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VEER NARMAD SOUTH GUJARAT UNIVERSITY

University Campus, Udhna-Magdalla Road, SURAT - 395 007, Gujarat, India.

વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી

યુનિવર્સિટી કેમ્પસ, ઉધના-મગદલા રોડ, સુરત - ૩૯૫ ૦૦૭, ગુજરાત, ભારત.

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ક્રમાંક:એસ/BRS(SD)/પરિપત્ર/૨૮૫૮૨/૨૦૨૩
તા.૦૬/૧૧/૨૦૨૩

પ્રતિ,
વિભાગીય વડાશ્રી,
ડિપાર્ટમેન્ટ ઓફ રૂરલ સ્ટડીઝ,
મહાત્મા ગાંધી ગ્રામઅભ્યાસ બિલ્ડીંગ,
વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી,
સુરત.

વિષય :- B.R.S.(SD) (Honors) Sem.-2 ના અભ્યાસક્રમ બાબત.

સુજ્ઞશ્રી,

સવિનય જણાવવાનું કે, NEP-2020 અનુસાર શૈક્ષણિક વર્ષ ૨૦૨૩-૨૪ થી અમલમાં આવનાર BRS(SD) (Honors) Sem.-2 નો Major, Minor, MDC, AEC, SEC અને VAC નો અભ્યાસક્રમ ગ્રામઅભ્યાસ અભ્યાસ સમિતિના ચેરમેનશ્રીએ બોર્ડવતી અને ગ્રામ અભ્યાસ વિદ્યાશાખાના અધ્યક્ષશ્રીએ વિદ્યાશાખાની મંજૂરીની અપેક્ષાએ વિદ્યાશાખાવતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ એકેડેમિક કાઉન્સિલની તા.૦૪/૧૧/૨૦૨૩ ની સભાનાં ઠરાવ ક્રમાંક:૩૪ થી સ્વીકારી મંજૂર કરેલ છે. જેની આથી જાણ કરવામાં આવે છે.

એકેડેમિક કાઉન્સિલની તા.૦૪/૧૧/૨૦૨૩ની સભાનાં ઠરાવ ક્રમાંક:૩૪

:: આથી ઠરાવવામાં આવે છે કે, NEP-2020 અનુસાર શૈક્ષણિક વર્ષ ૨૦૨૩-૨૪ થી અમલમાં આવનાર BRS (SD) (Honors) Sem.-2 નો Major, Minor, MDC, AEC, SEC અને VAC નો અભ્યાસક્રમ ગ્રામઅભ્યાસ અભ્યાસ સમિતિના ચેરમેનશ્રીએ બોર્ડ વતી અને ગ્રામ અભ્યાસ વિદ્યાશાખાના અધ્યક્ષશ્રીએ વિદ્યાશાખાની મંજૂરીની અપેક્ષાએ વિદ્યાશાખાવતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ સ્વીકારી મંજૂર કરવામાં આવે છે.

બિડાણ: ઉપર મુજબ

પ્રતિ,

- ૧) ડીનશ્રી, ગ્રામઅભ્યાસ વિદ્યાશાખા,
- ૨) પરીક્ષા નિયામકશ્રી, પરીક્ષા વિભાગ, વીર નર્મદ દ. ગુ. યુનિવર્સિટી, સુરત.

W. J. J.
કુલસચિવ

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

BRS(SD) Honors

SEMESTER - 2

Course Code : MJ: 103

Paper Title : Need of Sustainability

Credits : 4

Objective:

- This course is designed to introduce the elements of the academic programme in Sustainable development. It will explore the multidisciplinary nature of the course.

Unit – I

Introduction – The challenges that we face today and sustainable development.

Unit – II

Sustainable development: A path to survival. Agriculture and sustainable development.

Unit – III

Role of economy, energy consumption pattern and its conservation, and environmental pollution in sustainable development. Environmental Impact Assessment

Unit – IV

Sustainable development and environment: some global issues.

