4.	Pet and zoo animal management	Skill development	2+0=2
	5.	Dairy Farm General Management	Skill development	2+0=2
	6.	Livestock production and management	Core subject	4+2=6
	7.	Avian production and management	Core subject	4+2=6
	8.	Animal genetics and breeding	Core subject	4+2=6
			Total	24+6=30

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
English - 2
(Credits 3+0=3)

A Course in Reading & Writing Skills

Use reading skills effectively
Comprehend different text
Interpret different types of texts
Analyse what is being read
Build up a repository of active vocabulary
Use good writing strategies
Write well for any purpose
Improve writing skills independently for future needs

I. UNIT

Prose	: 1. How to Avoid Foolish Opinions Bertrand Russell
Skills	: 2. Vocabulary: Conversion of Words
	: 3. One Word Substitutes
	: 4. Collocations

II. UNIT

Prose	: 1. The Doll's House	Katherine Mansfield
Poetry	: 2. Ode to the West Wind	P B Shelley
Non-Detailed Text Skills	: 3. Florence Nightingale	Abrar Mohsin
	: 4. Skimming and Scanning	

III. UNIT

Prose	: 1. The Night Train at Deoli	Ruskin Bond
Poetry	: 2. Upagupta	Rabindranath Tagore
Skills	: 3. Reading Comprehension	
	: 4. Note Making/Taking	

IV. UNIT

Poetry	: 1. Coromandel Fishers	Sarojini Naidu
Skills	: 2. Expansion of Ideas	
	: 3. Notices, Agendas and Minutes	

V.UNIT

Non-Detailed Text Skills	: 1. An Astrologer's Day R K Narayan
	: 2. Curriculum Vitae and Resume
	: 3. Letters
	: 4. E-Correspondence

B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
Telugu
(Credits 3+0=3)

+ అభ్యసన ఫలితాలు:-

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. అంగుర్లభాష ప్రభావం కారణంగా తెలుగులో వచ్చిన మృదులనిక సాహిత్యాన్ని, దాని విశిష్టతను గుర్తిస్తారు.
2. సమకాలీన మృదులనిక సాహిత్య ప్రక్రియలైన “వచన కవిత్వం, కథ, నవల, నాటకం, విమర్శ”లపై అవగాహన పొందుతారు.
3. భావకవిత, అభ్యుదయ కవితాలక్ష్యాలను గుర్చిన జ్ఞానాన్ని పొందుతారు. అస్తిత్వవాద ఉద్యమాలపుట్టుకను, ప్రవృత్తతను గుర్తిస్తారు.
4. కథాసాహిత్యం ద్వారా సామాజిక చైతన్యాన్ని పొందుతారు. సిద్ధాంతాల ద్వారా కాకుండా, వాస్తవ పరిస్థితులను తెలుసుకోవడం ద్వారా సిద్ధాంతాన్ని సమీక్షించగలరు.
5. మృదులనిక తెలుగు కల్పనాసాహిత్యం ద్వారా సామాజిక, సాంస్కృతిక, రాజకీయ చైతన్యాన్ని పొందుతారు.

పాఠ్య ప్రణాళిక

యూనిట్-I : ఆధునిక కవిత్వం

1. మృదులనిక కవిత్వం- పరిచయం
2. కొండవీడు - దువ్వూరి రామిరెడ్డి
(‘కవికోకిల’ గ్రంథావళి-ఖండకావ్యాలు-నక్షత్రమాల సంపుటి నుండి)
3. మాతృసంగీతం - అనిసెట్టి సుబ్బారావు (‘అగ్నివీణ’ కవితాసంపుటి నుండి)
4. ‘తాతకో నూలుపోగు’ - బండారు ప్రసాదమూర్తి (‘కలనేత’ కవితాసంపుటి నుండి)

యూనిట్-II : కథానిక

5. తెలుగు కథానిక - పరిచయం
6. భయం (కథ) - కాశీపట్నం రామారావు
7. స్వేదం ఖరీదు....? - (కథ) - రెంటాల నాగేశ్వరరావు

యూనిట్-III : నవల

8. తెలుగు ‘నవల’ - పరిచయం

9. రథచక్రాలు (నవల) - మహీధర రామోహన రావు (సంక్షిప్త ఇతివృత్తం మాత్రం)

10. రథచక్రాలు (సమీక్షా వ్యాసం) - డా॥ యల్లాప్రగడ మల్లికార్జునరావు

యూనిట్-IV: నాటకం

11. తెలుగు 'నాటకం' - పరిచయం

12. యక్షగానము (నాటిక) - ఎం.వి.ఎస్. హరనాథరావు.

13. "అపురూప కళారూపాల విధ్వంసదృశ్యం 'యక్షగానము' (సమీక్షా వ్యాసం)"

-డా॥కందిమళ్ళసాంబశివరావు

యూనిట్-V: విమర్శ

14. తెలుగు సాహిత్య విమర్శ - పరిచయం

15. విమర్శ-స్వరూప స్వభావాలు; ఉత్తమ విమర్శకుడు-లక్ష్మణాలు

ఆధార గ్రంథాలు/వ్యాసాలు:

1. ప్రధునిక కవిత్వం-పరిచయం : చూ. 'దృశ్యకావ్యాలు' పుట 1-22, ప్రచార్య ఎస్సీ. సత్యనారాయణ

2. తెలుగు కథానిక-పరిచయం : చూ. మన నవలలు-మన కథానికలు, పుట 118-130,

ప్రచార్య రాచపాకెం చంద్రశేఖర రెడ్డి

3. తెలుగు నవల-పరిచయం : చూ. నవలాశిల్పం, పుట 1-17, వల్లంపాటి వెంకటసుబ్బయ్య

4. తెలుగు నాటకం-పరిచయం : చూ. తెలుగు నాటకరంగం, పుట 17-25 ప్రచార్య ఎస్.గంగప్ప

5. తెలుగుసాహిత్య విమర్శ-పరిచయం: చూ.తెలుగుసాహిత్య విమర్శ-నాడు,నేడు పుట 213-217

తెలుగువాణి, అయిదవ అఖిలభారత తెలుగు మహాసభల ప్రత్యేక సంచిక

ప్రచార్య జి.వి.సుబ్రహ్మణ్యం

6. నూరేళ్ళ తెలుగు నాటక రంగం - ప్రచార్య మొదలి నాగభూషణశర్మ

7. నాటకశిల్పం - ప్రచార్య మొదలి నాగభూషణశర్మ

8. సాంఘిక నవల-కథన శిల్పం - ప్రచార్య సి.మృణాళిని.

✦ సూచించబడిన సహపాఠ్య కార్యక్రమాలు:

1. ప్రధునిక కవిత్వానికి సంబంధించిన కొత్త కవితలను/అంశాలను ఇచ్చి, విద్యార్థులచేత వాటిమీద

అసైన్మెంట్లు రాయించడం

2. పాఠ్యాంశాలకు సంబంధించిన విషయాలపై వ్యాసాలు రాయించడం (సెమినార్/అసైన్మెంట్)

3. తెలుగు సాహిత్యంలోని ప్రసిద్ధ కథలపై, కవితలపై సమీక్షలు రాయించడం.

4. ప్రధునిక పద్యనిర్మాణ రచన చేయించడం.

5. విద్యార్థులను బృందాలుగా విభజించి, నాటకలపై/నవలలపై సమీక్షలు రాయించడం.

6. సాహిత్యవ్యాసాలు సేకరించడం, బృందచర్చ నిర్వహించడం, క్షేత్రపర్యటనలు.

7. ప్రసిద్ధుల విమర్శావ్యాసాలు చదివించి, వాటిని విద్యార్థుల సొంత మాటల్లో రాయించడం.

8. పాఠ్యాంశాలపై స్వీయ విమర్శావ్యాసాలు రాయించడం.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
Telugu
(Credits 3+0=3)
MODEL PAPER

✦ప్రశ్నాపత్ర నమూనా ✦

అ-విభాగము

సంక్షిప్త సమాధాన ప్రశ్నలు - ప్రతి యూనిట్ నుంచి తప్పనిసరిగా ఒక ప్రశ్న ఇస్తూ, మొత్తం ఎనిమిది ప్రశ్నలు ఇచ్చి, ఐదింటికి సమాధానం రాయమనాలి. $5 \times 5 = 25$ మా.

ఆ-విభాగము

వ్యాసరూప సమాధాన ప్రశ్నలు-ప్రతి యూనిట్ నుంచి తప్పనిసరిగా రెండు ప్రశ్నలు ఇచ్చి ఒక ప్రశ్నకు సమాధానం రాయమనాలి. మొత్తం ప్రశ్నలు 5. $5 \times 10 = 50$ మా.

✦ మాదిరి ప్రశ్నాపత్రం ✦

అ-విభాగము

క్రింది వానిలో ఐదింటికి సంక్షిప్త సమాధానాలు రాయండి.

ప్రతి సమాధానానికి 5 మార్కులు. $5 \times 5 = 25$ మా.

1. కొండవీడు 5. కథానిక
2. తెలుగు నవల 6. విమర్శ
3. తెలుగు నాటకం 7. అనిసెట్టి సుబ్బారావు
4. ధృనిక కవిత్వం 8. కాళీపట్నం రామారావు

ఆ-విభాగము

క్రింది వానిలో అన్ని ప్రశ్నలకు సమాధానాలు రాయండి.

ప్రతి సమాధానానికి 10 మార్కులు. $5 \times 10 = 50$ మా.

9. ధృనిక కవిత్వవిర్భావ వికాసాలను వివరించండి.

(లేదా)

కొండవీడులో దువ్వూరి రామిరెడ్డి గారి సందేశాన్ని వివరించండి.

10. తెలుగు కథానికను పరిచయం చేయండి.

(లేదా)

భయం కథలోని రచయిత సందేశాన్ని రాయండి.

11. సాహిత్య ప్రక్రియగా నవల స్థానాన్ని విమర్శించండి.

(లేదా)

రథచక్రాలు నవలలోని ఇతివృత్తాన్ని విశ్లేషించండి.

12. తెలుగు నాటక పరిణామాన్ని గూర్చి రాయండి.

(లేదా)

యక్షగానం నాటికపై సమీక్షా వ్యాసం రాయండి.

13. తెలుగు సాహిత్య విమర్శను పరిచయం చేయండి (లేదా)

విమర్శ స్వరూప స్వభావాలను వివరిస్తూ, ఉత్తమ విమర్శకుని లక్షణాలను రాయండి.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
Information and communication technology
(Credits 2+0=2)

Objectives:

This course aims at acquainting the students with basic ICT tools which help them in their day to day and life as well as in office and research.

Course outcomes: After completion of the course, student will be able to;

1. Understand the literature of social networks and their properties.
2. Explain which network is suitable for whom.
3. Develop skills to use various social networking sites like twitter, flickr, etc.
4. Learn few GOI digital initiatives in higher education.
5. Apply skills to use online forums, docs, spreadsheets, etc for communication, collaboration and research.
6. Get acquainted with internet threats and security mechanisms.

SYLLABUS

UNIT-I: (08 hrs)

Fundamentals of Internet: What is Internet?, Internet applications, Internet Addressing – Entering a Web Site Address, URL–Components of URL, Searching the Internet, Browser

–Types of Browsers, Introduction to Social Networking: Twitter, Tumblr, LinkedIn, Facebook, flickr, Skype, yahoo, YouTube, WhatsApp .

