

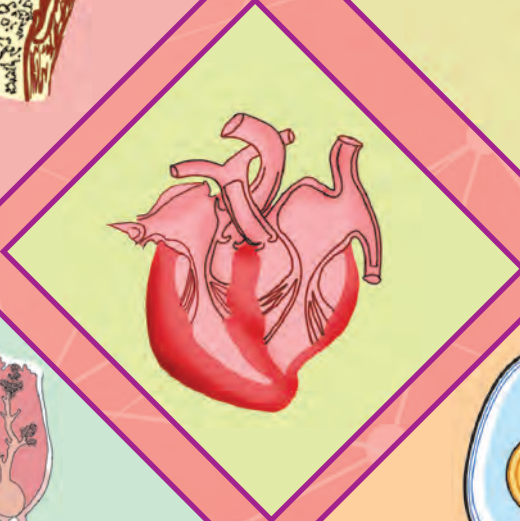
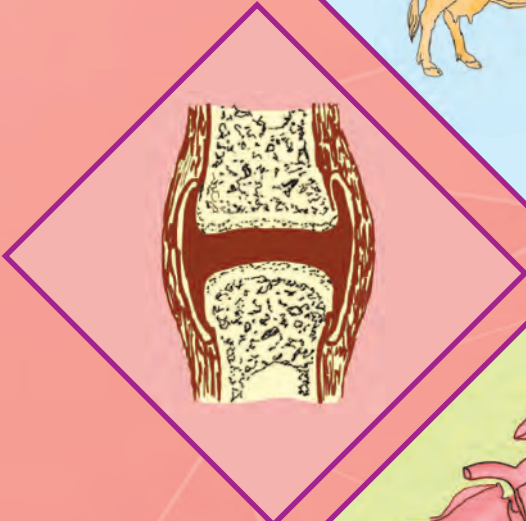
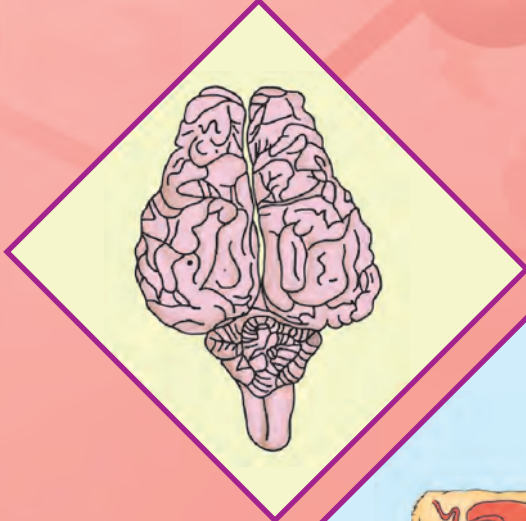
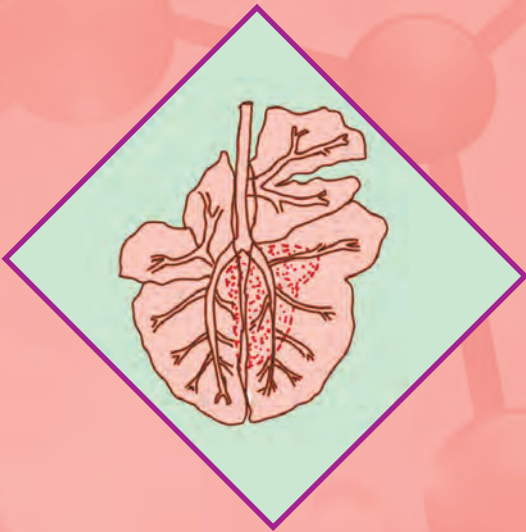


ANIMAL SCIENCE

AND

TECHNOLOGY

Standard XI



The Coordination Committee formed by GR No. Abhyas - 2116/(Pra.Kra.43/16) SD - 4 Dated 25.4.2016 has given approval to prescribe this textbook in its meeting held on 20.6.2019 and it has been decided to implement it from academic year 2019-20.

Animal Science and Technology

Standard XI



Download DIKSHA App on your smartphone. If you scan the Q.R. Code on this page of your textbook, you will be able to access full text. If you scan the Q.R. Code provided, you will be able to access audio-visual study material relevant to each lesson, provided as teaching and learning aids.



2019

**Maharashtra State Bureau of Textbook Production and
Curriculum Research, Pune.**

- For Teachers -

Dear Teachers,

We are happy to introduce the revised textbook of Animal Science and Technology for std. XI. This book is a sincere attempt to follow the maxims of teaching as well as develop a 'constructivist' approach to enhance the quality of learning. The demand for more activity based, experiential and innovative learning opportunities is the need of the time. The present curriculum has been restructured so as to bridge the credibility gap that exists in the experience in the outside world. Guidelines provided below will help to enrich the teaching - learning process and achieve the desired learning outcomes.