References:

- Riyazuddin and R P Singh (2010) Challenges to sustainable development in India, Deep and Deep Publishers, New Delhi.
- Kumar Das, Sustainable Development, Reference Press, New Delhi

સુરત
04-11-2023

Veer Narmad South Gujarat University – Surat
Mahtma Gandhi Department of Rural Studies
Syllabus for B.R.S.(Sustainable Development) (Honours)
Semester:2

**MJ-104 AGRICULTURAL TECHNOLOGIES FOR SUSTAINABLE
DEVELOPMENT**

Objective

Sustainable agriculture offers a much-needed alternative to conventional input-intensive agriculture, the long-term impacts of which include degrading topsoil, declining groundwater levels and reduced biodiversity. It is vital to ensure India's nutrition security in a climate-constrained world. On successful completion of this course, the students will be able to develop critical understanding on various aspects of sustainable agriculture and its practical implementation to mitigate the effects of climate change on agriculture.

Unit-I: Definition, meaning, concept and benefits of sustainable agriculture in India, Goal of sustainable agriculture in India, Measurement of sustainability in agriculture.

Unit-II: Sustainable agricultural systems

- Agroforestry
- Precision Farming
- Integrated Pest management
- System of Rice Intensification (SRI Technology)
- Organic Farming
- Conservation (Partial) Agriculture
- Natural Farming
- Integrated Farming Systems
- Biodynamic Agriculture
- Permaculture

Unit-III: Sustainable agricultural practices

- Crop Rotation and Intercropping
- Rain Water Harvesting – Artificial Recharge of Ground Water
- Mulching
- Vermicomposting
- Contour Farming
- Cover Crops
- Intercropping
- Floating Farming

Unit-IV: Use of Information Communication Technologies in Sustainable Agriculture, Key Government Policies and Initiatives (Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), Paramparagat Krishi Vikas Yojana (PKVY), Rashtriya Krishi Vikas Yojana (RKVY), Soil Health Card Scheme, National Mission for Sustainable Agriculture (NMSA), Pradhan Mantri Fasal Bima Yojana (PMFBY), E-NAM (Electronic National Agriculture Market), Kisan Credit Card (KCC) Scheme, Krishi Vigyan Kendras (KVKs), Agriculture Export Policy, Sustainable Farming Practices and Organic Certification Incentives, Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), Promotion of Agro-Processing Industries, National Mission on Oilseeds and Oil Palm (NMOOP), Animal Husbandry Infrastructure Development Fund (AHIDF).

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Suggested Readings

1. Arun K. Sharma. 2002. A Hand book of organic farming. Agrobios, India.
2. Palaniappan, S.P and Annadurai, K.1999. Organic farming-Theory and Practice. Scientific publishers, Jodhpur,India.
3. Mukund Joshi and Prabhakarasetty, T.K. 2006. Sustainability through organic farming. Kalyani publishers, New Delhi.
4. Balasubramanian, R., Balakishnan, K and Siva Subramanian, K. 2013. Principles and practices of organic farming. Satish Serial Publishing House.
5. Tarafdar, J.C., Tripathi, K.P and Mahesh Kumar, 2009. Organic agriculture. Scientific Publishers, India.
6. Tiwari, V.N., Gupta, D.K., Maloo, S.R and Somani, L.L. 2010. Natural, organic, biological, ecological and biodynamic farming. Agrotech Publishing Academy, Udaipur.
7. Dushyent Gehlot. 2005. Organic farming- standards, accreditation, certification and inspection. Agrobios, India.
8. <https://www.britannica.com/technology/sustainable-agriculture>
9. <https://eos.com/blog/sustainable-agriculture/>
10. <https://www.sriramsias.com/upsc-daily-current-affairs/sustainable-agriculture-and-government/#:~:text=Key%20Government%20Policies%20and%20Initiatives,leading%20to%20higher%20crop%20productivity.>
11. Dr. Yad Vir Singh, 2022. Organic Farming Practices and Sustainable Agriculture (Volume-7), AkiNik Publications, India

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VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

BRS(SD)Honors

SEMESTER – 2

Course Code : ME 102

Paper Title : Sociology of Development

Credits : 4

OBJECTIVES:

This paper will help to the students understand and inculcate with explain of development and Progress: Economic and Social Dimensions, Change, Modernisation and Development, Social, Human and Gender Development and Sustainable Development in the context of globalization.

