



॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड

Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

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विद्यापीठ अनुदान आयोगाने शैक्षणिक वर्ष २०२०-२१ पासून मान्यता दिलेल्या व्होकेशनल कोर्सेसचे (बी.व्होक पदवी, अँडव्हॉस डिप्लोमा, डिप्लोमा व सर्टिफिकेट) अभ्यासक्रम शैक्षणिक वर्ष २०२०-२१ पासून लागू करणे बाबत.

परिपत्रक

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, विद्यापीठ अनुदान आयोगाने शैक्षणिक वर्ष २०२०-२१ पासून मान्यता दिलेल्या व्होकेशनल कोर्सेसच्या (बी. व्होक पदवी, अँडव्हॉस डिप्लोमा, डिप्लोमा व सर्टिफिकेटस) अभ्यासक्रमांना मा. विद्यापरिषदेच्या दिनांक २१ सप्टेंबर २०२१ रोजीच्या बैठकीतील विषय क्रमांक ५/५२-२०२१ च्या ठरावानुसार C.B.C.S. (Choice Based Credit System) Pattern नुसारचा खालील अभ्यासक्रमांस मान्यता देण्यात आली आहे.

1. B. Voc. Chemical & Petrochemicals Applied Analytical Chemistry. I year
2. B. Voc. Degree in Dairy Technology I year
3. B. Voc. Degree in Dairy Farming I year
4. Certificate Course in Dairy Processing Equipement operator.

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या www.srtmun.ac.in या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी. ही विनंती.

जा.क्र.:शैक्षणिक-१/परिपत्रक/व्होकेशनल अभ्यासक्रम/N-
२०२०-२१/१५१

दिनांक : ०४.१०.२०२१

प्रत माहिती व पुढील कार्यवाहीस्तव :

- १) मा. मा अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
- २) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
- ३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
- ४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
- ५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
- ६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

स्वाक्षरित

सहा.कुलसचिव

शैक्षणिक (१-अभ्यासमंडळ) विभाग

**SWAMI RAMANAND TEERTH MARATHWADA
UNIVERSITY, NANDED**



UGC Sanctioned Vocational Course

Syllabus for,

B. Voc. Degree in Dairy farming (CBCS Pattern)

First Year Semester I & II

Faculty: Science and Technology

(w.e.f. 2021-22)

Table: Indicating Eligibility, Duration & Total Credits.

Exit Points /Awards	Eligibility	Normal Duration	Skill Component Credits	General Education Credits	Total Credits for Award	NSQF Level	Medium of instruction
B. Voc Degree	12 th pass or Diploma in relevant field after 10 th	Six semester	108	72	180	7	English

About the Course:

Government of India, taking note of the requirement for skill development among students launched National Vocational Education Qualification Framework (NVEQF) which was later on assimilated into National Skills Qualifications Framework (NSQF). Various Sector Skill Councils (SSCs) are developing Qualification Packs (QPs), National Occupational Standards (NOSs) and assessment mechanisms in their respective domains, in alignment with the needs of the industry.

In view of this, the UGC implemented the scheme of Community Colleges from 2013-14 in pilot mode on the initiative of the MHRD. Thereafter, realizing the importance and the necessity for developing skills among students, and creating work ready manpower on large scale, the Commission decided to implement the scheme of Community Colleges as one of its independent schemes from the year 2014-15. The Commission also launched another scheme of B.Voc. Degree programme to expand the scope of vocational education and also to provide vertical mobility to the students admitted into Community Colleges for Diploma programmes to a degree programme in the Universities and Colleges. While these two schemes were being implemented, it was also realized that there is a need to give further push to vocational education on a even larger scale. Accordingly, ‘Deen Dayal Upadhyay Centres for Knowledge Acquisition and Up gradation of Skilled Human Abilities and Livelihood (KAUSHAL)’ was also incorporated. Since all these three provisions serve a common purpose, all these schemes are merged into a single scheme for providing skill based education under National Qualification Framework.

Type of Courses and Awards: There will be full time credit-based modular programmes, wherein banking of credits for skill and general education components shall be permitted so as to enable multiple exit and entry. The multiple entry and exit enables the learner to seek employment after any level of Award and join back as and when feasible to upgrade qualifications / skill competencies either to move higher in the job profile or in the higher educational system. This will also provide the learner an opportunity for vertical mobility to second year of B.Voc degree programme after one year diploma and to third year of B.Voc degree programme after a two year advanced diploma. The students may further move to Masters and Research degree programmes mapped at NSQF Level 8 – 10.