UNIT-II: (08 hrs)

E-mail: Definition of E-mail -Advantages and Disadvantages –User Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management.

G-Suite: Google drive, Google documents, Google spread sheets, Google Slides and Google forms.

UNIT-III: (10 hrs)

Overview of Internet security, E-mail threats and secure E-mail, Viruses and antivirus software, Firewalls, Cryptography, Digital signatures, Copyright issues.

What are GOI digital initiatives in higher education? (SWAYAM, SwayamPrabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual

labs, e- acharya, e-Yantra and NPTEL).

RECOMMENDED CO-CURRICULAR ACTIVITIES: (04 hrs)

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

1. Assignments(in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
1. Quiz andGroup Discussion
3. Slip Test
4. Try to solve MCQ's available online.
5. Suggested student hands on activities :
 - a. Create your accounts for the above social networking sites and explore them, establish a video conference using Skype.
 - b. Create an Email account for yourself- Send an email with two attachments to another friend. Group the email addresses use address folder.
 - c. Register for one online course through any of the online learning platforms like NPTEL, SWAYAM, Alison, Codecademy, Coursera. Create a registration form for your college campus placement through Google forms.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e – byRaymond Greenlaw and Ellen Hepp, Publishers : TMH
2. Internet technology and Web design, ISRD group, TMH.
3. Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
PET AND ZOO ANIMALS MANAGEMENT
(Credits 2+0=2)

UNIT – 1

Important breeds of dogs and cats. Feeding of dogs, cats, deworming & vaccination schedule

Dog show: preparation for show, kennel clubs, important characteristics for judgment.

UNIT – 2

Utility of dogs- guarding, defense, patrolling, riot control, scouting, espionage, mine detection, tracking, guiding, hunting, races, retrieving rescue and other uses.

UNIT – 3

conservation practices of wild life in India.

Basic principles of habitat and housing of various classes of wild zoo animals.

Feeding habits, feeds and feeding schedules of captive animals.

Restraining, capture, handling, physical examination of captive animals.

Classification of zoos, management of sanctuaries, national parks etc.

Reference books:

1. Animal care
2. Animal behaviour, welfare and managaement
3. Dictionary of zoo biology and animal management
4. Small animal care and management

Kimberly Lord
Geoff Hosey
Paul A Rees
Dean warren

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
PET AND ZOO ANIMALS MANAGEMENT
(Credits 2+0=2)

Model paper

Time: 2hrs

Maximum: 50marks

SECTION – A

Answer any **Four** questions. Each question carries five marks. (4*5 =20)

1. What are the various dog breeds used for guarding purpose. Explain their characteristic.
2. Explain the conservative practices of wild life in India
3. Explain the principles of feeding of pet dogs.
4. What is dog show. Explain the guidelines and procedure for conducting dog show.
5. Describe the management of a sanctuary.
6. Name the important cat breed and describe their characteristics.
7. Name some zoo animals and explain the basic principles of their habitat.

SECTION – B

Answer any three Questions. Each question carries ten marks (3*10 =30)

1. List out the Dog breeds used for patrolling purpose. Explain their characteristics.
2. Explain in detail the feeding habits of captive animals.
3. Classify zoological parks. Name the zoological parks in India.
4. Name different toy breeds and describe their characteristics.
5. What are the various methods of restraining of captive animals.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
DAIRY FARM GENERAL MANAGEMENT
(Credits 2+0=2)

UNIT – 1

Economic dairy farming.

Housing for dairy animals – objectives, advantages of adequate housing, selection of site and layout of dairy farm, Different systems of housing.

Day to day practices- equipment

UNIT – 2

Transport of dairy animals.

Care of newly born calf.

Care and management of heifers, pregnant animals, dry stock, breeding bulls.

UNIT – 3

Sanitary milk production.

Common dairy farm management practices viz.marking, dehorning/ disbudding, age determination, grooming etc.

Reference books:

1. A Text Book of Livestock Production and Management Shraddha Shrivastava, V. N. Gautam
2. LIVESTOCK PRODUCTION MANAGEMENT Dr. Nilotpal Ghosh
3. Livestock Production Management NSR SASTRY, CK THOMAS

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
DAIRY FARM GENERAL MANAGEMENT
(Credits 2+0=2)

Model paper

Time: 2 hrs

Maximum:50marks

SECTION – A

Answer any Four questions. Each question carries equal marks. (4x5m=20)

1. Write in detail about care of new born calf.
2. Write in detail about transport of animals.
3. Write in detail about care of pregnant animals.
4. Write in detail about clean milk production.
5. Write in detail about layout of dairy farm.
6. Write in detail about dehorning.
7. Write in detail about dentition and age determination in farm animals.

SECTION – B

Answer any Three questions. Each question carries ten marks (3x10m=30)

1. Write in detail about housing of dairy animals, objectives, advantages of adequate housing.
2. Write in detail about day to day practices in dairy farm and also equipment used.
3. Write in detail about an economic dairy farm.
4. Write in brief about site selection and different housing systems.
5. Write in detail about care and management of breeding bulls and dry stock.

ANDHRA UNIVERSITY
B. Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
LIVESTOCK PRODUCTION AND MANAGEMENT
(Credits 4+2=6)

UNIT - 1

Demographic distribution of livestock and role in Indian economy. Problems and prospects of livestock industry in India.

Common animal husbandry terms. (glossary)

Body conformation and identification.

UNIT - 2

Transportation of livestock and wild or zoo animals.

Common farm management practices including disinfection, isolation, quarantine and disposal of carcass.

Housing systems, layout and design of different buildings for animals. Selection of site.

General principles affecting the design and construction of building for housing for various livestock species

UNIT - 3

General management and feeding practices of calves, heifers, pregnant, lactating and dry animals, bulls and working animals

Breeding schedule and management of ram and buck

Introduction to methods of drug administration.

UNIT - 4

Common vices of animals (Cattle, Buffalo, Sheep, Goat,) their prevention and care.

Livestock production systems. Animal holding and land holding patterns in different agro-climatic zones. Organic livestock production.

UNIT - 5

Judging and BCS for body parts of livestock. Preparation of animals for show.

Culling of animals. Selection and purchase of livestock

Methods of milking and precautions

PRACTICALS:

Visit to different animal farms and Identification of various breeds of cattle, buffalo, sheep and Goat.

Identification of common tools used on animal farm.

Familiarization with body points of animals.

Methods of identification (marking, tattooing, branding, tagging and electronic chip under pre emptive analgesia).

Use of rope for knot and halter making.

Dentition and ageing of animals.

Preparation of animals for show and judging.

Selection and culling of animals.

Preparation of project proposal

Humane handling and restraining of cattle, buffalo, sheep and Goat.

Clipping, shearing, dipping, spraying and spotting sick animals.

Determination of body weight using different methods.

Familiarization with routine cattle, buffalo, sheep and goat farm operations.

Milking of dairy animals.

Reference books:

- | | |
|---|--|
| 2. A Text Book of Livestock Production and Management | Shraddha Shrivastava, V. N. Gautam |
| 2. LIVESTOCK PRODUCTION MANAGEMENT | Dr. Nilotpal Ghosh |
| 3. Livestock Production Management | NSR SASTRY, CK THOMAS |
| 4. Livestock Production | JAVED K, INTECH |
| 5. Livestock Production And Management | Pankaj Kumar Singh, Thakur Krishna Shankar Rao |
| 6. Advances In Livestock Production Management | Sunil Kukar, Birendra Kumar Misra And Manish Kumar |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
LIVESTOCK PRODUCTION AND MANAGEMENT
(Credits 4+2=6)

Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

1. Describe the procedure of humane handling and restraining of cattle, buffalo, sheep and Goat.
2. Explain in detail the procedure of large animal carcass disposal.
3. What are the precautions to be followed while milking.
4. Explain the disinfection procedure of dairy farm and what are the various disinfectants used.
5. Explain the requirements, layout and design of cattle shed for 10 buffalos.
6. Explain about the dentition and aging of livestock.
7. What are the common vices of animals and how to prevent them.
8. What is quarantine? Explain in detail.

SECTION – B

Answer All the questions. Each question carries Ten marks (5*10 =50)

1. A) What are the different methods employed for determination of body weight of animal.
(or)
B) What is livestock show. Explain the procedure for conducting livestock show and judging of animals.
2. A) Describe the breeding schedule and management of ram and buck.
(or)
B) What are the various methods of drug administration in livestock.
3. A) What are the various methods of identification of livestock.
(or)
B) Describe the rules of transportation of livestock.
4. A) Describe the role of livestock in Indian economy.
(or)
B) What is INAPH. Explain in detail.
5. A) Explain in detail the procedure for culling of animals.
(or)
B) Prepare a project report for running a dairy farm of 100 animals.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
AVIAN PRODUCTION MANAGEMENT
(Credits 4+2=6)

UNIT – 1

Growth of poultry industry
Classification of poultry

UNIT – 2

Scavenging system of management
Brooding management
Care and growth management
Care and management of layers
Care and management of broilers

UNIT – 3

Feeding management
Classification of nutrients – Nutrient requirements and Feeding systems
Additives and supplements. Water management.

UNIT – 4

Egg formation.
Egg structure – Physical and chemical composition.
Incubation of eggs.

UNIT – 5

Marketing of poultry and poultry products.
Health care for common poultry diseases – vaccination.
General principles of poultry medication.

PRACTICALS

- Common breeds of poultry, different classes, Indian chickens and other avian species breeds.
- Digestive and respiratory system of chicken.
- Male and female reproductive system—
- Economic traits of broilers, Layers and breeders.
- Housing and design of a poultry farm.
- Poultry farm equipment and their classification.
- Brooding arrangement in broiler farms.
- Poultry feed ingredients and its quality assessment and feed preparations.
- Fundamentals in poultry Post-mortem examination for sample collection.
- Collection and dispatch of samples for PM examination.
- Management during summer, winter and Rainy season.
- Automization in poultry farms (EC house).

Reference books:

1. Manual on Avian Production and Management
2. Practical manual of avian production and management
3. Handbook of Poultry Production and Management
4. Livestock Production Management
5. Livestock Production

Ghosh Nilotpal, IBDC
Jadhav
M F Siddique
N S R sastry, C K
thomas
Javed k, intech

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
AVIAN PRODUCTION MANAGEMENT
(Credits 4+2=6)

Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries Five marks.