Unit: 1. Development and Progress: Economic and Social Dimensions

- Introduction
- Understanding of Development and Progress
- Development and its Impact.
- Development: Social and Human Dimensions
- Paradigm Shift in Development Strategies

Unit: 2. Change, Modernisation and Development

- Introduction
- Social Change: Concept, Characteristics and Causes
- Modernisation: Concept and Features
- Development: Conditions and Barriers
- Observations About Recent Development Experience

Unit: 3. Social, Human and Gender Development

- Introduction
- Development as Realisation of Human Potential
- Impact of Development on Social, Human and Women
- Women as a Constituency in Development Policies
- Identification of Gender Need, Role and Strategy
- Perspectives on Women and Development

Unit: 4. Sustainable Development

- Introduction
- Concept of Sustainable Development as Defined in Our Common Future (1987)
- Criticisms of the Concept of Sustainable Development
- Globalisation and Future of Sustainable Development

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References:

- Agarwal, Anil 1992. "What is Sustainable Development," Down to Earth, June 15th: 50-51
- Desai, A.R. (ed.) 1971. Essays on Modernisation of Underdeveloped Societies. Vol 1. Thacker and Co. Ltd.: Mumbai
- Dube, S.C. 1988. Modernisation and Development. Sage Publication: New Delhi
- Dube, S.C. 1992. Understanding Change. Vikas Publishing House: New Delhi
- McMichael, P. 1996. Development and Social Change: A Global Perspective. Fine Forge Press: Thousand Oaks
- Singha
- Fisher W.F. 1997. "Development and Resistance in the Narmada Valley". In Fisher W.F.(ed) Toward Sustainable Development – Struggling over India's Narmada River. Rawat Publications: New Delhi
- Kabeer, Naila 1995. Reversed Realities: Gender Hierarchies in Development Thought. Kali for Women: New Delhi.
- Krishnaraj, Maithreyi 1993. "New Economic Policy and Development of Women: Issues and Implications". In IAWS (eds.) The New Economic Policy and Women: A Collection of Background Papers to Sixth National Conference. IAWS: Mumbai
- Roy, D.K. 2003. Social Development and the Empowerment of the Marginalised Groups: Perspectives and Strategies. Sage Publication: New Delhi
- Schrijvers, Joke 1993. The Violence of Development: A Choice for Intellectuals. Kali for Women: New Delhi.
- Salunkhe, S.A. 2003. "The Concept of Sustainable Development: Root, Connotations and Critical Evaluation", Social Change Vol. 33, No. 1, pp. 67-80

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VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

BRS(SD)(HONORS)

SEMESTER – 2

Course Code: ID-102 (A)

Paper Title : Public Economics and Sustainable Development

Credit: 4

Objective – To introduce the students with various forms of business organizations and basic concepts of public economics, understanding the role of government in economy and interrelate economics with sustainable development so that an overall picture of sustainability can be formed.