Type of Courses and Awards

There will be full time credit-based modular programmes, wherein Dairy sector for skill and general education components shall be permitted so as to enable multiple exit and entry. The multiple entry and exit enables the learner to seek employment after any level of Award and join back as and when feasible to upgrade qualifications / skill competencies either to move higher in the job profile or in the higher educational system. This will also provide the learner an opportunity for vertical mobility to second year of B.Voc degree programme after one year diploma and to third year of B.Voc degree programme after a two year advanced diploma. The students may further move to Masters and Research degree programmes mapped at NSQF Level 8 – 10.

Aims and Objectives:

The aims and objectives of the scheme of Vocational programme under NSQF are;

- (i) To provide judicious mix of skills relating to a profession and appropriate content of general education.
- (ii) To ensure that the students have adequate knowledge and skills, so that they are work ready at each exit point of the programme.
- (iii) To provide flexibility to students by means of pre-defined entry and multiple exit points.
- (iv) To integrate NSQF within the undergraduate level of higher education in order to enhance employability of the graduates and meet industry requirements.
- (v) Such diploma graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global workforce.
- (vi) To provide vertical mobility to students coming out of 10+2 with vocational subjects and Community Colleges.

Objectives of the B. Voc in Dairy Farming:

- I. The course is planned to acquaint the students with Dairy farming aspects in livestock and poultry so as to prepare themselves for future Prospectus
- II. Geographical distribution & trends in livestock population growth
- III. Role of Cattle & Buffalo Breeds in national economy
- IV. Their socio-economic aspects
- V. Role of NDDB, Co-Op. Society & Role of operation flood programme
- VI. Sanitary and hygienic conditions in Dairy farm
- VII. Establishment of Dairy Farm
- VIII. Study of various diseases and disorders in livestock
- IX. Milk, its composition, properties & nutritive Values
- X. Milk utilization trends in India

Outcome of the course :

After the successful completion of this course the students will be able to:

- 1) To Know farming aspects in livestock so as to prepare themselves for future prospects.
- 2) Understand the role of livestock in national economy and their socio-economic aspects.
- 3) Learn the sanitary and hygienic conditions in animal farm.
- 4) Establishment of dairy farm.
- 5) Understand the factors affecting quality and quantity of milk.
- 6) Differentiate between clean and safe milk.
- 7) To know the nutritive value of milk.
- 8) To know procurement of milk.
- 9) Understand the legal standards like HACCP, FSSAI etc.
- 10) Differentiate the healthy and sick animals.
- 11) Understand the common terminologies used in animal treatment like ointment, tonics, lotions etc
- 12) To Know the diseases of cow and buffalo
- 13) This program shall train and orient the students for industrial Dairy Technology skills and serve as human resource for the industries and other organizations.
- 14) The programme also has a strong interdisciplinary component. Emphasis is given on the experimental learning through hands-on laboratory exercises, field trips and assignments.
- 15) This skill oriented course will provide job opportunities and additional specific skills to the students for self-employability through the development of their own enterprises

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SYLLABUS OUTLINE

	Paper No.	Course Number	Course Title	Hr/ Week	Type of Course	Credit	Marks		Total	
							ESA	CIA		
Sem.I	General Education Component									
	Paper-I	BAAGE -111	Communication Skills	4	GE	4	75	25	100	
	Paper-II	BAAGE -112	Basics of Computer	4	GE	4	75	25	100	
	Paper-III	BAAGE -113	*Activity based on Paper-I & II	1	GE	1	-	25	25	
	Skill Courses									
	Paper-IV	DFTH-111	Introduction to Dairy farming	4	CC	4	75	25	100	
	Paper-V	DFTH-112	Perspective of livestock farming in India.	4	CC	4	75	25	100	
	Paper-VI	DFTH-113	Establishment of Dairy farm	4	CC	4	75	25	100	
	Practical Skill Courses									
	Paper-VII	Practical Based on DFPR-111				PR	3	50	25	75
	Paper-VIII	Practical Based on DFPR-112				PR	3	50	25	75
	Paper-IX	Practical Based on DFPR-113				PR	3	50	25	75

