



"Education for Knowledge, Science, and Culture"

- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur
(Autonomous)



KOLHAPUR (AUTONOMOUS)

Value Added Course:
"Sustainable Agriculture"

Organized by

Department of Botany

Year

2021- 2022

Sustainable Agriculture

Department of Botany



Vivekanand College, Kolhapur. (Autonomous)
Department of Botany
Value Added Course: "Sustainable Agriculture"
2021-2022

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Head
Department of Botany
Vivekanand College
Kolhapur

Value Added Course

Sustainable Agriculture

Course outcome:

- # Students become aware about protection and enhancement of environment and natural resources
- # Students know the best resource available



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Shri. Swami Vivekanand Shikshan Sanstha's Kolhapur

VIVEKANAND COLLEGE, KOLHAPUR. (AUTONOMOUS)

Department of Botany

1) Name of the Course:

"Sustainable Agriculture"

2) Objective:

1. To instill a sense of responsibility for safeguarding and improving the environment and natural resources.
2. To utilize resources as efficiently as possible.
3. Generate enough safe, wholesome food.
4. Provide sufficient financial to the farmer.

3) Duration of the course: 3 months

4) Expenditure: 30,000/-

5) Intake capacity: 40 students

6) Exam Pattern: Theory and Practical

1) Theory – 35 (hr.)

2) Practical - 20 (hr.)

7) Course Outcomes: On completion of the course, students will be able to:

1. Know the concept sustainable agriculture.
2. Understand the concept agritourism.
3. Understand the different agricultural practices.



4. Understand soil nutrient management.

8) Syllabus:

35 hr.

Unit I: Agronomy introduction, Importance of agriculture in India and Maharashtra, Hunger and Food security, and sustainable agriculture, commercial agriculture, Urban agriculture, major farming systems of India, study of different crops From cereal, legume, oil and cash crop category.

Unit II: Organic Farming: Concepts and principles of organic farming , Key indicators of sustainable agriculture, organic farming and climate change.

Unit III: Soil nutrient management; compost production, vermicomposting, Vermiwash Compost quality, Compost utilization and marketing, Integrated nutrient management.

Unit IV: Agriculture practices : Tillage, Crop rotation, Cover crops, Water management Weed management, Disease management, Integrated pest management, Sustainable post harvest management practices.

Unit V: Agritourism, Food waste management, Direct marketing, Quality analysis of organic foods, Antioxidants and their natural source, organic food and human health, Standards of organic food and marketing.

9) Practical Syllabus:

20 hr.

- 1) Traditional and advanced techniques of agriculture.
- 2) Preparation of vermiwash, FYM and biofertilizers.
- 3) Techniques of Irrigation.
- 4) Preparation of Bio pesticides.



- 5) Agritourism model study.
 - 6) Quality analysis of organic food and standards of organic food.
 - 7) Different methods of sowing.
 - 8) Study of natural pest predators.
 - 9) Identification of cereals, legumes, oil and cash crops.
 - 10) Seed treatment with *Rhizobium*.
 - 11) Familiarization with green manure crops and cover crops.
 - 12) Coir pith composting.
- 10) **Exam pattern :**
- a) Theory: 50 marks (Multiple choice questions)
 - b) Practical : 50 marks

Suggested Readings

1. Balasubramaniyan P. and Palaniappan S. P. 2001, Principles and Practices of Agronomy, Agro Bios (India)Ltd, Jodhpur.
2. De, G. C. 1989, Fundamentals of Agronomy, Oxford and IBH publishing co., New Delhi.
3. Mani, M. S. 1968. General Entomology, Oxford and IBH publishing co., New Delhi.
4. Reddy T.Y and Reddy G.H.S. 1995.Principles of Agronomy, Kalyani Publisher, Ludhiana.



श्री स्वामी विवेकानंद शिक्षण सस्थेचे
विवेकानंद कॉलेज कोल्हापूर (स्वायत्त)
वनस्पतीशास्त्र विभाग
Value Added Course 2021-22
"Sustainable Agriculture"

नोटीस

वी.एस्सी. भाग २ व ३ मधील सर्व विद्यार्थ्यांना सुचित करण्यात येते की वनस्पतीशास्त्र विभागमध्ये "Sustainable Agriculture" हा कोर्स सुरू करण्यात येत आहे. तरी इच्छुक विद्यार्थ्यांनी प्रवेशासाठी वनस्पतीशास्त्र विभागाशी संपर्क साधावा.