(5*5 =25)

1. Describe the digestive system of chicken with diagram.
2. Indian poultry industry – give an over view.
3. Describe the brooding arrangements in farm.
4. Explain the principles of disease prevention and management.
5. Give the layout of a poultry shed. Explain the influence of environmental factors in poultry housing.
6. Give the outlines of poultry classification.
7. Describe the female reproductive system of poultry
8. What are the general preparations of poultry medication

SECTION – B

Answer All the questions. Each question carries Ten marks

(5*10 =50)

1. A) Write in detail the incubation of eggs in poultry farm.
(or)
B) Principles of management of poultry during Summer, winter and rainy seasons.
2. A) Describe the structure of egg. Explain its physical and chemical composition.
(or)
B) Give detailed classification of poultry with respect to production characteristics.
3. A) What are the common breeds of poultry. Explain in detail.
(or)
B) Explain management of deep litter. How to control litter born diseases.
4. A) What are the nutrient requirements of layers and broilers. Describe various feeding systems.
(or)
B) What is cage system. What are the advantages and disadvantages of cage system.
5. A) Explain in detail the vaccination schedule of layer birds.
(or)
B) What are the various strains/breeds developed for back yard poultry production.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
ANIMAL GENETICS AND BREEDING
(Credits 4+2=6)

UNIT - 1

Introduction and importance of statistics and their function
Definitions, collection and classification of data
Presentation of data
Theory of sampling

UNIT - 2

Introduction to genetics, applications, history of genetics
Chromosome structure, numbers
Cell division- mitosis, meiosis
Gametogenesis- spermatogenesis, oogenesis

UNIT - 3

Mendel's experiments, exceptions to mendel's experiments
Modified mendelian inheritance
Multiple alleles
Sex linked inheritance
Crossing over

UNIT – 4

Mapping - Chromosome mapping, genetic map
Changes in genetic material- mutations
Gene concept

UNIT - 5

Animal breeding - introduction
Selection
Systems of breeding- inbreeding, grading, crossbreeding, outcrossing
Economic traits and their importance

PRACTICALS

Monohybrid, Dihybrid cross and Multiple alleles.

Modified Mendelian inheritance and sex linked inheritance.

Linkage and crossing over.

Demonstration of Karyotyping in farm animals.

Calculation of gene and genotypic frequencies, Estimation of repeatability, heritability, genetic and phenotypic correlations.

Estimation of inbreeding and relationship coefficient.

Estimation of heterosis. Computation of sire indices.

Computation of selection index.

Reference books:

- | | |
|---|---------------------------------|
| 1. Textbook of Animal Genetics and Breeding | <u>Nada Ben Abdallah</u> |
| 2. Text Book On Animal Genetics Breeding
Srivastava, B C Sarkhel | H K B Paresh, P N |
| 3. Animal Genetics and Breeding
<u>Rajbeer Singh</u> | <u>Dr Arun Kumar Tomar, Dr</u> |
| 4. Textbook Of Animal Breeding | <u>Dr.S. S. Tomar</u> |
| 5. Animal Breeding | Gerald Weiner |
| 6. Veterinary Genetics | F.W. Nicholas |
| 7. Genetics of Livestock Improvement | John F. Lasley |
| 8. Breeding and improvement of farm animal | Warwick, E.J. and Legates, J.E. |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
I Year – Semester II
2020-21 Admitted batch
ANIMAL GENETICS AND BREEDING
(Credits 4+2=6)

Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries Five marks.

(5*5 =25)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

SECTION – B

Answer All the questions. Each question carries Ten marks

(5*10 =50)

- 1) a (or)
 b
- 2) a (or)
 b
- 3) a (or)
 b
- 4) a (or)
 b
- 5) a (or)
 b

3rdSem	1.	English – 3	Language	3+0=3
	2.	Organic chemistry		3+0=3
	3.	Health and hygiene	Life skills	2+0=2
	4.	Environmental education	Life skills	2+0=0
	5.	Disaster management	Skill development	1+0=1
	6.	Basics of animal nutrition	Core subject	4+2=6
	7.	Fodder production and conservation	Core subject	4+2=6
	8.	Veterinary public health and food safety	Core subject	4+2=6

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
ENGLISH - 3
(Credits 3+0=3)

A Course in Conversational Skills

Learning Outcomes

By the end of the course the learner will be able to :

- Speak fluently in English
- Participate confidently in any social interaction
- Face any professional discourse
- Demonstrate critical thinking
- Enhance conversational skills by observing the professional interviews

I. UNIT

Speech Skills	: 1. Tryst with Destiny	Jawaharlal Nehru
	: 2. Greetings	
	: 3. Introductions	

II. UNIT

Speech Interview	: 1. Yes, We Can	Barack Obama
	: 2. A Leader Should Know How to Manage Failure	Dr.A.P.J.Abdul Kalam/ India Knowledge at Wharton
Skills	: 3. Requests	

III. UNIT

Interview Skills	: 1. Nelson Mandela's Interview	With Larry King
	: 2. Asking and Giving Information	
	: 3. Agreeing and Disagreeing	

IV. UNIT

Interview Skills	: 1. JRD Tata's Interview	With T.N.Ninan
	: 2. Dialogue Building	
	: 3. Giving Instructions/Directions	

V. UNIT

1. Speech Skills	: 1. You've Got to Find What You Love	Steve Jobs
	: 2. Debates	
	: 3. Descriptions	
	: 4. Role Play	

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
ORGANIC CHEMISTRY
(Credits 3+0=3)

UNIT-I

Structural theory in Organic Chemistry. Types of bond fission and organic reagents (Electrophilic, Nucleophilic, and free radical reagents including neutral molecules like H_2O , NH_3 & $AlCl_3$). Bond polarization: Factors influencing the polarization of covalent bonds, electro negativity - inductive effect. Application of inductive effect (a) Basicity of amines (b) Acidity of carboxylic acids (c) Stability of carbonium ions. Resonance or Mesomeric effect, application to (a) acidity of phenol, and (b) acidity of carboxylic acids. Hyperconjugation and its application to stability of carbonium ions, Free radicals and alkenes, carbanions, carbenes and nitrenes. Types of Organic reactions : Addition - electrophilic, nucleophilic and free radical. Substitution - electrophilic, nucleophilic and free radical. Elimination- Examples.

UNIT-II

Acyclic Hydrocarbons

Alkenes - Preparation of alkenes. Properties: Addition of hydrogen - heat of hydrogenation and stability of alkenes. Addition of halogen and its mechanism. Addition of HX , Markonikov's rule, addition of H_2O , HOX , H_2SO_4 with mechanism and addition of HBr in the presence of peroxide (anti - Markonikov's addition). Dienes - Types of dienes, reactions of conjugated dienes - 1,2 and 1,4 addition of HBr to 1,3 - butadiene and Diels-Alder reaction.

Alkynes - Preparation by dehydrohalogenation of dihalides, dehalogenation of tetrahalides, Properties;

Alicyclic hydrocarbons (Cycloalkanes) Nomenclature, Preparation by Freund's method, Wislicenus method. Properties - reactivity of cyclopropane and cyclobutane by comparing with alkanes, Stability of cycloalkanes - Baeyer's strain theory.

UNIT-III

Benzene and its reactivity. Concept of resonance, resonance energy. Heat of hydrogenation, heat of combustion of Benzene, mention of C-C bond lengths and orbital picture of Benzene. Concept of aromaticity - aromaticity (definition), Huckel's rule - application to Benzenoid (Benzene, Naphthalene) and Non - Benzenoid compounds (cyclopropenyl cation, cyclopentadienyl anion and tropylium cation) Reactions - General mechanism of electrophilic substitution, mechanism

of nitration, Friedel Craft's alkylation and acylation. Orientation of aromatic substitution – Definition of ortho, para and meta directing groups. Ring activating and deactivating groups with examples (Electronic interpretation of various groups like NO₂ and Phenolic). Orientation of (i) Amino, methoxy and methyl groups (ii) Carboxy, nitro, nitrile, carbonyl and sulphonic acid groups (iii) Halogens (Explanation by taking minimum of one example from each type)

UNIT – IV

Halogen compounds

Nomenclature and classification of alkyl (into primary, secondary, tertiary), aryl, aryl alkyl, allyl, vinyl, benzyl halides. Nucleophilic aliphatic substitution reaction- classification into SN¹ and SN² – reaction mechanism with examples – Ethyl chloride, t-butyl chloride.

Hydroxy compounds

Nomenclature and classification of hydroxy compounds. Alcohols: Preparation with hydroboration reaction, Grignard synthesis of alcohols. Phenols: Preparation i) from diazonium salt, ii) from aryl sulphonates, iii) from cumene. Special reaction of phenols: Bromination, Kolbe-Schmidt reaction, Riemeier-Tiemann reaction, Fries rearrangement, azocoupling, Pinacol-Pinacolone rearrangement.

UNIT-V

carbonyl compounds

Nomenclature of aliphatic and aromatic carbonyl compounds, structure of the carbonyl group. Synthesis of aldehydes from acid chlorides, synthesis of aldehydes and ketones using 1,3-dithianes, synthesis of ketones from nitriles and from carboxylic acids.

Nucleophilic addition reaction with a) NaHSO₃, b) HCN, c) RMgX, d) NH₂OH, e) PhNHNH₂, f) 2,4 DNPH, g) Alcohols-formation of hemiacetal and acetal. Base catalysed reactions: a) Aldol, b) Cannizzaro's reaction, c) Perkin reaction, d) Benzoin condensation, e) Haloform reaction, f) Knoevenagel reaction. Oxidation of aldehydes-Baeyer-Villiger oxidation of ketones. Reduction: Clemmensen reduction, Wolf-Kishner reduction, MPV reduction, reduction with LiAlH₄ and NaBH₄.

List of Reference Books

1. A Text Book of Organic Chemistry by B.S. Bahl and Arun Bahl
2. A Text Book of Organic chemistry by Vol I by I.L. Finar Vol I
3. Organic chemistry by Bruice
4. Organic chemistry by Clayden
5. A Text Book of Organic Chemistry by B.S. Bahl and Arun Bahl

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester III

2020-21 Admitted batch
ORGANIC CHEMISTRY
(Credits 3+0=3)

Model paper

Time: 2hrs

Maximum: 50marks

SECTION – A

Answer any **Four** questions. Each question carries five marks.

(4*5 =20)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

SECTION – B

Answer any three Questions. Each question carries ten marks

(3*10 =30)

- 1.
- 2.
- 3.
- 4.
- 5.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
HEALTH AND HYGIENE
(Credits 2+0=2)

The course is designed to provide a complete guidance on health and hygiene systems, guidelines for implementing and role of government and public in maintaining a healthy life. At the end of the course the student shall be able to understand –

- the importance of health and hygiene in life
- the importance of nutrition for a healthy life
- different health care programmes of India
- basic concept of health impact assessment as a means of assessing the policies, plans and projects using quantitative and qualitative techniques
- importance of community and personal health & hygiene measures
- Importance of food, social tenets, mental condition, physical activity on health

Learning Objectives:

- To provide knowledge on different health indicators and types of hygiene methods
- To impart knowledge on different health care programmes taken up by India
- To make student understand the latest concepts of health such as HIA, EIA, SIA and SEA
- To enable student with disaster mitigation strategies
- To create awareness on community health and hygiene
- To enrich knowledge on communicable and non-communicable diseases and their control
- To aware the student on the importance of food, social strategies, mental status and physical activities on health
- To introduce different community-based mobile apps on health to student and thereby to the community

Learning / Course Outcomes: On completion of this course, the students will be able to understand –

- What is a healthy diet?
- How can we use available information to optimize our diet?
- Can nutrition be used for a healthy life?
- Is there a one-size-fits-all “good” diet or should we individualize our dietary goals?
- Disaster management and responsiveness of public in pandemic and epidemic diseases
- Assess the impact of policies on health and hygiene Health measures to consider while travelling
- Awareness in public through digital media viz., mobile apps

Unit I: Basics of Nutrition**10 Hrs.**

1. Nutrition – definition, importance, Good nutrition and mal nutrition; Balanced Diet: Basics of Meal Planning
2. Carbohydrates –functions, dietary sources, effects of deficiency.
3. Lipids –functions, dietary sources, effects of deficiency.
4. Proteins –functions, dietary sources, effects of deficiency.
5. Brief account of Vitamins- functions, food sources, effects of deficiency,
6. Macro and micro minerals –functions, effects of deficiency; food sources of Calcium, Potassium and Sodium; food sources of Iron, Iodine and Zinc
7. Importance of water– functions, sources, requirement and effects of deficiency.