	Paper No.	Course Number	Course Title	Hr/ Week	Type of Course	Credits	Marks		Total	
							ESA	CIA		
Sem.II	General Education Component									
	Paper-X	BAAGE -124	Personality Development	4	GE	4	75	25	100	
	Paper-XI	BAAGE -125	Environmental Study	4	GE	4	75	25	100	
	Paper-XII	BAAGE -126	*Activity based on Paper-X & XI	1	GE	1	-	25	25	
	Skill Courses									
	Paper-XIII	DFTH-124	Farm Animal Management	4	CC	4	75	25	100	
	Paper-XIV	DFTH-125	Farm Animal health Management	4	CC	4	75	25	100	
	Paper-XV	DFTH-126	Animal Nutrition	4	CC	4	75	25	100	
	Practical Skill Courses									
	Paper-XVI	Practical Based on DFPR-124			3	PR	3	50	25	75
	Paper-XVII	Practical Based on DFPR-125			3	PR	3	50	25	75
	Paper-XVIII	Practical Based on DFPR-126			3	PR	3	50	25	75
	Summer	Compulsory Activity: 2 Months Industrial Training during Summer Vacation								

	Paper No.	Course Number	Course Title	Hr/Week	Type of Course	Credit	Marks		Total
							ESA	CIA	
Sem. III	General Education Component								
	Paper-XIX	BAAGE -237	ICT-Skill	4	GE	4	75	25	100
	Paper-XX	BAAGE -238	Entrepreneurship Development	4	GE	4	75	25	100
	Paper-XXI	BAAGE -239	*Activity based on Paper-XIX & XX	1	GE	1	-	25	25
	Skill Courses								
	Paper-XXII	DFTH-237	Animal Reproduction	4	CC	4	75	25	100
	Paper-XXIII	DFTH-238	Traditional Dairy Products	4	CC	4	75	25	100
	Paper-XXIV	DFTH-239	Dairy Chemistry	4	CC	4	75	25	100
	Practical Skill Courses								
	Paper-XXV	Practical Based on DFPR-237		2	PR	2	50	-	50
	Paper-XXVI	Practical Based on DFPR-238		2	PR	2	50	-	50
	Paper-XXVII	Practical Based on DFPR-239		2	PR	2	50	-	50
	Paper-XXVIII	Report on Summer Activity		-	PR	3	75	-	75

	Paper No.	Course Number	Course Title	Hr/Week	Type of Course	Credits	Marks		Total
							ESA	CIA	
Sem. IV	General Education Component								
	Paper-XXIX	BAAGE -2410	Agriculture Extension	4	GE	4	75	25	100
	Paper-XXX	BAAGE -2411	Agriculture Business Management	4	GE	4	75	25	100
	Paper-XXXI	BAAGE -2412	*Activity based on Paper-XXIX & XXX	1	GE	1	-	25	25
	Skill Courses								
	Paper-XXXII	DFTH-2410	Ice-Cream and Fat Rich Dairy Products	4	CC	4	75	25	100
	Paper-XXXIII	DFTH-2411	Fermented Dairy Products	4	CC	4	75	25	100
	Paper-XXXIV	DFTH-2412	Dairy Microbiology	4	CC	4	75	25	100
	Practical Skill Courses								
	Paper-XXXV	Practical Based on DFPR-2410		3	PR	3	50	25	75
	Paper-XXXVI	Practical Based on DFPR-2411		3	PR	3	50	25	75
	Paper-XXXVII	Practical Based on DFPR-2412		3	PR	3	50	25	75
	Summer	Compulsory Activity: 2 Months Industrial Training during Summer Vacation							

	Paper No.	Course Number	Course Title	Hr/ Week	Type of Course	Credit	Marks		Total
							ESA	CIA	
Sem. V	General Education Component								
	Paper-XXXVIII	BAAGE -3513	Marketing Skill management.	4	GE	4	75	25	100
	Paper-XXXIX	BAAGE -3514	Climate Change and Agriculture	4	GE	4	75	25	100
	Paper-XXXX	BAAGE -3515	*Activity based on Paper-XXXVIII & XXXIX	1	GE	1	-	25	25
	Skill Courses								
	Paper-XXXXI	DFTH-3513	Processing of Condensed and Dried Milk Products	4	CC	4	75	25	100
	Paper-XXXXII	DFTH-3514	Food safety and Quality Assurance	4	CC	4	75	25	100
	Paper-XXXXIII	DFTH-3515	Dairy Process Engineering	4	CC	4	75	25	100
	Practical Skill Courses								
	Paper-XXXXIV	Practical Based on DFPR-3513		2	PR	2	50	-	50
	Paper-XXXXV	Practical Based on DFPR-2514		2	PR	2	50	-	50
	Paper-XXXXVI	Practical Based on DFPR-2515		2	PR	2	50	-	50
	Paper-XXXXVII	Report on Summer Activity		-	PR	3	75	-	75

	Paper No.	Course Number	Course Title	Hr/ Week	Type of Course	Credit	Marks		Total
							ESA	CIA	
Sem. VI	Paper-XXXXVIII		3 Months Industrial Training	-	CC	30	750		750
		Marks Distribution	Training completion, certificate and seminar			20	500		500
			Report Writing			05	125		125
			Viva-Voce			05	125		125

- Note:** 1. The ESA part of practical and Industrial Project should be completely assessed and evaluated by external examiner.
2. The external examiner should be appointed for practical and industrial training ESA part.
3. * Sign denotes that internal assessment should be based on seminar/Interview

skill/expected component of the course.