Unit 1 - Public economics and sustainable development

- Meaning and concept of public economics and sustainable development
- Concept of tax, public expenditure, public debt and Budget
- Private goods, public goods and merit goods
- Private goods vs public goods, economics of externalities

Unit 2 - Business organizations and sustainable development

Different forms of business organizations

- Meaning and concept of public economics and sustainable development
- Individual proprietorship, Partnership, Cooperative, Corporate, public sector - meaning, concept, characteristics, importance and limitation
- Different forms of business organizations and sustainable development

Unit 3 - Economy and sustainable development

- Meaning, concept and Nature of economy
- Governments role in an economy : laissez- faire economy, collectivist economy, mixed economy

Unit 4 - Governments role in mixed economy sustainable development

- Mixed economy – meaning, concept, importance, limitation and characteristics of Mixed economy
- Governments role in mixed economy – meaning of development, sustainability, efficiency and equality
- Indian Economy - pre independence and post independence,

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REFERENCES :

- Bach, G.L. (1977), Economics, Prentice Hall of India, New Delhi.
- Gauld, J.P. and Edward P.L.(1999), Microeconomics Theory, Richard, Irwin, Homewood.
- Henderson, J. and R.E. Quandt (1980), Microeconomics Theory - A Mathematical Approach, McGraw Hill, New Delhi.
- Heathfield, and Wibe(1987), An Introduction to Cost and Production Functions, Macmillan, London.
- Koutsoyiannis, A. (1990), Modern microeconomics, Macmillan, London.
- Lipsey, R.G. and K.A. Chrystal (1999) , Principles of Economics, (9th Edition), Oxford University Press, Oxford.
- Mansfield, E.(1997), Microeconomics (9th Edition), W.W. Norton and Company, New York. Rav N.C. (1995), An Introduction to Microeconomics, Macmillan Company of India Ltd., Delhi.
- Houghton, E. W. (Ed.) (1988), Public Finance, Penguin, Baltimore.
- Jha, R. (1998), Modern Public Economics, Routledge, London.
- Mithani, D. M. (1998), Modern Public Finance, Himalaya Publishing House. Mumbai.
- Musgrave, R. A. and P. B. Musgrave (1976), Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.

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BRS(SD)(HONORS)

SEMESTER – 2

Course Code: ID-102 (B)

Paper Title : Introduction of Non-Governmental Organization

Credit: 4

Objectives: To introduce the students with introduction about Non Governmental Organization, History , values, vision and formation of non governmental organizations in India.

Unit-I Introduction of Non-Governmental Organization

(બિન સરકારી સંસ્થાનો પરિચય)

- Concept, Meaning, Definition of Non-Governmental Organization
(બિન સરકારી સંસ્થાનો ખ્યાલ, અર્થ અને વ્યાખ્યાઓ)
- Characteristics, Role of Non-Governmental Organization
(બિન સરકારી સંસ્થાની લાક્ષણિકતા, ભૂમિકા)
- Type of Non-Governmental Organizations
(બિન સરકારી સંસ્થાઓના પ્રકારો)

Unit-II History of Non-Governmental Organization

(બિન સરકારી સંસ્થાનો ઇતિહાસ)

- History of Activities of Non-Governmental Organization in India
(ભારતમાં બિન સરકારી સંસ્થાઓની પ્રવૃત્તિઓનો ઇતિહાસ)
- Non-Governmental Organizations In pre-independence
(સ્વતંત્રતા પહેલાં બિન સરકારી સંસ્થાઓ)
- Non-Governmental Organization in After independence
(સ્વતંત્રતા પછી બિન સરકારી સંસ્થાઓ)
- Non-Governmental Organization Nowadays
(અત્યારના સમયમાં બિન સરકારી સંસ્થાઓ)

Unit - III Values, Vision and Duty in Non-Governmental Organizations

(બિન સરકારી સંસ્થામાં મૂલ્યો, દર્શન અને કર્તવ્ય)

- Meaning of Values, Vision and Duty
(મૂલ્યો, દર્શન, કર્તવ્ય એટલે શું?)
- Concept of Values, Vision and Duty
(મૂલ્યો, દર્શન, કર્તવ્ય તેનો ખ્યાલ)
- Core Values in a Non-Governmental Organization
(બિન સરકારી સંસ્થામાં હાર્દરૂપ મૂલ્યો)

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Unit-IV Formation of Non-Governmental Organization