Unit II: Health**10 Hrs.**

8. Health – Determinants of health, Key Health Indicators, Environment health & Public health; Health-Education: Principles and Strategies
9. Health Policy & Health Organizations: Health Indicators and National Health Policy of Govt. of India-2017; Functioning of various nutrition and health organizations in India viz., NIN (National Institution of Nutrition), FNB (Food and Nutrition Board), ICMR (Indian Council of Medical Research), IDA (Indian Dietetics Association), WHO-India, UNICEF-India
10. National Health Mission: National Rural Health Mission (NRHM) Framework, National Urban Health Mission (NUHM) Framework
11. Women & Child Health Care Schemes: Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+); Janani Shishu Suraksha Karyakaram (JSSK); Rashtriya Bal Swasthya Karyakram (RBSK); India Newborn Action Plan (INAP); Adolescent Health- Rashtriya Kishor Swasthya Karyakram (RKSK)
12. Disaster Management – Containment, Control and Prevention of Epidemics and Pandemics – Acts, Guidelines and Role of Government and Public

Unit III: Hygiene

10 Hrs.

13. Hygiene – Definition; Personal, Community, Medical and Culinary hygiene; WASH (Water, Sanitation and Hygiene) programme
14. Rural Community Health: Village health sanitation & Nutritional committee (Roles & Responsibilities); About Accredited Social Health Activist (ASHA); Village Health Nutrition Day, Rogi Kalyan Samitis
15. Community & Personal Hygiene: Environmental Sanitation and Sanitation in Public places
16. Public Awareness through Digital Media – An Introduction to Mobile Apps of Government of India: NHP, Swasth Bharat, No More Tension, Pradhan Mantri Surakshit Mantritva Abhiyan (PM Suman Yojana), My Hospital (Mera aspataal), India fights Dengue, JSK Helpline, Ayushman Bhava, Arogya Setu, Covid 19AP

REFERENCES

Bamji, M.S., K. Krishnaswamy & G.N.V. Brahman (2009) Textbook of Human Nutrition (3rd edition) Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
Swaminathan (1995) Food & Nutrition (Vol I, Second Edition) The Bangalore Printing & Publishing Co Ltd., , Bangalore
Vijaya Khader (2000) Food, nutrition & health, Kalyan Publishers, New Delhi
Srilakshmi, B., (2010) Food Science, (5th Edition) New Age International Ltd., New Delhi
Weblinks: <https://nhm.gov.in/>

- National Rural Health Scheme:
<https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=969&lid=49>
- National Urban Health Scheme:
<https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=970&lid=13>
- Village health sanitation & Nutritional committee
<https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=149&lid=22>
- About Accredited Social Health Activist (ASHA)
<https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=150&lid=22>
- Village Health Nutrition Day
<https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=152&lid=22>

- Rogi Kalyan Samitis
<https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=153&lid=2>
- Health Impact Assessment – <https://www.who.int/hia/about/faq/en/>
(suggested information only)
[http://www.euro.who.int/
data/assets/pdf_file/0011/261929/Health-in-Impact-
Assessments-final-version.pdf?ua=1](http://www.euro.who.int/data/assets/pdf_file/0011/261929/Health-in-Impact-Assessments-final-version.pdf?ua=1)
- WASH <https://www.unicef.org/wash/> and
https://www.unicef.org/wash/files/UNICEF_Strategy_for_WASH_2016_2030.PDF
- Healthy Living <https://www.nhp.gov.in/healthylivingViewall>

Note: The above web links are from MoHFW, GoI. Teachers can prepare their notes from other resources also.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying

II Year – Semester III
2020-21 Admitted batch
HEALTH AND HYGEINE
(Credits 2+0=2)

Model paper

Time: 2hrs

Maximum: 50marks

SECTION – A

Answer any **Four** questions. Each question carries five marks.

(4*5 =20)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

SECTION – B

Answer any three Questions. Each question carries ten marks

(3*10 =30)

- 1.
- 2.
- 3.
- 4.
- 5.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
ENVIRONMENTAL EDUCATION
(Credits 2+0=2)

Course objective: A Generic Course intended to create awareness that the life of human beings is an integral part of environment and to inculcate the skills required to protect environment from all sides.

Learning outcomes: On completion of this course the students will be able to

1. Understand the nature, components of an ecosystem and that humans are an integral part of nature.
2. Realize the importance of environment, the goods and services of a healthy biodiversity, dependence of humans on environment.
3. Evaluate the ways and ill effects of destruction of environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.
4. Discuss the laws/ acts made by government to prevent pollution, to protect biodiversity and environment as a whole.
5. Acquaint with international agreements and national movements, and realize citizen's role in protecting environment and nature.

Unit 1: Environment and Natural Resources

06 Hrs.

1. Multidisciplinary nature of environmental education; scope and importance.
2. Man as an integral product and part of the Nature.
3. A brief account of land, forest and water resources in India and their importance.
4. Biodiversity : Definition; importance of Biodiversity – ecological, consumptive, productive, social, ethical and moral, aesthetic, and option value.
5. Levels of Biodiversity: genetic, species and ecosystem diversity.

Unit-2: Environmental degradation and impacts

10Hrs

1. Human population growth and its impacts on environment; land use change, land degradation, soil erosion and desertification.
2. Use and over-exploitation of surface and ground water, construction of dams, floods, conflicts over water (within India).

3. Deforestation: Causes and effects due to expansion of agriculture, firewood, mining, forest fires and building of new habitats.
4. Non-renewable energy resources, their utilization and influences.
5. A brief account of air, water, soil and noise pollutions; Biological, industrial and solid wastes in urban areas. Human health and economic risks.
6. Green house effect – global warming; ocean acidification, ozone layer depletion, acid rains and impacts on human communities and agriculture.
7. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, over exploitation, hunting and poaching, introduction of exotic species, pollution, predator and pest control.

Unit 3: Conservation of Environment

10 Hrs

1. Concept of sustainability and sustainable development with judicious use of land, water and forest resources; afforestation.
2. Control measures for various types of pollution; use of renewable and alternate sources of energy.
3. Solid waste management: Control measures of urban and industrial waste.
4. Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.
5. Environment Laws: Environment Protection Act; Wildlife Protection Act; Forest Conservation Act.
6. International agreements: Montreal and Kyoto protocols; Environmental movements: Bishnoi of Rajasthan, Chipko, Silent valley.

Suggested activities to learner: (4 hours)

1. Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc
2. Visit to a local polluted site-Urban/Rural/Industrial/Agricultural site.
3. Study of common plants, insects, birds and basic principles of identification.
4. Study of simple ecosystems-forest, tank, pond, lake, mangroves etc.
5. Case study of a Forest ecosystem or a pond ecosystem.

Suggested text book :

- Erach Barucha (2004) Text book of Environmental Studies for Undergraduate courses
(Prepared for University Grants Commission) Universities Press.
- Purnima Smarath (2018) Environmental studies Kalyani Publishers, Ludhiana

Reference books :

- Odum, E.P., Odum, H.T. & Andrews, J. (1971) Fundamentals of Ecology. Philadelphia:Saunders.
- Pepper, I.L., Gerba, C.P. &Brusseau, M.L. (2011). Environmental and Pollution Science.Academic Press.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012) Environment. 8th edition. JohnWiley & Sons.
- Singh, J.S., Singh, S.P. and Gupta, S.R. (2014) Ecology, Environmental Science andConservation. S. Chand Publishing, New Delhi.
- Sengupta, R. (2003) Ecology and economics: An approach to sustainable development.OUP.
- Wilson, E. O. (2006) The Creation: An appeal to save life on earth. New York: Norton.
- Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll (2006) Principles ofConservation Biology. Sunderland: Sinauer Associate.

ANDHRA UNIVERSITY
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Animal husbandry & Dairying
II Year – Semester III
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ENVIRONMENTAL EDUCATION
(Credits 2+0=2)

Model paper

Time: 2hrs
50marks

Maximum:

SECTION – A

Answer any **Four** questions. Each question carries five marks.

(4*5 =20)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

SECTION – B

Answer any three Questions. Each question carries ten marks

(3*10 =30)

- 1.
- 2.
- 3.
- 4.
- 5.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
DISASTER MANAGEMENT
(Credits 2+0=2)

Learning Outcomes:

After successful completion of the course, the students are able to;

1. Understand the nature, cause and effects of disasters
2. Comprehend the importance of Disaster Management and the need of awareness
3. Acquire knowledge on disaster preparedness, recovery remedial measures and personal precautions
4. Volunteer in pre and post disaster management service activities

Syllabus:

UNIT-I: 06 hrs

Introduction of Disaster – Different types of disasters- Natural- (flood, cyclone, earthquake, famine and pandemic) – Accidental- (Fire, Blasting, Chemical leakage, Rail, Aviation, Road boat tragedies and nuclear pollution) – Disaster Management Act 2005

UNIT-II: 09hrs

Causes and immediate effects of Disasters – Preparedness of disasters – Precautions – Dissemination of information – Nature and concepts – Role of National Disaster Management Authority and Role of Government and non governmental organizations in protecting human livestock and natural resources.-Use of technology –Role of Citizens and Youth in the prevention.

UNIT-III – 09 hrs

Post disaster effects – short term – Procedures for Rehabilitation and Recovery – Role of volunteers and Safety Precautions – Long term remedial and preventive measures – Collection, filing and storage of information – Case studies

Suggested co curriculum Activities: (06 hrs)

1. Invite lectures by local experts
2. Training on preparedness, post disaster services
3. Analysis of Case studies
4. Visit to a disaster management office and facility
5. Assignments, Group discussion, quiz etc.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying

II Year – Semester III
2020-21 Admitted batch
DISASTER MANAGEMENT
(Credits 2+0=2)

Model paper

Time: 2hrs
50marks

Maximum:

SECTION – A

Answer any **Four** questions. Each question carries five marks.

(4*5 =20)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

SECTION – B

Answer any three Questions. Each question carries ten marks

(3*10 =30)

- 1.
- 2.
- 3.
- 4.
- 5.

ANDHRA UNIVERSITY
Bachelor of Vocation: Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
BASICS OF ANIMAL NUTRITION
(Credits 4+2=6)

UNIT – 1

Importance of Nutrition – Common Definitions in Animal Nutrition – Classification of Nutrients

Role of Different Nutrients in the body systems – Water – Carbohydrates – Proteins – Fats – Minerals – Vitamins.

UNIT – 2

Special consideration in the Nutrition of different livestock species – Ruminants – Non-ruminants – Poultry.

Carbohydrates – sugars – soluble carbohydrates – crude fibre – Non-starch polysaccharide.

Energy – Gross energy – Digestible energy – Metabolizable energy – Net energy – Starch equivalent.

UNIT – 3

Proteins in Animal Nutrition – True protein and crude protein – Amino acids – Essential and Non-Essential Amino Acids – Biological values

Lipid nutrition – essential fatty acids – omega fatty acids.