4. Student should submit the Report based on summer industrial training.

5. For VI semester students can opt Elective-I or Elective-II pattern.

6. Student should submit the certificate of three months industrial training from respective industries.

ESA: End Semester Assessment,

CIA: Continues Internal Assessment,

GE: General Education Component,

CC: Core Skill Courses,

PR: Practical Skill Courses,

CIA of 25 Marks (Theory): 15 Marks for college level internal test & 10 Marks for Assignment,

CIA of 25 Marks (Practical): 15 Marks for college level internal practical test & 10 Marks for Record Book and Field Note Book submission.

Swami Ramanand Teerth Marathwada University, Nanded
Certificate, Diploma, Advanced Diploma and B.Voc Degree
(Agriculture and Allied Faculties)

First Year (Semester I)

Paper-I: Communication Skills (BAAGE-111)

Maximum Marks: 100

Credits: 4

Periods: 45

Unit I: Basic Grammar: (13 Periods)

Introduction, Grammar Word Classes (Open & Closed), Sentence – Kinds – Transformation, Phrase, Clause and its kinds, Simple, Complex & Compound sentences, (Only definitions & Structure), Tenses - Use of verbs in the Sentences

Unit II: Vocabulary: (10 Periods)

Morphology, Synonyms & Antonyms, One Word Substitution, Homophones & Homonyms

Unit III: Communication Skills: (10 Periods)

Definition & Types, Communication Cycle & Barriers, Principles for Effective Communication, Varieties in English (Indian, British & American).

Unit IV: Writing Skills: (12 Periods)

Letters (Formal & Informal), Report Writing (Scientific and Formal), Memorandum, Curriculum Vitae, Personal Employment Interview, Group Discussion. Phonetics: 44 sounds, consonants, vowels & Diphthongs, Transcription of words, Accent, Syllable cluster and Intonation.

Reference Books:

1. Developing of Communication Skills -Krishna Mohan & Meera Banerji
 2. A Practical English Grammar A.J. Thomson –Oxford
 3. Mastering English Grammar – S.H.Burton
 4. Technical Communication- Raman Sharma- Oxford
 5. Written Communication in English – Sarah Freeman Orient Longman Pvt. Ltd.
 6. A Course in Phonetics & Spoken English -J.Sethi & P.V.Dhamija
 7. Radiance-Tense
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Swami Ramanand Teerth Marathwada University, Nanded

B.Voc Degree (Agriculture and Allied Faculties)

First Year (Semester I)

Paper-II Basics of Computer (BAAGE-112)

Maximum Marks: 100

Credits: 4

Periods-45

Unit I: Basics of Computer: (10 Periods)

Introduction to computer, Definition and Types. Basic Applications of Computer; Components of Computer System, Central Processing Unit (CPU), VDU, Keyboard and Mouse, Other input/output Devices, Computer Memory, Concepts of Hardware and Software; Connecting keyboard, mouse, monitor and printer to CPU and checking power supply.

Unit II: Computer Operation: (13 Periods)

Operating Computer using GUI Based Operating System: What is an Operating System; Basics of Popular Operating Systems; The User Interface, Using Mouse; Using right Button of the Mouse and Moving Icons on the screen, Use of Common Icons, Status Bar, Using Menu and Menu-selection, Running an Application, Viewing of File, Folders and Directories, Creating and Renaming of files and folders, Opening and closing of different Windows;

Unit III: MS-Office: (10 Periods)

Introduction to MS-Word: Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check, language setting and thesaurus; Printing of word document. MS- Excel, Power Point. Internet concept & definition, WWW, URL, http, Browsers, Search engines etc.

Unit IV: Computer Networking: (12 Periods)

Basic of Computer networks; LAN, MAN, WAN; Concept of Internet; Applications of Internet. Communications and collaboration: Basics of electronic mail; Getting an email account; Sending and receiving emails; Accessing sent emails; Using Emails; Document collaboration; Instant Messaging; Netiquettes.