(બિન સરકારી સંસ્થાની રચના)

- To Start and Maintain a Non-Governmental Organization
(બિન સરકારી સંસ્થા શરૂ કરવી અને નિભાવવી)
- Meeting the needs in the community
(સમુદાયની જરૂરિયાતો પૂરી પાડવી)
- Registration of Non-Governmental Organization
(બિન સરકારી સંસ્થાની નોંધણી)
- Trust, as a Society, as a Non-profit company
(ટ્રસ્ટ, સોસાયટી, બિન નફાકારક કંપની તરીકે)

References:

1. Dr. Mayuri Farmar (2016) Non-Governmental Organization Management, Shanti Publication Delhi by pas Rohtak (Haryana)
2. Dr. Amrapali Marchant (2004) Sociology of Action Granth Nirman Board Ahmedabad
3. www.baou.edu.in
4. Goel S I, R kumar (2005) Administration and Management of NGOs Text and Case Studies, Deep & Deep Publication, New Delhi.

સુચી
૦૪-૧૧-૨૦૨૩

वीर नर्मद दक्षिण गुजरात विश्वविद्यालय, सुरत
प्रथमवर्ष (B.A./B.Com/B.Sc/B.Rs)

हिंदी भाषा-कौशल

सेमेस्टर-2

(2023-2024, 2024-2025 एवम् 2025-2026 के शैक्षिक वर्षों के लिए)

प्रश्नपत्र-2 हिंदी भाषा सामर्थ्य और जीवन कौशल (Hindi Proficiency & Life Skills)

Ability Enhancement Courses-01 (Credits 02) (Total Marks-25)

पाठ्य पुस्तक 1पंचवटी-मैथिलीशरण गुप्त (प्रकाशन-साहित्य सदन, झासी)

अध्ययनकेलिएनिर्धारितक्षेत्र-

इकाई-1मैथिलीशरण गुप्त-व्यक्तित्व एवं कृतित्व , खंडकाव्य -परिभाषा एवं लक्षण, पंचवटी की कथावस्तु |

इकाई-2 'पंचवटी' काव्य स्वरूप, 'पंचवटी' के पात्र, 'पंचवटी' में प्रकृति चित्रण, 'पंचवटी' में रस योजना।

इकाई-3 'पंचवटी' में संवाद योजना, 'पंचवटी' शीर्षक की सार्थकता, 'पंचवटी' काव्य का उद्देश्य, 'पंचवटी' की भाषा-शैली।

इकाई-4 संक्षेपण का महत्व, पल्लवन का महत्व, पत्राचार के अंग और व्यक्तिगत पत्र।

अंक- विभाजन-

प्रश्न 1. पठित पुस्तक से सात (१० में से) बहुविकल्पी प्रश्न (7X1=07अंक)

प्रश्न 2 पठित पुस्तक सेसंक्षिप्त प्रश्नआठ मेंसे6(6X1 = 06 अंक)

प्रश्न 3इकाई 1 और 2 सेआलोचनात्मक प्रश्न 1 (6X1 = 06 अंक)

प्रश्न 4. इकाई 3 और 4 से टिप्पणी का प्रश्न (06X 1 = 06 अंक)

सहायक ग्रंथ:

1.प्रशासनिक एवं कार्यालयी हिन्दी -डॉ रामप्रकाश एवं डॉ दिनेशकुमार गुप्त

2.संक्षेपीकरण-गणेशप्रसाद गुप्त

3.हिन्दी राम काव्य में नए संदर्भ -डॉ प्रमिला अवस्थी

4. हिन्दी व्याकरण - डॉ उमेश चंद्र गुप्त

5. मैथिलीशरण गुप्त -आनंद प्रकाश दीक्षित

6.मैथिलीशरण गुप्त काव्य संदर्भ कोश-डॉ नगेन्द्र

Veer Narmad South Gujarat University – Surat
Mahtma Gandhi Department of Rural Studies
Syllabus for B.R.S.(Sustainable development) (Honours)
Semester:2