UNIT – 4

Minerals in Animal Nutrition – Major minerals – Minor minerals

Vitamins – Fat Soluble vitamins – Water soluble vitamins – Roles, deficiency symptoms and sources of vitamins.

UNIT – 5

Compound feeds – Feed supplements – Feed Additives.

General considerations while Feeding of various species for livestock products – Dairy cattle and buffaloes – Sheep and Goat – pigs – Poultry.

PRACTICALS

General acquaintance of various equipment in Nutrition laboratory – Hot air oven – Kjeldal Digestion and Distillation Unit – Soxhlet Apparatus – Muffle furnace.

Estimation of various proximate principles in feed – Moisture – Crude protein – Ether extract – Crude fibre – Total Ash.

Estimation of Acid Insoluble Ash – Calcium – Phosphorus – Detection of common adulterants in feeds.

Feed formulation – Ration formulation – practical exercises

Visit to Cattle feed plant and Poultry feed plant.

Reference books:

- | | |
|---|------------------------|
| 1. Principles of animal nutrition and feed technology | D.V.Reddy |
| 2. Principles and practices of animal nutrition | Jagadish Prasad |
| 3. A textbook of animal nutrition | D.N. verma,
kalyani |
| 4. Basic animal nutrition and feeding, | Pond, Wiley |
| 5. Animal nutrition | Maynord |
| 6. Principles of animal nutrition and feeds | BANERJEE |

ANDHRA UNIVERSITY
A.M.A.L College, Anakapalle
Bachelor of Vocation: Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
BASICS OF ANIMAL NUTRITION
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum:75marks

SECTION – A

Answer any **FIVE** questions. Each question carries five marks. (5*5 =25)

1. Write about Importance of water in the Animal Body.
2. What are the functions of Calcium, its deficiency symptoms.
3. What are the blood forming minerals? Write brief about their other functions.
4. Name the essential Amino Acids.
5. Describe about Acidosis in ruminants?
6. What are the nutrients present in different proximate principles of feeds?
7. Write about difference diseases caused due to deficiency of B-Complex vitamins.
8. What are the functions of fats in the Animal Body? What are essential fatty acids?

SECTION – B

Answer **All** the questions. Each question carries **TEN** marks (5*10 =50)

1. a) Write about functions, deficiency symptoms and sources of fat-soluble vitamins.
(or)
b) Importance of salt in the animal diet.
2. a) Classify feed ingredients and give one example to each category.
(or)
b) Write about different feed processing methods
3. a) Draw a diagrammatic representation of feed plant and label them with different areas.
(or)
b) Describe about feeding of laying poultry.
4. a) Formulate a model ration for an adult cow weighing 400 kg BW and 8 liters milk yield with 5% fat.
(or)
b) What are agro industrial byproducts? Give five examples along with significance of each byproduct in animal nutrition.
5. a) Write about feeding of different categories of pigs.
(or)
b) Describe about different types of commercial pet foods.

ANDHRA UNIVERSITY
A.M.A.L College, Anakapalle
Bachelor of Vocation: Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
FODDER PRODUCTION AND CONSERVATION
(Credits 4+2=6)

UNIT - 1

Importance of grasslands and fodder in livestock production.
Agronomical Practices for fodder production.

UNIT - 2

Important leguminous and non-leguminous fodders in different seasons.

UNIT - 3

Soil and Water conservation and drainage of water for fodder production.
Fodder production for small livestock units.

UNIT - 4

Structures for storage of feeds and fodders.
Scarcity fodders and preservation of green fodder.

UNIT - 5

Recycling of animal washings and wastes in fodders production and use of recycle waste.
crop residues and their optimum utilization

PRACTICALS

Visit to the fodder farm.
Familiarization with the various types of fodders in Andhra pradesh
Familiarization with various fertilizers and manures.
Collection, preservation and storage of feed and fodder; Damages or loss during transfer and storage; methods to prevent them.
Cost of calculations of fodder production.
Livestock waste utilization and recycling.

Reference books:

- | | |
|--|-------------------------------------|
| 1. Production Utilization and Conservation of Forage Crops | A S Bimbraw |
| 2. Fodder production and Conservation | Seema Misra,
Prem Pathak |
| 3. Production Technology Of Forage And Fodder Crops | Prof. Raju R A |
| 4. A handbook for feed and fodder development | Jambay
Gyeltshen,
Pema Wangda |

ANDHRA UNIVERSITY
A.M.A.L College, Anakapalle
Bachelor of Vocation: Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
FODDER PRODUCTION AND CONSERVATION
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries five marks. (5*5 =25)

1. What is the importance of land preparation for fodder cultivation.
2. Write the stage of harvest of any five fodder crops.
3. What is rotational grazing? What are its uses?
4. What are the crop residues commonly fed to animals? Why they are important?
5. Write briefly about Urea, DAP and Muriate of Potash
6. Write the seed rates of any five fodder crops.
7. What are perennial fodder crops? What is their importance?
8. Write about fodder storage?

SECTION – B

Answer **All** the questions. Each question carries **TEN** marks (5*10 =50)

1. a) Describe silage making in detail.

(OR)

- b) Give details of Maize fodder cultivation.
2. a) What are the advantages of hay making? Describe hay making methods in detail.

(OR)

- a. Write about Urea treatment of paddy straw.
3. a) Describe Hybrid Napier cultivation.

(OR)

- a. How to reduce fodder wastage during cultivation, harvest, transportation, storage and feeding.
 4. a) Give detailed description of grassland management.
- (OR)**
- a. Write detailed cultivation practices Lucerne.
 5. a) Describe about manures and fertilizers used in fodder production, their application rate for Bajra crop.

(OR)

- b) Write about chaffing and chaff cutters in detail.

ANDHRA UNIVERSITY
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B.Vocational course
Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
VETERINARY PUBLIC HEALTH AND FOOD SAFETY
(Credits 4+2=6)

UNIT - 1

Aims and scope of Veterinary Public Health.

Role of veterinarians in public health. One Health concept and initiatives. Veterinary Public Health administration. Sources of contamination. Principles and concepts of food hygiene and safety.

UNIT - 2

Milk hygiene in relation to public health. Hygienic and safe milk production practices including steps for prevention and control of milk contamination, adulterants, antimicrobial residues, agrochemicals, subclinical mastitis or udder infections etc..

UNIT - 3

Microbial flora of milk and milk products. Milk plant and dairy equipment hygiene. Quality control of milk and milk products. Milk hygiene practices in India

UNIT - 4

Elements of meat inspection and meat hygiene practices. Pathological conditions associated with the transport of food animals. Hygiene in abattoirs and meat plants. Detection of conditions or diseases and judgements during ante mortem and post mortem inspection.

UNIT - 5

Classification of low risk and high risk material generated in an abattoir and its hygienic disposal.

Inspection of poultry for human consumption. Occupational health hazards in abattoir and meat plants.

Foodborne infections and intoxications associated with foods of animal origin. Toxic residues (pesticides, antibiotics, metals and hormones) in foods and associated health hazard

PRACTICALS

1. Collection of samples for chemical and bacteriological examination.
2. Grading of milk by dye reduction test, direct microscopic examination and standard plate count. Quality assurance tests for processed milk and milk products.
3. Tests for plant sanitation-Air, water and equipment.

4. Detection of organisms of public health significance from food products by techniques.
5. Tests for detection of mastitic milk.
6. Ante-mortem and post-mortem inspection of food animals.
7. Demonstration or detection of toxic chemicals and contaminants of public significance from milk and meat.
8. Detection of antimicrobial residues in milk and meat by microbiological and analytical techniques.
9. Demonstration of speciation of meat

Reference books:

1. Textbook of elements of veterinary public health
A.T. Sherikar,
V.N. Bachhil &
D.C.Thapliyal

ANDHRA UNIVERSITY
A.M.A.L College, Anakapalle
B.Vocational course
Animal husbandry & Dairying
II Year – Semester III
2020-21 Admitted batch
VETERINARY PUBLIC HEALTH AND FOOD SAFETY
(Credits 4+2=6)

Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **Five** of the following (5x5 = 25)

1. What are the different spoilage microflora and spoilage conditions of milk?
2. Differentiate the synthetic milk from natural milk?
3. Write different abnormal conditions detected in meat?
4. Enlist different indirect tests for microbiological analysis in the dairy industry and explain about any dye reduction test?
5. Write about the emergency slaughter of animals?
6. What are the different adulterants used in milk? Explain method of detection for any two commonly used adulterants at field level.
7. What are the different disease conditions need to be observed during postmortem inspection of poultry?
8. What are the basic principles of food safety?

SECTION – B

Answer **all** the questions. Each question carries **ten** marks (5x10 =50)

1. Classify different types of food borne illness and describe about any meat borne disease?

or

What are the different sources of contamination in milk production. Describe about different steps involved in Clean milk production?

2. Enlist different methods for identification of fraudulent substitution of meat and explain in detail about any method?

or

Define HACCP? Write about the principles of HACCP.

- 3 What are the different occupational health hazards encountered by slaughter house workers and write in detail about the preventive measures.

or

Discuss in detail about different facilities required for ante mortem inspection. What are the different judgments given in ante mortem inspection.

- 4 Define one health and write about different components of one health.

or

Write in detail about the different methods for safe disposal of abattoir wastes.

- 5 What is the role of a veterinarian in promotion of public health?

or

Discuss in detail about different approaches you recommend a farmer regarding safe and hygienic production of animal based foods (milk, meat & eggs) in your own words.

4thSem	1.	Infectious diseases of livestock and poultry	Core subject	4+2=6
	2.	Veterinary immunology and vaccines	Core subject	4+2=6
	3.	Milk and milk products technology	Core subject	4+2=6
	4.	Meat production and abattoir management	Core subject	4+2=6
	5.	Principles of Dairy chemistry and Dairy microbiology	Core subject	4+2=6
	6.	Laboratory Diagnostic Techniques	Core subject	4+2=6

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch

INFECTIOUS DISEASES OF LIVESTOCK AND POULTRY
(Credits 4+2=6)

UNIT - 1

Itiology, symptoms, diagnosis and treatment of various Viral diseases of livestock, pets and poultry

UNIT - 2

Itiology, symptoms, diagnosis and treatment of various Bacterial diseases of livestock, pets and poultry

UNIT - 3

Itiology, symptoms, diagnosis and treatment of various Parasitic diseases of livestock, pets and poultry

UNIT – 4

Itiology, symptoms, diagnosis and treatment of various Fungal diseases of livestock, pets and poultry

UNIT – 5

Itiology, symptoms, diagnosis and treatment of various Diseases caused by ectoparasites of livestock, pets and poultry

PRACTICALS

Post mortem examination of different diseases and their interpretation.
Study of gross specimens and histopathological slides of various organs pertaining to infectious and non- infectious diseases of domestic animals.
Demonstration of causative agents in tissue section by special staining methods and use of rapid diagnostic tests

BOOKS FOR REFERENCE

1. Text book of preventive veterinary medicine Dr.Amalendu chakarvarthi
2. Infectious diseases of livestock S.V. Pundit and V.V.Deshmukh
3. A Textbook Of Veterinary Special Pathology Infectious Diseases Of Livestock And Poultry 2005 Edition by Vegad JL, IBDC Publishers
4. Advanced Pathology And Treatment Of Diseases Of Poultry C D N Singh,
5. Poultry Diseases A Guide for Farmers and Poultry Professionals Vegad J. L

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
INFECTIOUS DISEASES OF LIVESTOCK AND POULTRY
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

1. Describe Etiology, Transmission, Symptoms and control of Foot and Mouth Disease.
2. Describe Etiology, Transmission, Symptoms and control of Blue tongue in sheep.
3. Write note on Ascariosis in calves.
4. Describe in detail about Trypanosomiasis (Surra) in large ruminants..
5. Enlist common Endoparasitic diseases of bovine and small ruminants
6. Write deworming schedule and prophylactic vaccinations calendar in large ruminants.
7. Write about symptoms of rabies in cattle and control.
8. List out common Viral, Bacterial and Protozoan diseases of cattle and buffalo.