Reference Books:

1. Introduction of Computer Science- P.ushman & R. Mata Toledo, McGraw Hill
 2. Computer fundamentals – P.K. Sinha – BPB New Delhi.
 3. Microsoft Office – 2000Complete – BPB Practicals
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Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Farming

First Year (Semester I)

Paper-IV: Introduction to Dairy Farming (DFTH-111)

Marks: 100

Credits: 4

Periods: 45

Unit I

12 periods

1. History of domestication of dairy animals
2. Introduction of farm animal
3. Common terminology used in dairy farming
4. Taxonomic classification of farm animals

Unit II

11 periods

1. Animal husbandry in India
2. Present and future scope of dairy farming
3. Dairy farming region in India
4. Cattle and buffalo in India

Unit III

11 periods

1. Cattle and Buffalo; their production potential role in India
2. Economical roll of cattle and buffalo in India
3. Animal adaptation in India
4. Study of dairy farming systems in India

Unit IV

11 periods

1. Animal behavior pattern in India
2. Cattle and buffalo development through first five year plan
3. Key village scheme
4. Operation flood first

Reference books :

- | | |
|------------------------------------|--------------------|
| 1. A Text book of Animal Husbandry | G.C.Banrjee |
| 2. Hand Book of Dairy Science | K.C.Mahanta |
| 3. Operation flood programme | Shanti George |
| 4. Farm Animal management | Thomas and Shastry |

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Farming

First Year (Semester I)

Paper-V: Perspective of Livestock farming in India (DFTH-112)

Marks: 100

Credits: 4

Periods: 45

Unit –I

12 periods

1. Introduction to livestock farming in India
2. Animal husbandry regions in India
3. History of livestock domestication
4. Early history, role of military farms
5. Development through five year plans

Unit –II

11 periods

1. Animal adaptation and behavioural patterns
2. Livestock distribution and trends in cattle,&buffalo
3. Common terminologies used in Animal husbandry and Dairying
4. Key village scheme
5. Agro-climatic zones and regions of India

Unit - III

11 periods

1. Principles of animal management
2. General management – functions and tools used in farm animal management
3. Agriculture and Dairy farming systems in India
4. Role of NDDDB in Dairy development

Unit – IV

11 periods

1. Resources and infrastructure for livestock industry in India
2. Indian livestock and their production potential in India
3. Role of livestock in national economy
4. Milk production, utilization pattern in India

Reference Books:

- | | |
|---|-------------------------------------|
| 1. Farm animal management and poultry production | N.S.R. Shastry |
| 2. Dairy Bovine Production | Thomas and Shastry |
| 3. Management of Livestock Production | Satish Kulkarni |
| 4. A Textbook of Livestock production and Management: Chauhan, D.S., Thombare, B.M.Mitkari R., Rotte S.G. | |
| 5. Livestock Heritage of Maharashtra | Landge suresh |
| 6. Cattle and Buffalo Breeds | Gangasagare, P.T. And Sonwane, R.S. |

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Technology

First Year (Semester I)

Paper-VI: Establishment of Dairy farming. (DFTH-113)

Marks: 100

Credits:

Periods: 45

Semester I

Paper No.III

Unit I

12 periods

1. Establishment of Dairy farm
2. Selection of site for dairy farm
3. Introduction of farm building
4. Different structures of farm buildings

Unit II

11 periods

1. Space requirement and housing material
2. Capital, types of – capital
3. Ways of rising of capital
4. Type of housing for cattle and buffalo

Unit III

11 periods

1. Type of housing for calves and heifers
2. Housing for breeding bull
3. Housing for sick animals
4. Milking house for cattle and buffalo

Unit IV

11 periods

1. Housing for pregnant cows
2. Water supply for dairy farm
3. Light and ventilation for dairy farm
4. Drainage system for cattle and buffalo farm

Reference Books :

- | | |
|---------------------------------------|----------------|
| 1. A Text book of Animal Husbandry | G.C.Banrjee |
| 2. Animal Husbandry and Dairy Science | Jagdish Prasad |
| 3. Hand Book of Dairy Science | K.C.Mahanta |

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Farming

First Year (Semester I)

Paper-VII: PRACTICAL BASED ON INTRODUCTION TO DAIRY FARMING (DFPR-111)

1. Study of common appliances used on the farm animals
2. Casting, Restraining and Handling of Farm Animals
3. Cleaning and sanitation of farm premises.
4. Castration of farm animals.
5. Dehorning of cattle
6. Milking and milking methods
7. Record Pulse, Temperature and Respiration rate
8. Preparation of medicine & drugs like ointment, liniment etc.
9. Estimation of age by dental pad
10. Injection and vaccination of farm animals
11. Farm records
12. Farm layout
13. Visit to:
 1. Dairy farm.
 2. Agriculture colleges.