Mangal
Head
Department of Botany
Vivekanand College
Kolhapur

B.sc. III zoology *Kal*

B.sc. III phyto *Kal*

B.sc. III chem *Kal*

B.sc. III chem *Kal*

B.sc. III micro - *Kal*

B.sc. III physics *Kal*

B.sc. III zoology *Kal*

B.sc. III (P.P) - *Kal*

B.sc. III Biotech - *Kal*



Department of Botany

Value Added Course : " Sustainable Agriculture "

2021-2022

Sr. No.	Roll No.	Name of the student	Mobile Number	Signature
1.	325	Aragu Rasika Ramesh	9689330529	<i>[Signature]</i>
2.	326	Balekhan Swaliha Alimuddin	8605905838	<i>[Signature]</i>
3.	327	Bendake Vasundhara Atul	9404774502	<i>[Signature]</i>
4.	328	Bijapurkar Shirin	9075521179	<i>[Signature]</i>
5.	329	Bodake Shital Balu	9763051982	<i>[Signature]</i>
6.	330	Bhat Pournima Suhas	8080298981	<i>[Signature]</i>
7.	331	Bhiungade Swarupa Sanjay	8318988493	<i>[Signature]</i>
8.	332	Bhoite Pranali Prathpasinh	9021403875	<i>[Signature]</i>
9.	333	Bugade Payal Dayanand	7666642141	<i>[Signature]</i>
10.	334	Chavan Ruchita Bajirao	9022257125	<i>[Signature]</i>
11.	335	Chougule Kshitij Jagannath	9145035891	<i>[Signature]</i>
12.	336	Chougule Vrushabh Suresh	8088359568	<i>[Signature]</i>
13.	337	Dhekale Sourabh Vinod	7030015209	<i>[Signature]</i>
14.	338	Desa Flavian Aveline	8073484642	<i>[Signature]</i>
15.	339	Gurav Amruta Krishnat	7758924455	<i>[Signature]</i>
16.	340	Gawade Chinmay Vijay	9311932992	<i>[Signature]</i>
17.	341	Gondkar Rasika Mahesh	7796093378	<i>[Signature]</i>
18.	342	Jadhav Pranoti Prakash	9763731402	<i>[Signature]</i>
19.	343	Jadhav Saloni Bajirao	8600190402	<i>[Signature]</i>
20.	344	Jadhav Shweta Vishwas	9822975044	<i>[Signature]</i>
21.	345	Jambhale Payal Sampat	8010546528	<i>[Signature]</i>
22.	346	Jitakar Shruti Shashikant	927875468877	<i>[Signature]</i>
23.	347	Kamble Pradnya Shankar	9028521680	<i>[Signature]</i>
24.	348	Kamble Pranay Pundlik	7218930262	<i>[Signature]</i>
25.	349	Kamble Pratiksha Ananda	8888720531	<i>[Signature]</i>
26.	350	Kamble Pradhumn Kumar	9689608032	<i>[Signature]</i>
27.	351	Kamble Rashmi Rajendra	7498873075	<i>[Signature]</i>
28.	352	Karande Vrushali Sanjay	8805078434	<i>[Signature]</i>
29.	353	Kugaji Bhargavi Ramling	8626096051	<i>[Signature]</i>
30.	354	Kolekar Shreyas Dhananjay	7768976966	<i>[Signature]</i>
31.	355	Kshirsagar Aditi Vijay	9699575504	<i>[Signature]</i>
32.	356	Madhav Gouri Prabhakar	9021887746	<i>[Signature]</i>
33.	357	Maskar Prachi Prashant	9859769090	<i>[Signature]</i>



34.	358	Magdum Nivedita Rajkumar	9840939485	Magdum
35.	359	Magdum Sohan Sunil	9822264079	Magdum
36.	360	Mujawar Jafar Nisar	8080697404	Mujawar
37.	361	Mulla Aqsa Manoj	8080607943	Mulla
38.	362	Nirwane Vishakha Chandrakant	8830025991	Nirwane
39.	363	Patil Akanksha Shivaji	9209071216	Patil
40.	364	Patil Bhushan Rajaram	9112131534	Patil
41.	365	Patil Harshada Hambirrao	9923949116	Patil
42.	366	Patil Manasvi Sardar	9763988013	Patil
43.	367	Patil Priyanka Maruti	7822035800	Patil
44.	368	Patil Rutuja Manohar	8262933455	Patil
45.	369	Patil Shivani Shrikant	4146982951	Patil
46.	370	Patil Simantini Devendra	7756040064	Patil
47.	371	Patil Shrutika Subhash	9067803411	Patil
48.	372	Pingale Vaishnavi Satish	7276073761	P.S. Pingale
49.	373	Pujari Poonam Sukhadev	9022084047	Pujari
50.	374	Rajguru Priyanka Dhanaji	7666434375	P. Rajguru
51.	375	Randive Sakshi Manik	9850374234	Randive
52.	376	Salavi Sonali Mahadev	9629858499	Salavi
53.	377	Salavi Akanksha Rajaram	9175024089	Salavi
54.	378	Sarda Sahil Sagar	8275405025	Sarda
55.	379	Sarnaik Prathamesh Kiran	9573765909	Sarnaik
56.	380	Sawale Snehal Sanjay	91721058578	Sawale
57.	381	Shinde Shubham Subhash	7387782539	Shinde
58.	382	Shintre Sneha Anil	7338365693	Shintre
59.	383	Tandale Srushti Ravindra	7840934422	Tandale
60.	384	Thorat Shruti Jaysing	9422684509	Thorat