SECTION – B

Answer **all** questions. Each question carries **TEN** marks (5*10 =50)

1. Write a detailed note on Haemorrhagic septicaemia in buffaloes.
(or)
Narrate Brucellosis in cattle.
2. Write in detail about Theileriosis incross breed cattle including prophylaxis
(or)
Write in detail about Babesiosis cattle including .
3. Explain Etiology, Symptoms, lesions, and control of Enterotoxaemia (ET) in sheep
(or)
Explain Etiology, Symptoms, lesions, and control of PPR in sheep&Goat.
4. Give classification of Antibiotics used in veterinary medicine.
(or)
Enlist common Deworming drugs and Ectoparasiticide used in veterinary medicine.
5. Narrate Etiology, Symptoms , post-mortem lesions and control of Ranikhet disease (ND) in poultry.
(or)
Explain how to control infectious disease Outbreak systematically at field level.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
VETERINARY IMMUNOLOGY AND VACCINES
(Credits 4+2=6)

UNIT - 1

History of Immunology - Lymphoid organs, tissues and Cells - Types of Immunity

UNIT - 2

Hypersensitivity: classification and mechanism of induction;

UNIT - 3

Autoimmunity; Immunotolerance

UNIT - 4

Concept of Immunity to Microbes

UNIT - 5

Vaccines-preparation , storage, safety and maintenance

Vaccination schedules of different livestock, poultry and pet animals.

Practicals

Visit and appraisal of Veterinary biological institute.

Demonstration of various livestock and pet vaccines.

To attend vaccination programmes in field and commercial poultry farms.

Reference books:

- | | |
|---|-----------------------------------|
| 1. Veterinary Immunology | Ian R Tizard,
Elsevier Science |
| 2. Immunology: Basic Concepts and Applications | Y. Haribabu |
| 3. Veterinary Immunology: Principles & Practice | Day, Manson
Pub |
| 4. Vaccines for Veterinarians | Ian R Tizard |
| 5. Vaccine Science And Immunization Guideline | ROCKWELL P
G, SPRINGER |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
VETERINARY IMMUNOLOGY AND VACCINES
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

SECTION – B

Answer **all** questions. Each question carries **TEN** marks

(5*10 =50)

1. a) or
 b)
2. a) or
 b)
3. a) or
 b)
4. a) or
 b)
5. a) or
 b)

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
MILK AND MILK PRODUCTS TECHNOLOGY
(Credits 4+2=6)

UNIT – 1

Milk industry in India, milk processing unit and its management
Composition & Nutritive value of milk
Factors effecting composition of milk
Physio-chemical properties of milk

UNIT – 2

Collection, chilling of milk
Standardisation of milk- pasteurisation, homogenisation, bactofugation, dehydration of milk

UNIT - 3

Introduction to functional milk products. Preparation of cream, butter, paneer or channa, ghee, khoa, lassi, dahi, ice-cream, mozzarella cheese and dairy byproducts.
Common defects of milk products and their remedial measures.

UNIT - 4

Packaging, transportation, storage and distribution of milk and milk products.
Good manufacturing practices and implementation of HACCP in milk plant.
Organic milk products.

UNIT - 5

Food safety standards for milk and milk products.

PRACTICALS

Visit to modern milk processing and milk products manufacturing plants.
Sampling of milk. estimation of fat, solid not fat (SNF) and total solids.
Platform tests.
Cream separation.
Detection of adulteration of milk.
Determination of efficiency of pasteurization.
Preparation of milk products like ghee, paneer or channa, khoa, ice-cream or kulfi, milk beverages.

Reference books:

- | | |
|--------------------------------------|-------------------------------------|
| 1. Text Book on Milk & Milk Products | Ranveer R C, Kamble
D K, Patange |
| 2. MILK AND MILK PROCESSING | Herrington B.L. |
| 3. Milk and Milk Products | H. Varnam Alan |
| 4. Principle of Dairy Processing. | Warner James N |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
MILK AND MILK PRODUCTS TECHNOLOGY
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

SECTION – B

Answer **all** questions. Each question carries **TEN** marks

(5*10 =50)

1. a) or
b)
2. a) or
b)
3. a) or
b)
4. a) or
b)
5. a) or
b)

ANDHRA UNIVERSITY
B.vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
MEAT PRODUCTION AND ABATTOIR PRACTICES
(Credits 4+2=6)

UNIT - 1

Prospect of meat industry in India. Nutritive value of meat.

UNIT - 2

Preservation of meat and poultry; drying, salting, curing, smoking, chilling, freezing, canning, irradiation and chemicals. Ageing of meat.

UNIT - 3

Modern processing technologies of meat and meat products. Packaging of meat and meat products. Formulation and development of meat; kabab, sausages, meat balls or patties, tandoori chicken, soup, pickles

UNIT - 4

Layout and management of rural, urban and modern abattoirs. HACCP concepts in abattoir management. FSSAI standards on organization and layout of abattoirs. Animal welfare and pre-slaughter care, handling and transport of meat animals including poultry.

UNIT - 5

Procedures of Ante-mortem and post mortem examination of meat animals. Slaughtering and dressing of meat animals and birds. Evaluation, grading and fabrication of dressed carcasses

PRACTICALS :

Visit to slaughter houses or meat plants.

Packaging of meat, poultry and shell eggs and their products.

Estimation of deteriorative changes in meat and meat products.

Preparation of comminuted and non comminuted meat and poultry products.

Evaluation of external and internal egg quality and preservation technique of eggs

Methods of ritual and humane slaughter, flaying and dressing of food animals including poultry.

Carcass evaluation.

Determination of meat yield, dressing percentage, meat bone ratio and cut up parts.

Preparation of different abattoir byproducts.

Reference books:

1. Text book On Abattoir Practices & Animal By products Technology J Sahoo, M K Chatli
2. Modern Abattoir Practices & Animal Byproducts Technology Sharma
3. Text Book on Abattoir Practices and Animal By Products Technology Jhari Sahoo and Manish Kumar Chatli
4. Abattoir Practices By-Products And Wool Technology V P Singh and Neelam Sachan

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
MEAT PRODUCTION AND ABATTOIR MANAGEMENT
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

SECTION – B

Answer **all** questions. Each question carries **TEN** marks

(5*10 =50)

1. a) or
 b)
2. a) or
 b)
3. a) or
 b)
4. a) or
 b)
5. a) or
 b)

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
PRINCIPLES OF DAIRY CHEMISTRY AND DAIRY MICROBIOLOGY
(Credits 4+2=6)

UNIT - 1

Nutritional importance – Introduction - Milk Composition Milk Constituents - Factors Affecting the Composition of Milk Flavours and Off- Flavours Related to Milk Nutritive Value of Milk

UNIT - 2

physio-chemical properties of milk - Objectives – Introduction - Density and Specific Gravity - Viscosity Surface - Tension - Refractive Index

UNIT - 3

Freezing Point - Boiling Point - Specific Heat - Acidity -Ph - Buffering Action Oxidation - Reduction –preservatives, neutralizers and adulterants in milk and their detection - thermal processing of milk

UNIT - 4

Heat Processing of Milk - Effect of Heat on Milk - Freeze Processing of Milk - Enzymes in Relation to Processing

UNIT – 5

Introduction to microbiology - Micro organisms found in milk – Bacteria – Virus – Fungi – significance of micro organisms in the context of dairy industry – enumeration of different types of micro organisms commonly found in milk – their growth characteristics.

PRACTICALS:

Assessing the chemical composition of milk samples.
Assessing the nutritive values of milk samples.
Enumeration of different micro organisms commonly found in milk.
Usage of pycnometer and lactometer.
Usage of refractometer.

Reference books:

Jenness R and Patton S. (1959) Principles of Dairy Chemistry
Ling E.R. (1956) A text Book of Dairy Chemistry Vol 1 & 2 London.
Webb B.H. and Johnson, A.H (1979) Fundamentals of Dairy Chemistry,
Rai, M.M.(1964) Dairy Chemistry and Animal Nutrition,
Mathur M.P. Datta Roy, D, and Dinakar (1999)

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
PRINCIPLES OF DAIRY CHEMISTRY AND DAIRY MICROBIOLOGY
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

Section - A

Answer any FIVE questions. Each question carries equal marks. (5x5=25)

1. Give the composition of cow and buffalo milk.
2. Explain in detail physio- chemical properties of milk.
3. Explain in detail about freezing point & boiling point of milk.
4. Explain how colostrum milk is different from normal milk?
5. State hydrolytic rancidity and its control.
6. Give in brief about factors affecting the composition of milk.
7. Explain about thermal processing of milk.
8. Enumerate in detail different types microorganisms found in milk.

Section – B

Answer all the questions. Each question carries TEN marks (5x10=50)

1. Indicate the growth characteristic various microbes in milk.
(or)
Explain in detail the significance of microbes in the context of dairy industry.
2. Write in detail about freeze processing of milk & effect of enzymes on it.
(or)
Write the bacterial & viral contaminants of milk?
3. What is the procedure to assess the chemical composition of milk samples.
(or)
Explain in detail the usage of pycnometer and lactometer
4. What is buffering action. Explain in detail.
(or)
Explain in detail about preservatives, neutralisers and adulterants in milk
5. What is heat processing of milk. Explain effect of heat on milk in detail.
(or)
Explain in detail about the density and specific gravity of milk.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
LABORATORY DIAGNOSTIC TECHNIQUES
Credits (4+2=6)

UNIT - 1

Microscope and usage of different microscopes.

Sterilization and methods of sterilization.

UNIT - 2

Media – various ingredients used for preparation of culture media. Different media for bacterial and fungal cultures. Tissue cultures Various stains and dyes used for diagnostic work. Different staining methods.

UNIT - 3

Antigens and antibodies. Serodiagnostic technics used for identification of antigen/antibody.

UNIT - 4

Methods of preparation of permanent slides. Collection, preservation and despatch of various materials for parasitological examinations.

UNIT - 5

Examination of parasitic specimens. Examination of pathological specimens. Haematological examinations. Biochemical analysis.

PRACTICALS

Identification of glass ware chemicals and laboratory equipment.

Preparation of normal and standard solutions.

Samples preparation for chemical analysis.

Preparation of slides for parasitic and pathological examinations.

Staining procedures for different specimens.

Collection and processing of specimens for clinical examination.

Clinical haematology

Preparation of permanent slides and museum specimens.