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B. Voc. Dairy farming

First Year (Semester I)

Paper-VIII: PRACTICAL BASED ON (DFPR-112)

Marks: 75

Credits: 3

1. Morphology of cattle and buffalo
2. Linear body measurement and estimation of body weight
3. Study of milch purpose cattle breeds
(a) Gir (b) Sahiwal (c) Red sindhi (d) Tharparkar
4. Study of dual purpose cattle breeds
(a) Deoni (b) Kankrej (c) Hariyana (d) Ongole
5. Study of drought purpose cattle breeds
(a) Khillar (b) Red kandhari (c) Amrit mahal (d) Kangyam
6. Study of crossbreds of cattle
7. Study of exotic cattle breeds
(a) Khillar (b) Jersey (c) Brown swiss (d) Red dane
8. Study of buffalo breeds
(a) Murrah (b) Surti (c) Jaffrabadi (d) Mehsana (e) Marathwadi.
9. Visit to:
 - a. Cattle genetic farm
 - b. Cross breeding center

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Farming

First Year (Semester I)

Paper-IX: PRACTICAL BASED ON ESTABLISHMENT OF DAIRY FARM (DFPR-113)

Marks: 75

Credits: 3

- 1) Milking machine and it's part
- 2) Clean milk production
- 3) Sampling of milk
- 4) Organoleptic evaluation of milk / platform tests.
- 5) Methyl Alcohol & COB test of milk.
- 6) Determination of Specific gravity.
- 7) Determination of Acidity and pH.
- 8) Determination of Viscosity.
- 9) Determination electrical conductivity and Refractive Index
- 10) Determination of Fat.
- 11) Determination of SNF, TS.
- 12) Visit to:
 - a) Milk collection center
 - b) Milk Processing Plant.

Swami Ramanand Teerth Marathwada University, Nanded
Certificate, Diploma, Advanced Diploma and B.Voc Degree (Agriculture and Allied
Faculties)

First Year (Semester II)

Paper-X: Personality Development (BAAGE-124)

Maximum Marks: 100

Credits: 4

Periods: 45

UNIT-I: Personality Development:

(Periods: 11)

Introduction to personality development: The concept personality- Dimensions of theories of Freud & Erickson- personality – significant of personality development. The concept of success and failure: What is success? - Hurdles in achieving success - Overcoming hurdles - Factors responsible for success, What is failure - Causes of failure. SWOT analyses.

UNIT-II: Attitude & motivation:

(Periods:11)

Attitude - Concept - Significance - Factors affecting attitudes - Positive attitude - Advantages –Negative attitude - Disadvantages - Ways to develop positive attitude - Difference between personalities having positive and negative attitude. Concept of motivation - Significance - Internal and external motives - Importance of self-motivation- Factors leading to de-motivation

UNIT-III : Interpersonal Relationship:

(Periods: 11)

Term self-esteem - Symptoms - Advantages - Do's and Don'ts to develop positive self-esteem – Low self-esteem - Symptoms - Personality having low self-esteem - Positive and negative self-esteem. Interpersonal Relationships – Defining the difference between aggressive, submissive and assertive behaviors - Lateral thinking.

UNIT-IV: Overall personality development:

(Periods: 12)

Other aspects of personality development: Body language, Problem-solving, Conflict and Stress Management, Decision making skills, Leadership and qualities of a successful leader. Character building, Team-work, Time management, Work ethics, Good manners and etiquette. Employability quotient: Resume building, The art of participating in Group Discussion. Facing the Personal (HR & Technical) Interview.

Reference Books:

1. “Personality Development and Soft Skills” by Barun Mitra
 2. The Only Skill That Matters by Jonathan A. Levi
 3. “Personality Development” by Swami Vivekananda
-

Swami Ramanand Teerth Marathwada University, Nanded
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Faculties)

First Year (Semester II)

Paper-XI: Environmental Study (BAAGE-125)

Maximum Marks: 100

Credits: 4

Periods: 45

Unit-I: Ecosystems:

(Periods: 11)

Introduction, Concept of an ecosystem. Structure and function of an ecosystem. Energy flow in the ecosystem. Food chains, food webs. Ecological pyramids: Introduction, types, characteristic features, structure and function of the following ecosystem: a. Forest ecosystem b. Aquatic ecosystems (ponds)

