



Practical Manual

BASIC HORTICULTURE-II

for

Class XII



Central Board of Secondary Education

2, Community Centre, Preet Vihar, Delhi-110092

नया आगाज़

आज समय की माँग पर
आगाज़ नया इक होगा
निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

परिवर्तन नियम जीवन का
नियम अब नया बनेगा
अब परिणामों के भय से
नहीं बालक कोई डरेगा

निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

बदले शिक्षा का स्वरूप
नई खिले आशा की धूप
अब किसी कोमल-से मन पर
कोई बोझ न होगा

निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

नई राह पर चलकर मंज़िल को हमें पाना है
इस नए प्रयास को हमने सफल बनाना है
बेहतर शिक्षा से बदले देश, ऐसे इसे अपनाए
शिक्षक, शिक्षा और शिक्षित
बस आगे बढ़ते जाएँ
बस आगे बढ़ते जाएँ
बस आगे बढ़ते जाएँ.....





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First Edition : September, 2013

No. of Copies : 1000

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Paper Used :

Price : ₹ 50/-

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Published by :
The Secretary, C.B.S.E. ‘Shiksha Kendra’, 2, Community Centre, Preet Vihar, Delhi-110 092

Designed and Printed by :
Akashdeep Printers, 20-Ansari Road, Darya Ganj, New Delhi-110 002
Ph. : 23275854, 23271561

PREFACE

Horticulture has now become the backbone of Indian economy, as we are the 2nd largest producer of fruits and vegetables in the world. Although, a bulk of this production goes waste as post harvest losses, yet several value added products have been developed for their use in our daily life. However, our productivity is dismally low than several other countries of the world primarily because horticulture sector is encountered with several problems, and to tackle these problems, several technologies have been standardized by the scientists.

Considering the importance of horticulture, CBSE has introduced foundation course in horticulture entitled “Basic Horticulture-II’ for class XII students. For effective teaching and understanding of the course, simultaneously, a practical course has also been introduced with the following objectives:

- To create awareness among the students for identification of fruits, vegetables and flowers in the market and know how to prepare value added products from fruits, vegetables and flowers.
- To impart knowledge about harvesting, safe plucking of perishable fruits, vegetables and flowers and importance of safe and timely plucking in the shelf life and storage life of horticultural produce.
- To impart basic knowledge on preservation, use of preservatives and primary processing of fruits, vegetables and flowers
- To create awareness about value addition and its importance in our daily life.
- To train the students for establishment of processing industry, tissue culture laboratory, flower drying units etc., as agri-business, and for rural employment.

I am not only sure but fully confident that after doing several practicals personally, and visiting several units, laboratories etc., students will get several ideas and opportunities, which horticulture can offer to them in their future life. They can also think of joining such sectors in their future life and can develop themselves as successful entrepreneurs in several such areas.

It is hoped that this practical book will be an asset for the students at entry level.

Vineet Joshi, IAS
Chairman, CBSE

ACKNOWLEDGEMENTS

Advisors

- *Dr. S. Ayyappan, Secretary, DARE and Director General (ICAR), Krishi Bhavan, New Delhi-110 001*
- *Sh. Vineet Joshi, IAS, Chairman, CBSE, Delhi-110 092*

Special Acknowledgements

- *Dr. Rameshwar Singh, Project Director (DKMA), Directorate of Knowledge Management in Agriculture, Krishi Anusandhan Bhavan, Pusa, New Delhi-110 012*
- *Dr. Jagdeep Saxena, Editor, ICAR, New Delhi-110 012*

Convener & Editor : *Dr. R.R. Sharma*

AUTHORS

- *Dr. R.R. Sharma, Senior Scientist, Division of Post Harvest Technology, IARI, New Delhi-110 012*
- *Dr. Hare Krishna, Senior Scientist, CIAH, Beechwal, Bikaner (Rajasthan) - 334 006*
- *Dr. (Ms.) Namita, Scientist, Division of Floriculture and Landscaping, IARI, New Delhi-110 012*

Editing & Coordination

- *Dr. Biswajit Saha, Associate Professor & Programme Officer, (Vocational Education), CBSE, Delhi-110 092*
- *Mr. Dharampal Singh, Former Director (EDUSAT & Vocational Education), and Consultant (Agriculture), CBSE, Delhi-110 092*

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Convener & Editor

Dr. R. R. Sharma

Contributors

Dr. R. R. Sharma

Dr. Hare Krishna

Dr. (Ms.) Namita

भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक ¹[संपूर्ण प्रभुत्व-संपन्न, समाजवादी, पंथ-निरपेक्ष, लोकतंत्रात्मक गणराज्य] बनाने के लिए तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,

विचार, अभिव्यक्ति, विश्वास, धर्म और उपासना की स्वतंत्रता,

प्रतिष्ठा और अवसर की समता प्राप्त कराने के लिए,

तथा उन **सबमें** व्यक्ति की गरिमा और ²[राष्ट्र की एकता और अखंडता सुनिश्चित] करने वाली बंधुता बढ़ाने के लिए

दृढ़संकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवंबर, 1949 ई. (मिति मार्गशीर्ष शुक्ला सप्तमी, संवत् दो हजार छह विक्रमी) को एतद्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

भारत का संविधान

भाग 4क

नागरिकों के मूल कर्तव्य

अनुच्छेद 51क

मूल कर्तव्य- भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह -

- (क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वजों और राष्ट्रगान का आदर करे;
- (ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;
- (ग) भारत की संप्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण बनाए रखे;
- (घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;
- (ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हो, ऐसी प्रथाओं का त्याग करे जो महिलाओं के सम्मान के विरुद्ध हों;
- (च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का महत्व समझे और उसका परिरक्षण करे;
- (छ) प्राकृतिक पर्यावरण की, जिसके अंतर्गत वन, झील, नदी और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणिमात्र के प्रति दयाभाव रखे;
- (ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;
- (झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;
- (ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे, जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई ऊँचाइयों को छू सके; और
- (ट) यदि माता-पिता या संरक्षक है, छह वर्ष से चौदह वर्ष तक की आयु वाले अपने, यथास्थिति, बालक या प्रतिपाल्य को शिक्षा के अवसर प्रदान करे।

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a ¹**[SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC]** and to secure to all its citizens:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the ²[unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

1. Subs. by the Constitution (Forty-Second Amendment) Act. 1976, sec.2, for "Sovereign Democratic Republic (w.e.f. 3.1.1977)
2. Subs. by the Constitution (Forty-Second Amendment) Act. 1976, sec.2, for 'unity of the Nation (w.e.f. 3.1.1977)

THE CONSTITUTION OF INDIA

Chapter IV

A Fundamental Duties

ARTICLE 51 A

Fundamental Duties. It SHALL be the duty of every citizen of India

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.
- *(k) a parent or guardian to provide opportunities for education to his child or as the case may be ward between the age of six and fourteen years.

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