Reference books:

- | | |
|---|--|
| 1. Veterinary Laboratory Diagnosis | Chauhan RS |
| 2. Veterinary Laboratory Diagnosis | Sriraman |
| 3. Veterinary Technician's Handbook of Laboratory Procedures | Brianne Bellwood and.Melissa Andrasik Catton, John Wiley |
| 4. Veterinary Laboratory Medicine Clinical Biochemistry and Haematology | Morag G. Kerr , John Wiley |
| 5. Veterinary clinical diagnostic technology | Prasad B |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
II Year – Semester IV
2020-21 Admitted batch
LABORATORY DIAGNOSTIC TECHNIQUES
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

SECTION – B

Answer **all** questions. Each question carries **TEN** marks

(5*10 =50)

1. a) or
 b)
2. a) or
 b)
3. a) or
 b)
4. a) or
 b)
5. a) or
 b)

5th Sem	1.	Veterinary pharmacology	Core subject	4+2=6
	2.	Dairy Plant Management	Core subject	4+2=6
	3.	Fundamentals of Veterinary medicine	Core subject	4+2=6
	4.	Jurisprudence, animal welfare acts and ABC	Core subject	4+2=6
	5.	Basics of Veterinary surgery	Core subject	4+2=6
	6.	Veterinary Gynaecology, obstetrics and AI	Core subject	4+2=6
			Total	24+12=36

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
VETERINARY PHARMACOLOGY
Credits(4+2)

UNIT - 1

Introduction, historical development, branches and scope of Pharmacology. Sources and nature of drugs. Pharmacological terms and definitions, nomenclature of drugs.

UNIT - 2

Principles of drug activity: Pharmacokinetics - Routes of drug administration, absorption, distribution, biotransformation and excretion of drugs.

UNIT - 3

Pharmacodynamics - Concept of drug and receptor, dose-response relationship, terms related to drug activity and factors modifying the drug effect and dosage. Adverse drug reactions, drug interactions

UNIT - 4

Classification of drugs. History, mechanism and stages of general anaesthesia. Inhalant, intravenous and dissociative anaesthetics.

UNIT - 5

Hypnotics and sedatives; psychotropic drugs, anticonvulsants, opioid analgesics, non-steroidal anti-inflammatory drugs, analeptics and other CNS stimulants. Local anaesthetics, muscle relaxants. Euthanizing agents. Fluid therapy.

PRACTICALS

Handling and washing of laboratory wares.

Handling and operation of commonly used laboratory instruments. Concept of good laboratory practices (GLP).

Pharmacy appliances. Principles of compounding and dispensing.

Metrology, systems of weights and measures, pharmacy calculations.

Pharmaceutical processes. Pharmaceutical dosage forms.

Prescription writing, incompatibilities.

Drug standards and regulations, custody of poisons.

Compounding and dispensing of powders, ointments, mixtures, liniments, lotions, liquors, tinctures, emulsions and electuaries.

Demonstration of various chemotherapeutic agents and their dosage forms

Reference books:

- | | |
|---|-------------------------|
| 1. Veterinary Pharmacology | Vallachira
Aravindan |
| 2. Essentials Of Veterinary Pharmacology And Therapeutics | H S
Sandhu |

3. Handbook of Veterinary Pharmacology
4. Veterinary Pharmacology And Toxicology
5. Essentials of Medical Pharmacology

Walter
B.K.Roy
KD Tripathi

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
VETERINARY PHARMACOLOGY
Credits(4+2)

Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5X5 = 25)

1. Write about muscle relaxants.
2. Describe in detail about different stages of general anaesthesia.
3. Write in brief about euthanizing agents .
4. Write a short notes on anti tussives.
5. Describe in detail about antidiarrhoeal drugs.
6. Write a short note about bronchodilators
7. Write about non steroid anti- inflammatory drugs in detail.
8. Classify antiparasitic drugs and explain about benzimidazoles.

SECTION – B

Answer **All** the questions. Each question carries **TEN** marks (5X10 = 50)

1. a. Write about different routes of drug administration.
(or)
b. write about different factors which effect drug action.
2. a. classify intravenous anaesthetics, local anaesthetics
(or)
b. write about fluid therapy.
3. a. Explain in detail about adverse drug reactions.
(or)
b. classify different types of purgatives.
- 4 a. Give classification of pencillins in detail.
(or)
b. classify aminoglycosides in detail.
- 5 a. write in detail about biotransformation and excretion of drugs.
(or)
b. write in detail about drug and receptor, drug - dose response

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
DAIRY PLANT MANAGEMENT
(Credits 4+2=6)

UNIT - 1

Dairy equipment for fluid milk processing – Introduction - The Dairy Plant - Milk Collection or Chilling Centre - Milk Reception and Storage - Pasteurizer and Sterilizer - Homogenizer and Centrifuges - Packaging and Filling - Clean-in-place (CIP) - Cleaning System.

UNIT - 2

Dairy equipment for products processing - Objectives – Introduction - Butter and Cheese Making Equipment - Ice-Cream Making Equipment - Evaporators and Dryers.

UNIT - 3

Ghee Making Equipment - Khoa Making Equipment - Dahi and Lassi Making Equipment - Paneer, Chana & Casein Making Equipment

UNIT - 4

Materials their characteristics and selection of equipment – Objectives – Introduction - Types of Materials - Properties of Materials - Corrosion and its Prevention - Choice of Materials - Milk Handling and Processing Equipment - Selection of Utilities

UNIT - 5

Preventive maintenance of dairy plants and machineries - Principles of Preventive Maintenance Development of Plant Maintenance Programme - Guidelines for Effective Lubrication - Care and Cleaning of SS Surface - Care of Pipes and Fittings - Maintenance of Rubber and Gaskets Dairy Building Sanitation Dairy effluent management.

PRACTICALS:

Visit to milk collection centre
Visit to milk chilling centre.
Visit to various units of dairy plant.
Hands on training in preparation of various milk products.
Handling of different dairy equipment

REFERENCE BOOKS:

Ahmad Tufail. (1990). Dairy Plant Systems Engineering. Kitab Mahal Publisher, Allahabad.
Anantakrishnan. C.P. and Simha N.N. (1987). Dairy Engineering Technology and Engineering of Dairy Plant operation. Laxmi Publications, Delhi

Kessler H.G. (1981). Food Engineering and Dairy Technology. Verlag A. Kessler, P.O.Box 1721, Dairy Engineering Division-8050, Freising (Germany)

Warner James. (1976).
Principles of Dairy Processing. Wiley Eastern Ltd. Publisher, New Delhi.

Warner James N. (1976).
Principle of Dairy Processing. Wiley Eastern Limited Publisher, New Delhi

Newcomer, J.L. (1981).
Preventive Maintenance Manual for Dairy Industry. Venus Trading Co.,
P.O.Box 17. ANAND 388 001.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
DAIRY PLANT MANAGEMENT
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

Section - A

Answer any FIVE questions. Each question carries equal marks. (5x5=25)

1. Describe factors for establishing a dairy plant.
2. Name the facilities available at the collection centre?
3. What are the time and temperature combinations of sterilization process?
4. What is the principle of centrifugation?
5. Explain the operation of churn.
6. Explain process difference in dahi and lassi making.
7. How do we prevent corrosion of metals?
8. Write in detail about Dairy effluent management?

Section – B

Answer all the questions. Each question carries TEN marks. (5x10=50)

1. A) What are the basic equipment used in a dairy plant?
(or)
B) Write various sections of a dairy plant.
2. A) Describe the differences between a separator and a clarifier.
(or)
B) Explain the working of a continuous freezer.
3. A) Explain the working of spray dryer used for milk.
(or)
B) Give the working of a homogenizer and explain what are the advantages of homogenization.
4. A) Explain the working of multipurpose process vat used for dahi making.
(or)
B) Explain the equipment used for making ghee and khoa.
5. A) Distinguish between internal check up and major overhaul.
(or)
B) Describe the importance of proper selection of dairy equipment.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
FUNDAMENTALS OF VETERINARY MEDICINE
Credits(4+2=6)

UNIT – 1

History and scope of Veterinary Medicine, concept of animal diseases.
Concepts of diagnosis, differential diagnosis, treatment and prognosis.

UNIT – 2

General systemic states, hyperthermia, hypothermia, fever, septicemia, toxemia, shock, allergy, anaphylaxis, oedema, coma, anaemia

UNIT – 3

Etiology, clinical manifestations, diagnosis, differential diagnosis, treatment, prevention and control of diseases of cattle, dog, poultry.

UNIT – 4

Diseases of digestive, respiratory, cardiovascular, urinary, nervous, musculoskeletal, haemopoietic, and lymphatic systems, skin.

UNIT – 5

Diagnosis and management of diseases caused by deficiency of iron, copper, cobalt, zinc, manganese, selenium, calcium, phosphorus, magnesium, iodine, vitamin A, D, E, B complex, K and C

PRACTICALS

Collection of history and general clinical examination.

Collection, preservation, packing and dispatch of samples from clinical cases.

Nasogastric and orogastric intubation in animals.

Examination of eye and ear.

Oxygen therapy in veterinary practice.

Gastric and peritoneal lavage.

Collection and examination of cerebrospinal fluid. Blood transfusion

Methods of medication

Reference books:

- | | |
|--|---------------------------------------|
| 5. Text book of clinical veterinary medicine | Dr.Amalendu chakravarthi |
| 6. Small animal internal medicine | Ettinger |
| 7. Large animal internal medicine | Bradford and Smith |
| 8. Hand book for veterinary clinicians | Dr.A.U.Bhikane and
Dr.S.B.Kawitkar |
| 9. A hand book for veterinary physician | V.P. Sapre |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
FUNDAMENTALS OF VETERINARY MEDICINE
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

1. Define fever and list out common causes of fever in livestock.
2. Write a note on Symptoms and treatment of piglet anaemia.
3. Write about causes of Acute gastritis in dog and treatment..
4. Write a note on clinical manifestation seen in Vit-A deficiency in bovines.
5. Write about pica -causes, symptoms and treatment.
6. Write about rickets and Osteomalacia.
7. Write about common causes of itching in dogs.
8. Describe clinical signs of bovine ketosis and it's treatment.

SECTION – B

Answer **All** the questions. Each question carries **TEN**marks (5*10 =50)

1. Write a detailed note on Milk fever in cattle .
(or)
Write a detailed note on Post parturient haemoglobinuria in buffaloes.
2. Write a detailed note on causes of Anaemia in cattle
(or)
Write a detailed note on Acid indigestion in large ruminants.
3. Write in detail about gout in poultry.
(or)
Write about Traumatic Reticulo Pericarditis in bovines.
4. Write a detailed note on Simple indigestion and it's treatment in bovines..
(or)
Write a note on causes , Symptoms and treatment of bloat.
5. Enlist the causes and treatment of enteritis in ruminants.
(or)
Write about hypothyroidism in dogs and it's treatment.

ANDHRA UNIVERSITY
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Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
VETERINARY JURISPRUDENCE, ANIMAL WELFARE ACTS AND
ANIMAL BIRTH CONTROL PROGRAMME
Credits(4+2=6)

UNIT -1

Legal duties of veterinarians, laws related to medicine, evidence, common offences against animals and laws related to these offences. Examination of living and dead animals in criminal cases. Cruelty to animals and bestiality. Legal aspects of examination of animals for soundness, examination of injuries and post-mortem examination. Causes of sudden death in animals.