Unit-II: Biodiversity:

(Periods: 11)

Introduction, Definition: genetic, species and ecosystem diversity. Biogeographical classification of India. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. India as a mega diversity nation. biodiversity Hot-spots of India. Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts. Endangered and endemic species of India. Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

Unit-III: Environmental Biology:

(Periods: 12)

Environmental Pollution; Introduction, Definition, Causes, effects and control measures of: a. Air pollution b. Water pollution c. Soil pollution d. Noise pollution f. Thermal pollution g. nuclear hazards. Disaster Management; Natural disaster- Earthquake, Tsunami, Cyclone, Tornado, Chemical Disaster- Bhopal Gas Tragedy, Nuclear Disaster- Chernobil.

Unit-IV: Natural Resources:

(Periods: 11)

Renewable and Nonrenewable Resources; Solar Energy, Wind Energy. Forest Resources, Metal Mines, Crude Oil Mines. Sustainable development, Urban problems related to energy, Water conservation, rain water harvesting, watershed management. Resettlement and rehabilitation of people. Environmental ethics. Population growth, Population explosion.

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Technology

First Year (Semester II)

Paper-XIII: Farm Animal Management (DFTH-124)

Marks: 100

Credits: 4

Periods: 45

Unit I

1. Maintenance of sanitary and hygienic conditions on cattle and buffalo farm
2. First aid measures for farm animal
3. Recycling of farm waste
4. Introduction to management practices in farm animals

11 periods

Unit II

1. Function and tools of management
2. Study of General management practices
3. Identification marks
4. Grooming of farm animals

11 periods

Unit III

1. Drying off lactating cow and buffalo
2. Control of bad habits of farm animals
3. Castration, methods of castration in cattle
4. Dehorning of cows and buffalos

11 periods

Unit IV

1. Deworming and trimming of cattle and buffalo
2. Wallowing of buffalos
3. Shearing of sheep
4. Ringing of breeding bull

11 periods

Reference Books :

1. A Textbook of Livestock production and Management Chauhan,D.S.,Thombare,B.M.Mitkari ,K.R.,Rotte SG
2. Management of Livestock Production Satish Kulkarni
3. A text book of Animal Science Bhikane A.U.and Kawitkar S.B
4. Goat,Sheep and Pig Production and Management Jagdish Prasad

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Farming

First Year (Semester II)

Paper-XIV: Farm animal Health Management (DFTH-125)

Marks: 100

Credits: 4

Periods: 45

Unit I

11 periods

1. Identification of sick animals
2. Study of healthy conditions in animal
3. Common Terminology used in animal treatment
4. Study of liniments and disinfectants

Unit II

12 periods

1. Study of animal diseases
2. Classification of bacterial diseases
3. Study of viral diseases in cattle and buffalo
4. Study of protozoan diseases

Unit III

11 periods

1. Study of Distokia
2. Study of prolapsed of Uterus and Vagina
3. Deficiency disease
4. Study of lactating cows diseases

Unit IV

11 periods

1. Study of mastitis and its types
2. Study of milk fever and ketosis
3. Study of Rickets
4. Study of joint ill calves

Reference Books :

- | | |
|--------------------------------------|-------------------------------|
| 1. A text book of Animal Science | Bhikane A.U.and Kawitkar S.B. |
| 2. A text book of Veterinary Science | Bhikane A.U.and Kawitkar S.B |
| 3. Dairy Cattle Science | Ensminger |
| 4. Sheep, Goat,and Poultry Farming | Satish Kulkarni |

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Technology

First Year (Semester II)

Paper-XV: Animal nutrition (DFTH-126)

Periods: 45

Marks: 100

Credits: 4

Unit I

10 periods

1. Introduction to animal nutrition
2. Anatomy of ruminant's digestive system
3. Rumen ecosystem

Unit II

11 periods

1. Importance of nutrients in animal nutrition
2. Classification of nutrients
3. Study of nutrients such as water, carbohydrates, and proteins
4. Study of nutrients such as lipids, minerals, vitamins

Unit III

11 periods

1. Study of digestion, absorption
2. Metabolism of carbohydrates, proteins and lipids
3. Study of digestibility of nutrients
- 4 Study of digestion trials and factors affecting digestibility.

Unit IV

13 periods

1. Evaluation of energy value of feed. GE,DE,ME,NE,SE,TDN,HI,NR,
2. Estimation of energy value of feeds by chemical composition.
3. Estimation of TDN by digestion trials
4. Estimation of DCP by digestion trials.