1) Fee Per student = 500/-

3 500 X 60 = 80,000/-

Department of Botany
Vivekanand College
Kolhapur
15/12/22



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5.	329	Bodake Shital Batu	9763051382	Bodake
6.	330	Bhat Pournima Suhas	9665895826	Bhat
7.	331	Bhiungade Swarupa Sanjay	8378988493	Bhiungade
8.	331	Bhoite Pranali Prathpasinh	9021403875	Bhoite
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40.	364	Patil Bhushan Rajaram	912131534	Patil
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43.	367	Patil Priyanka Maruti	7822035800	Patil
44.	368	Patil Rutuja Manohar	8262938455	Patil
45.	369	Patil Shivani Shrikant	9146988957	Patil
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Department of Botany

Value Added Course – Sustainable Agriculture

Instructions: 1) All the questions are compulsory.

Marks:50

2) Each question carry two marks.

Q. 1 Select appropriate answer from each of the following.

1. ...earthworm species commonly used for vermicomposting process.
a. *Eisenia fetida* b. *Pheretima posthuma*
c. *Perionyx excavates* d. Both a and c
2. In process of vermi-bed protection from ants...chemical is used.
a. DDT b. Chlorpyriophosphate
c. Chloramphenicol d. Griseofulvin
3. The highly decomposed organic matter rich in minerals like nitrogen, phosphorus and potassium, which produced from the activity of earthworms is called...
a. Humus b. Vermicompost
c. Worm casting d. Compost bedding
4. Vermicompost is used as a biofertilizer because it is rich in...
a. Calcium b. Phosphorus
c. Nitrogen d. All of the above
5. Organic farming methods are based upon... basic principles
a. One b. Two
c. Three d. Four
6. Vermicompost is ...in color.
a. Black b. Brown
c. Red d. Pale yellow
7. Green revolution first done in the country...
a. India b. Brazil
c. Australia d. Mexico, USA
8. ...is the bank which gives credit for promotion and development of agriculture.
a. NABARD b. SBI
c. UNION d. AXIS
9. ...is the father of Green revolution.
a. Dr. Verghese Kurien b. Norman Borlaug
c. M. S. Swaminathan d. Rajiv Gandhi
10. The process of making milk powder from condensed buffalo milk is invented by the founder of Amul known as...
a. Hiralal Choughari b. Nirpakh Tutaj
c. Dr. Verghese Kurien d. Sam Pitroda
11. Maharashtra is the first state to adopt...farming technology.
a. Irrigated b. rainfed
c. integrated d. dry land
12. Dr. Punjabrao Deshmukh Krishi Vidyapeeth is present in...
a. Akola b. Parbhani
c. Nagpur d. Rahuri



13. ...is an agricultural process that uses biological fertilizers and pest control acquired from animal or plant waste.
- a. Organic farming b. Chemical farming
c. Inorganic farming d. Systematic farming
14. ...is a new system of farming or agriculture that repairs, maintains, and improves the ecological balance.
- a. Organic farming b. Chemical farming
c. Inorganic farming d. Systematic farming
15. The term 'organic farming' is coined by ...
- a. Lord Northbourne b. Robert Hook
c. Mendel d. Morgen
16. ...type of organic farming involves avoiding all unnatural chemicals. pure organic farming.
- a. Integrated Organic Farming b. Sustainable organic farming
c. Pure organic farming d. none of the above
17. ...type of organic farming involves an integrated approach towards nutrient management and pest management.
- a. Integrated Organic Farming b. Pure organic farming
c. Sustainable organic farming d. none of the above
18. There are ... indicators of Sustainable Agriculture
- a. One b. Two
c. Three d. Five
19. Agrotourism is a business for ... purpose.
- a. Entertainment b. Education
c. Hoteling d. Adventure
20. In agrotourism ... is a currency for exchange
- a. Agriculture b. Education
c. Hoteling d. Adventure
21. ... is a interaction between non farmers and farmers.
- a. Entertainment b. Education
c. Agrotourism d. Adventure
22. Think before you throw is an important activity for ...
- a. Entertainment b. Education
c. Hoteling d. Food waste management
23. ... activities are included in agrotourism.
- a. School tours b. Fishing
c. Hunting d. All of the above
24. The condition of drying of plant parts due to lack of water is called ...
- a. Water stress b. Drought
c. Wilting d. All of the above
25. ... type of root develops in water logging conditions.
- a. Taproot b. Fibrous root
c. Adventitious root d. All of the above.
-