- To begin with, get familiar with the textbook yourself.
 - The present book has been prepared for constructivism and activity based learning.
 - Teachers must skillfully plan and organize the activities provided in each chapter to develop interest as well as to stimulate the thought process among the students.
 - Always teach with proper planning.
 - Use teaching aids as required for the proper understanding of the subject.
 - Do not finish the chapter in short.
 - Follow the order of the chapters strictly as listed in the contents because the units are introduced in a graded manner to facilitate knowledge building.
- Each unit is structured in a definite manner. It starts from the basic concepts of Animal Science required for each component comes under the subject. Application of technology is given in content. This knowledge will help students to understand further chapters in each unit.
 - Each chapter provides various charts, pictures, diagrams for better understanding, so you can use this for effective teaching.
 - Ask the students about the related information, background about the chapter. You are provided, for this with the different boxes like 'Can You Recall', 'Do you know?', 'Try this'.
 - Encourage the students to collect related information by providing them the websites.
 - Teaching- learning interactions, processes and participation of all students are necessary and so is your active guidance.
 - Do not use the content of the boxes titles 'Do you know?' for evaluation.
 - Exercises include parameters such as co-relation, critical thinking, analytical reasoning etc. Evaluation pattern should be based on the given parameters. Equal weightage should be assigned to all the topics. Use different combinations of questions.

Components of chapter :

Remember



Try this



Can you recall?



Can you tell?



Use your brain power



Do you know ?



Think about



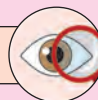
Just do it



Can you imagine ?



Observe that



Can you think



Internet my friend

DISCLAIMER Note : All attempts have been made to contact copy right/s (©) but we have not heard from them. We will be pleased to acknowledge the copy right holder (s) in our next edition if we learn from them.

Competency Statements - Standard XI

Area/ Unit/ Lesson	After studying the contents in Textbook students.....
<i>Livestock and Poultry Breeds</i>	<ul style="list-style-type: none"> • Explain integrated livestock farming. • Suggest medicinal uses of livestock. • Analyse the data of livestock related components example, milk production, egg production, etc. • Understand the livestock population in Maharashtra. • Compare the livestock production in Maharashtra. • Explains the nutritive values of livestock production. • Calculate and compare the income from livestock production. • Selects and suggest organic farming • Understands the challenges in Livestock population and its Production • Nomenclature the parts of different livestock • Classify cattle, buffalo, goat, sheep, and poultry breeds • Explains the habitats, characteristics of different breeds • Understand the commercial importance of different breeds. • Explain the role of different livestock in economical development. • Correlate livestock and poultry breed with health and hygiene. • Take efforts to create awareness regarding agriculture supporting buisness. • Collect data of livestock in surrounding. • Analyse the collected information of livestock and make conclusions.
<i>Livestock Nutrition</i>	<ul style="list-style-type: none"> • Explain feed nutrients. • Enlist the nutrients in feed. • Identify the importance and functions of feed nutrients. • Explain functions of nutrients. • Analyse nutrients with their functions. • Differentiate vitamins with their characteristics. • Explain the sources and functions of vitamins in livestock. • Identify symptoms of deficiencies of vitamins in livestock. • Explain the sources and functions of minerals in livestock. • Identify symptoms of deficiencies of minerals in livestock. • Classify feed stuffs. • Differentiate roughages and concentrates with their characterstics. • Explain special feeds. • Explain unconventional feed stuff with classification. • Understand projected demand supply and fodder deficits in India. • Classify fodder crops. • Explain the importance of nutrition • Classify the different nutrients and its importance • Understand the different cultivation practices related to forages, feeds and feed technology • Understand the feed technology • Expalin the process of pellet making machine. • Create feed blocks.

<i>Anatomy and Physiology of Livestock and Poultry</i>	<ul style="list-style-type: none"> • Explain the skeletal system in detail. • Identify and explain bone type. • Discuss the structure of bones. • Classify bones with diagrammatic representation. • Explain skeleton types with reference to joints. • Explain the respiratory system in detail with diagrammatic representation of different organs. • Explain the circulatory system with reference to different organs. • Explain blood composition. • Differentiate between Arteries and Veins. • Explain the digestive system with reference to different organs. • Draw structures of digestive system. • Differentiate digestive system of ruminants and non ruminants. • Explain the Urinary system with reference to different organs. • Explain the reproductive system with reference to different organs. • Explain the Nervous system and endocrine system with reference to different organs. • Explain endocrine organs and their functions.
<i>Livestock Breeding</i>	<ul style="list-style-type: none"> • Understand the concept of animal breeding and its development. • Understand the new technologies reference to reproductive technologies in livestock. • Explain the systems of breeding in detail (Advantages and disadvantages). • Explain transgenic animals, cloning technique. • Create awareness about the need and impact of technology on livestock breeding.

CONTENTS

Sr. No	Title	Page No
1	Scope and Opportunities in Animal Husbandry	1 - 9
2	Cattle Breeds	10 - 25
3	Buffalo Breeds	26 - 34
4	Goat and Sheep Breeds	35 - 48
5	Poultry Breeds	49 - 55
6	Feeds and Feeding	56 - 82
7	Forage Production	83 - 94
8	Feed Technology	95 - 108
9	Anatomy and Physiology of Livestock	109 - 144
10	Poultry Anatomy and Physiology	145 - 154
11	Animal Breeding and Selection	155 - 167
12	Reproductive Technologies	168 - 183



**Maharashtra State Bureau of Textbook Production and
Curriculum Research, Pune**

पशुविज्ञान आणि तंत्रज्ञान इयत्ता अकरावी (इंग्रजी माध्यम)

₹ 127.00