IDC: MUSHROOM CULTIVATION

Credit:2 (Theory: 2 Hrs + 1 Hrs Practical)

Course Objectives:

- Enable the students to identify edible and poisonous mushrooms
- Provide hands on training for the preparation of bed for mushroom cultivation and spawn production •
- Give the students exposure to the experiences of experts and functioning mushroom farms
- Help the students to learn a means of self employment and income generation

Course outcome:

By successfully completing the course, students will be able to:

- Identify edible types of mushroom
- Gain the knowledge of cultivation of different types of edible mushrooms and spawn production
- Manage the diseases and pests of mushrooms
- Learn a means of self-employment and income generation

Unit-1: Introduction to mushrooms

Mushrooms -Taxonomical rank -History and Scope of mushroom cultivation - Edible and Poisonous Mushrooms-Vegetative characters, Button mushroom (*Agaricus bisporus*), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajorcaju*) and paddy straw mushroom (*Volvariella volvcea*). Nutritional and medicinal values of mushrooms.

Unit- 2: Mushroom cultivation

Structure and construction of mushroom house. Sterilization of substrates. Spawn production - culture media preparation- production of pure culture, mother spawn, and multiplication of spawn. Composting technology, mushroom bed preparation. Spawning, spawn running, harvesting. Cultivation of oyster and paddy straw mushroom. Problems in cultivation - diseases, pests and nematodes, weed moulds and their management strategies.

Unit- 3: Training/ Workshop/Practical

Practical for preparation of mushroom unit (low cost and commercial), Its Sterilization and sanitation process, instruments and substrates, Preparation of mother culture, media preparation, inoculation, incubation and spawn production, Cultivation of oyster mushroom using paddy straw/agricultural wastes.

Unit 4: Exposure Visits/Field Visits in GO, leading NGOs, Progressive Mushroom Cultivators and CSR projects for experience.

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References

1. Marimuthu, T. et al. (1991). Oster Mushroom. Department of Plant Pathology. Tamil Nadu Agricultural University, Coimbatore.
2. Nita Bhal. (2000). Handbook on Mushrooms. 2nd ed. Vol. I and II. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
3. Pandey R.K, S. K Ghosh, 1996. A Hand Book on Mushroom Cultivation. Emkey Publications.
4. Pathak, V. N. and Yadav, N. (1998). Mushroom Production and Processing Technology. Agrobios, Jodhpur.
5. Tewari Pankaj Kapoor, S. C. (1988). Mushroom Cultivation. Mittal Publication, New Delhi.
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Veer Narmad South Gujarat University – Surat
Mahtma Gandhi Department of Rural Studies
Syllabus for B.R.S.(Sustainable Development) (Honours)
Semester:2

VAC 102/A
POST HARVESTING TECHNOLOGIES 1
Credit:2 (Theory: 2 Hrs + 1 Hrs Practical)

Objective

This course aims to help resolve post-harvest losses and enhance food security of India, where the majority of the populations are dependent on agriculture. Upon successful completion of this course, students should be able to:

1. Explain the principles of post-harvest technology.
2. Illustrate the physiological and biochemical changes occurring during various stages of fruits development and production.
3. Indicate the importance and the significance of proper post-harvest handling to maintain the quality of fruits and vegetables.
4. Analyse various aspects of quality control and evaluation.

Unit-I: Introduction to postharvest technology

Structure and composition of fruits

Factors responsible for deterioration of horticultural produce, effect of temperature, water loss and humidity; physiological and bio-chemical changes

Importance of Postharvest Technology in horticultural crops.

Maturity indices

Quality parameters and specifications.

Unit-II: Postharvest practices in Fruit crops

Principles and methods of preservation

Harvesting, handling, grading of fruits

Physical injuries and disorders eradication

Pre-cooling

Pre-storage treatments, different methods of storage for local market and export.