UNIT -2

Collection and despatch of materials for chemical examination, detection of frauds-doping, alternation of description, bishoping etc. Cattle slaughter and evidence procedure in courts. Provincial and Central Acts relating to animals. Glanders and Farcy Act 1899 (13 of 1899).

UNIT - 3

Dourine Act 1910 (5 of 1910), Laws relating to offences affecting Public Health. Laws relating to poisons and adulteration of drugs. Livestock importation act, liability and insurance. Code of conduct and ethics for veterinarians - the regulations made under the Act.

UNIT -4

Animal welfare organizations and its role in animal welfare, welfare assessment, behaviour and animal welfare, principles and philosophy of animal welfare, animal welfare ethics, improving animal welfare through legislation and incentives, assessment of physiological, behavioural, disease and production measures of animal welfare.

UNIT -5

Assessing welfare in practice, environment enrichment, euthanasia, welfare of animals used in education and research and transportation, religion and animal welfare, Human and animal welfare conflict, veterinary disaster management, human-animal interactions, economics and animal welfare and veterinarians as animal welfare educator.

Animal birth control programme.

PRACTICALS

Visit to society for prevention of cruelty to animals, Visakhapatnam.

Animal birth control programme.

Visit to nearest livestock shandy.

Enumeration of stray cattle and dogs.

Identification of strategic locations for water troughs for stray animals.

Reference books:

- | | |
|---|--|
| 1. Veterinary ethics and jurisprudence | Kirithi Dua |
| 2. Veterinary jurisprudence | S.N. Sharma, A.K. Gehlot,
R.K. Tanwar |
| 3. Guidelines and SOP issued by animal welfare board of India(AWBI) . | |

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2020-21 Admitted batch
VETERINARY JURISPRUDENCE, ANIMAL WELFARE ACTS AND
ANIMAL BIRTH CONTROL PROGRAMME
(Credits 4+2=6)

Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

1. Enlist common causes of sudden death in livestock.
2. Write a note on Legal duties of Veterinarian.
3. Explain about common offences against the animals.
- 4 .Write a note on adulteration of milk .
5. Write a note on adulteration of meat.
6. Mention the common animal welfare organizations in India
7. Write note on Bestiality
8. Various methods of Cruelty against the animals.

SECTION – B

Answer **All** the questions. Each question carries **TEN** marks (5*10 =50)

1. Write a detailed note on role of Animal Welfare Organizations.
(or)

Discuss about guideline of transportation of animals.

2. Write about VCI act and Ethics of Veterinarian
(or)

Animal Birth control programme

3. Write about Animal Welfare Measures to be taken in Disasters
(or)

Write in detail about procedure and guidelines of conducting post – mortem examination in vetero legal cases

4. Write a detailed note on Cow slaughter act in India.
(or)

Write an essay on Animal welfare in research and education.

5. Role of Veterinarian in Animal Welfare.
(or)

Write about various types of wounds in animals.

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
BASICS OF VETERINARY SURGERY
Credits(4+2=6)

UNIT - 1

Introduction: Historical perspective, Definitions. classification of surgery.
Tenets of Halsted.

UNIT - 2

History taking, physical examination, clinico-pathological testing.
Pre-operative, intra-operative and post-operative considerations

UNIT - 3

Sterilization and disinfection: Definitions, surgical sterilization, various methods of sterilization (Heat, chemical and radiations etc.), disinfections.

UNIT - 4

Sutures: Definitions, suturing, factors influencing suturing, characteristics of an ideal suture material, types of suture material-absorbable and non-absorbable, surgical knots, various suture patterns-apposition, eversion, inversion and special.

UNIT - 5

Basic surgical affections: Definitions, classification, diagnosis and treatment of abscess, tumour, cyst, hernia, haematoma, necrosis, gangrene, burn and scald, frost bite and surgical affections of muscles, artery and vein, sinus and fistula.

Fractures.

Major surgeries of cattle and dogs.

PRACTICALS

Introduction to layout of operation theatre and surgical unit.

Introduction of common surgical equipment and instruments.

Suture materials, surgical knots and suture patterns.

General examination of surgical patients. Preparation of surgical patients.

Other operation theatre routines like sterilization, preparation of theatre,

Surgeon and surgical pack.

Bandaging and basic wound management Demonstration (or Audio visual aids) of surgery, control of haemorrhage and suturing

Reference books:

A Textbook On Veterinary Surgery and Radiology

S.K NANDI

Essentials of Veterinary surgery

Venugopalan S

Dollor's Veterinary surgery

Oconnor JJ

Veterinary surgery

E R Frank

Veterinary Surgery

Spencer A Johnston

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch
BASICS OF VETERINARY SURGERY
Credits(4+2=6)

Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

1. Halsted principles of surgery
2. What is an abscess and how it is differentiated from Cyst, Haematoma, Tumour and hernia.
3. Write in detail about preparation of patient before surgery ?
4. Define sterilization? Write in detail about various methods of sterilization .
5. Write in detail about post operative care of animal.
6. Classify wounds? List out the factors responsible for delayed wound healing.
7. Write detail about Anamnesis.

SECTION – B

Answer All the questions. Each question carries TEN marks (5*10 = 50)

- 1.a. Non absorbable synthetic suture materials
(or)
b. Treatment of maggot wounds
2. a. Different methods of haemostasis
(or)
b. write in detail about fractures and also classify them.
- 3.a Treatment for Burns
(or)
b. write down castration protocol in large animals.
- 4.a write down various surgical affections of pelvic cavity of dog
(or)
b. Umbilical hernia
- 5.a. write down various surgical affections of abdominal cavity of cattle
(or)
b. write in detail about absorbable suturing material

ANDHRA UNIVERSITY
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Animal husbandry & Dairying
III Year – Semester V
2021- Admitted batch
VETERINARY GYNAECOLOGY, OBSTETRICS AND AI
Credits(4+2=6)

UNIT -1

Anatomy of female and male reproductive tract of live stock. Puberty and sexual maturity.

UNIT - 2

Oestrous cycle and factors affecting the length of the oestrous cycle-
Aberrations of oestrus and their clinical management and problems in
oestrus detection and oestrus detection aids.

UNIT -3

Pathological affections of ovary, uterine tubes, uterus, cervix , vagina and
external genitalia and male genitalia.

UNIT -4

Pregnancy diagnosis- Duration of pregnancy -Factors affecting gestation
length.

UNIT -5

Care and management of pregnant animals. Stages of parturition. Forms of
female and male infertility in bovines.
Artificial insemination techniques in farm and pet animals

PRACTICALS

Study of female and male genital organs using slaughter house specimens
Oestrus detection in farm animals
Techniques of rectal palpation of female reproductive tract
Gynaecological equipment and instruments
Vaginal exfoliative cytology and vaginoscopy
AI equipment and technique
Vasectomy and castration
Handling and maintenance of LN2 containers

Reference books:

- | | |
|--|--------------------------|
| 1. Veterinary obstetrics and genital diseases | Stephen |
| J.Roberts | |
| 2. Applied veterinary gynaecology and obstetrics | Dr.Pradeep |
| kumar | |
| 3. Veterinary reproduction and obstetrics | Geoffrey H. |
| Arthur | |
| 4. Veterinary Reproduction and Obstetrics | David E. Noakes, Timothy |
| J. Parkinson & Gary C. W. | |

ANDHRA UNIVERSITY
B.Vocational course
Animal husbandry & Dairying
III Year – Semester V
2020-21 Admitted batch

VETERINARY GYNAECOLOGY, OBSTETRICS AND AI
(Credits 4+2=6)
Model paper

Time: 3hrs

Maximum: 75marks

SECTION – A

Answer any **FIVE** questions. Each question carries equal marks. (5*5 =25)

1. Write in detail regarding factors effecting gestational length.
2. Explain regarding factors that influence puberty and sexual maturity.
3. Write about different techniques used for pregnancy diagnosis in animals.
4. Discuss in detail about estrus cycle in bovines.
5. Write about the factors that influence estrus behaviour in buffaloes.
6. Draw the diagram of buffaloes female reproductive tract .
7. Discuss about procedure of artificial insemination in cattle.
8. Discuss about procedure of artificial insemination in bitch.

SECTION – B

Answer **All** the questions. Each question carries **TEN** marks (5*10 =50)

1. A)Write in detail about factors effecting gestation lenth.
(or)
B)Write about technique of vaginal exfoliative cytology in bitches.
2. A)Discuss about care and management of pregnant animals.
(or)
B) Explain about theories of parturition(physiology) in cattle.
3. A)Disucuss about estrus detection aids used for cattle.
(or)
B)Write about handling and maintenance of LN2 containers.
4. A)Discuss in detail regarding Impotentia generondi
(or)
B)Enumerate different gestational periods in different species
5. A)Discuss in detail regarding Impotentia coeundi.
(or)
B)Draw diagrams of different cells exposed during vaginal cytology in bitches.

6th Sem	1.	Internship in Veterinary dispensaries	Field work	0+6=6
	2.	Visakha Dairy		0+2=2
	3.	Zoological park		0+2=2
	4.	Avian hatchery		0+3=3
	5.	Mechanised slaughter house		0+2=2
	6.	Pig breeding station		0+2=2
	7.	Cattle feed mixing plant		0+2=2
	8.	Animal birth control programme		0+3=3
			Total	0+22=22

1. **INTERNSHIP IN VETERINARY DISPENSARIES:** As part of field work students will be allotted to different veterinary dispensaries. They will have hands on training in respect of treatment of ailing animals, all surgical and gynaecological procedures, preventive vaccination programmes etc. They will also have acquaintance with all the calendar of operation of AH department. They will maintain case records of all the cases attended for treatment.
2. **VISAKHA DAIRY:** Students will be involved in all dairy operations from collection of milk from the villages, transportation of milk to bulk milk chilling centres, processing, packaging, distribution and in preparation various milk products. Besides they will be involved in marketing of milk and milk products.
3. **ZOOLOGICAL PARK:** In the zoological park students will be appraised on different procedures that will be adopted in relation to captive, wild and zoo animals. Various managerial and feeding practices of zoo animals will be dealt thoroughly.
4. **AVIAN HATCHERY:** Students will have exposure in operating poultry incubators and hatchers. They will also gain knowledge of various procedures that are being adopted in avian hatchery from setting of eggs in incubators to hatching of chicks.
5. **MECHANISED SLAUGHTER HOUSE:** Students will have hands on training in humane slaughter of animals. Various procedures followed in mechanised

slaughter house will be dealt thoroughly. They will have acquaintance with various machineries in mechanised slaughter house.

6. **PIG BREEDING STATION:** The breeding operations that are being followed and the problems that are encountered in pig breeding will be dealt in this component of field work. The various remedial measures that are practiced in effective pig breeding and in reducing piglet mortality will be studied thoroughly.
7. **CATTLE FEED MIXING PLANT:** Students will have exposure in formulation and preparation of various rations pertaining to livestock. They will have acquaintance with the machinery of feed mixing plant. Will acquire knowledge of procuring raw material and different feed ingredients used for preparing feed for different purposes , different species and different age groups.
8. **ANIMAL BIRTH CONTROLL PROGRAMME:** The knowledge on standard operating procedures(SOPs) as specified by the Animal welfare board of India for conducting animal birth control programme will be imparted. Students will have exposure in humane catching of stray dogs, their housing, preoperative activity, conducting birth control operation, post operative care and relocating the dogs in their original places.