Reference Books :

- | | |
|---|-------------------------------|
| 1. A text book of Animal Science | Bhikane A.U.and Kawitkar S.B. |
| 2. A text book of Veterinary Science | Bhikane A.U.and Kawitkar S.B |
| 3. Dairy Cattle Science | Ensminger |
| 4. Sheep, Goat,and Poultry Farming | Satish Kulkarni |
| 5. Goat production | F.A.O. |
| 6. Animal Nutrition & Feeding practices | S.K. Ranjhan |
| 7. Advances in Dairy Animal Production | Mudgal and Singhal |

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Farming

First Year (Semester II)

Paper-XVI : PRACTICAL BASED ON FARM ANIMAL MANAGEMENT (DFPR-124)

Marks: 75

Credits: 3

- 1).Grooming of farm animals.
- 2).Deworming of livestock
- 3) Shoeing and shearing of livestock
- 4) Identification marks to farm animals
- 5).Care and management of newly born calf.
- 6). Care and management of heifer.
- 7).Care and management of dry cow.
- 8) Care and management of pregnant cow.
- 9) Care and management of calving cow.
- 10) Care and management of draught animals.
- 9) Visit to:
 - a) Veterinary hospital
 - b) Artificial insemination center.

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Farming

First Year (Semester II)

Paper-XVII: Practical Based on Farm Animal Health Management (DFPR-125)

Marks: 75

Credits:

1. Study of reproductive organs of cattle on charts / model specimens
2. Study of section slides – TS of testis, TS of ovary, spermatogenesis, Oogenesis, maturation of sperm.
3. Preparation of heat expectancy chart
4. Microscopic evaluation of spermatozoa in cattle and buffalo
5. Microscopic examination of semen
6. Estimation of pH & semen
7. Determination of mobility of spermatozoa
8. Assembling and preparation of AV and collection of semen by AV method
9. Study of AI equipments and Insemination Technique
10. Pregnancy diagnosis
11. Excursion / Visits to –
 - a) Cattle and Buffalo breeding farms
 - b) Slaughter house
 - c) Semen collection and preservation centre

Swami Ramanand Teerth Marathwada University, Nanded

B. Voc. Dairy Farming

First Year (Semester II)

Paper-XVIII: PRACTICAL BASED ON ANIMAL NUTRITION (DFPR-126)

Marks: 75

Credits: 3

- 1 General precaution in nutrition laboratory
2. Collection of feeds, fodders and preparation of samples
3. Proximate principles of feeds
4. Determination of DM and moisture content
5. Determination of ether extract
6. Determination of Nitrogen and crude protein
7. Determination of Ash
8. Estimation of TDN Value
9. Classification of feeds and computation of ration
- 10) Visit to:
 - a) Feed collection and processing center
 - b) Hay and silage making unit

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Choice Based Credit System (CBCS) (Semester Pattern)

Theory Examination Question Paper Pattern

Dairy Farming (B.Voc.)

Maximum Marks: 75

Time: 3.00 Hrs

Q1. Long Answer Type Question..... (15 Marks).

OR

(a) Short Answer Type Question(8 Marks)

(b) Short Answer Type Question(7 Marks).

Q2. Long Answer Type Question..... (15 Marks).

OR

(a) Short Answer Type Question(8 Marks)

(b) Short Answer Type Question(7 Marks).

Q3. Long Answer Type Question..... (15 Marks).

OR

(a) Short Answer Type Question(8 Marks)

(b) Short Answer Type Question(7 Marks).

Q4. Long Answer Type Question..... (15 Marks).

OR

(a) Short Answer Type Question(8 Marks)

(b) Short Answer Type Question(7 Marks).

Q5. Write a short note on (**Any three** of following); (15 Marks)

(a)(5 Marks)

(b)(5 Marks)

(c)(5 Marks)

(d)(5 Marks)

(e)(5 Marks).

**SWAMI RAMANAND TEERTH MARATHWADA
UNIVERSITY, NANDED**

Choice Based Credit System (CBCS) (Semester Pattern)
Practical Examination Question Paper Pattern (B.Voc.D.F.)

Maximum Marks: 50

Time: 3.00 Hrs

- Q1.** Perform the Major Experiment (20 Marks).
- Q2.**(a) Perform the Minor Experiment (10 Marks).
(b) Describe procedure and working of the Minor Experiment (10 Marks).
- Q3.**(a) Viva -voce (5 Marks).
(b) Submission of Field Collection and Samplings during Field Visits
and Excursions (5 Marks).

Dr.S.N.Landge

Chairman

(B.Voc Animal Husbandry And Dairy Science)