Packaging methods and types of packages

Food processing, canning, fruit juices, beverages, pickles, jam, jellies, candies etc.

Dried and dehydrated products

Modes of transport.

Unit-III: Training/ Workshop/ Practical

Practical for preparation various products from fruit crops like Jam, Jelly, Squash, Pickles, and Fruit Juices etc.

Unit IV: Exposure Visits/Field Visits in GO, leading NGOs, and CSR projects for experience.

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Suggested Readings

Verma, L. R. and Joshi, V. K. 2000. Post Harvest Technology of Fruits and Vegetables. Vol. I & II. Indus Publishing Co., New Delhi.

Dauthy, M. E. 1995. Fruits and Vegetables Processing- FAO Bulletin 119. International Book Distributing Co., Lucknow.

Srivastava, R. P. & Sanjeev Kumar. 2002. Fruits and vegetable Preservation – Principles and Practice. International Book Distributing Co., Lucknow.

Salunkhe, D.K., Bolin, H. R. and Reddy, N. R. 1991. Storage, Processing and Nutritional Quality of Fruits and Vegetables. 2nd Edition. Vol. II. CRC Press-084935624547

Neetu Sharma and Mashkoo Alam, M. 1998. Post Harvest Disease of Horticultural Perishable. International Book Distributing Co., Lucknow
Chadha, K. L. and Kalloo, G. 1993. Advances in Horticulture. Vol. 4 to 10. MPH, New Delhi

Fellows, P. J. 1998. Food Processing Technology – principles and Practices. Ellis Horwood.

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FAO - Training Manual No.17/2. 2007. Prevention of post harvest food losses: Fruits, Vegetables and Root crops. Daya Publishing House, Delhi.

Morris, T. N. 2006. Principles of Fruit Preservation. Biotech Books, Delhi. 81-7622-116-3.

<http://www.postharvest.com.au>

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Srivastava, R. P. and Sanjeev K. 1998. Fruit and vegetable preservation principles practice. International Book Distributing Co., Lucknow.

Girdharilal, Siddappa, G. S. and Tandon, G. L. 1998. Preservation of fruits and vegetables. ICAR, New Delhi.

Dauthy and Mircea, E. 1995. Fruit and vegetables processing. International Book Distribution Co, Lucknow.

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VAC 102/B

Water Harvesting Techniques for Dry Region

Objectives :

To introduce students with the importance of water and to inculcate the value of water harvesting and water management under present situation in the dry areas of Gujarat and India. The course will also give a detail insight in various experiments conducted by people in the country and especially in Gujarat.

Unit 1 : Introduction to Watershed Management Water Harvesting Technologies

- Need for Water Harvesting in Arid and Semi-arid region.
- Importance of water harvesting in Rainfed agriculture.
- Concept of Basin area treatment and Watershed.
- Traditional Water Harvesting Technologies

Unit 2 : Recent Techniques in water harvesting

- Check dams
- Continuous Contour Trench (CCT) and Deep CCT
- Well Recharge
- Bore well Recharge/ Dug well Recharge
- Farm pond
- Nala bunds/ Nala plugs
- Field bunds and Field waste weir
- Gabion Structure
- Loose Boulders
- Percolation Tank
- Percolation Well and Waste weir
- Need for Post Water Harvesting Technologies

Unit 3 : Case studies from arid and semi-arid regions of Gujarat – Benefits in agriculture and allied sectors by Audio-visual methods

Unit 4: Exposure Visits/Field Visits in GO, leading NGOs and CSR projects for experience.

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2. Central Public Works Department, (2002) - Rainwater Harvesting and Conservation Manual, Government of India, New Delhi
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7. Umashankari and Esha Shah (1993) Water Management Traditions in India, PP ST Foundation, Chennai, India
8. Government of India (2008) Common Guidelines for Watershed Development Project, Government of India, New Delhi