Department of Botany

Value Added Course : " Sustainable Agriculture "

Result : (Out of 100)

Sr. No.	Roll No.	Name of the student	Total Marks (Out of 100)	Grade
1.	325	Aragu Rasika Ramesh	90	A+
2.	326	Balekhan Swaliha Allauddin	88	A+
3.	327	Bendake Vasundhara Atul	90	A+
4.	328	Bijapurkar Shirin	95	O
5.	329	Bodake Shital Balu	90	A+
6.	330	Bhat Pournima Suhas	88	A+
7.	331	Bhiungade Swarupa Sanjay	85	A+
8.	331	Bhoite Pranali Prathpasinh	95	O
9.	333	Bugade Payal Dayanand	85	A+
10.	334	Chavan Ruchita Bajirao	60	B
11.	335	Chougule Kshitij Jagannath	80	A
12.	336	Chougule Vrushabh Suresh	91	O
13.	337	Dhekale Sourabh Vmod	85	A+
14.	338	Desa Flavian Aveline	99	O
15.	339	Gurav Amruta Krishnat	98	O
16.	340	Gawade Chinmay Vijay	62	B+
17.	341	Gondkar Rasika Mahesh	85	A+
18.	342	Jadhav Pranoti Prakash	91	O
19.	343	Jadhav Saloni Bajirao	88	A+
20.	344	Jadhav Shweta Vishwas	85	A+
21.	345	Jambhale Payal Sampat	91	O
22.	346	Jitakar Shruti Shashikant	95	O
23.	347	Kamble Pradnya Shankar	93	O
24.	348	Kamble Pranay Pundlik	88	A+
25.	349	Kamble Pratiksha Ananda	95	O
26.	350	Kamble Pradhumn Kumar	80	A
27.	351	Kamble Rashmi Rajendra	95	O
28.	352	Karande Vrushali Sanjay	95	O
29.	353	Kugaji Bhargavi Ramling	95	O
30.	354	Kolekar Shreyas Dhananjay	95	O
31.	355	Kshirsagar Aditi Vijay	54	B
32.	356	Madhav Gouri Prabhakar	88	A+
33.	357	Maskar Prachi Prashant	92	O



34.	358	Magdum Nivedita Rajkumar	93	O
35.	359	Magdum Sohan Sumi	93	O
36.	360	Mujawar Jafar Nisar	75	A
37.	361	Mulla Aqsa Manoj	71	A
38.	362	Nirwane Vishakha Chandrakant	88	A ⁺
39.	363	Patil Akanksha Shivaji	86	A ⁺
40.	364	Patil Bhushan Rajaram	76	A
41.	365	Patil Harshada Hambirao	95	O
42.	366	Patil Manasvi Sardar	87	A ⁺
43.	367	Patil Priyanka Maruti	87	A ⁺
44.	368	Patil Rutuja Manohar	80	A
45.	369	Patil Shivani Shrikant	62	B ⁺
46.	370	Patil Simantini Devendra	98	O
47.	371	Patil Shrutika Subhash	81	A ⁺
48.	372	Pingale Vaishnavi Satish	81	A ⁺
49.	373	Pujari Poonam Sukhadev	95	O
50.	374	Rajguru Priyanka Dhanaji	85	A ⁺
51.	375	Randive Sakshi Manik	83	A ⁺
52.	376	Salavi Sonali Mahadev	93	O
53.	377	Salavi Akanksha Rajaram	93	O
54.	378	Sarda Sahil Sagar	81	A ⁺
55.	379	Sarnaik Prathamesh Kiran	69	B ⁺
56.	380	Sawale Snehal Sanjay	89	A ⁺
57.	381	Shinde Shubham Subhash	87	A ⁺
58.	382	Shintre Sneha Anil	91	O
59.	383	Tandale Srushti Ravindra	71	A
60.	384	Thorat Shruti Jaysing	79	A

Magdum
 Department of Botany
 Vivekanand College
 Kohapur





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Shikshanmaharshi Dr. Bapuji Salunkhe



Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR. (Autonomous)

NAAC Reaccredited : "A" (CGPA 3.24), College with Potential for Excellence by U.G.C., New Delhi
"Star College" by D.B.T. Govt. of India, ISO. 9001-2015

CERTIFICATE

This is to certify that Miss. Manasvi Sardar Patil

_____ of _____ has passed the Value Added Course in
'Sustainable Agriculture'

in the Month of August year 20 22. The said certificate has been issued to
him/her at the Vivekanand College, Kolhapur.


Co-ordinator


Head
Department of Botany
Head
Department of Botany
Vivekanand College
Kolhapur


Principal
PRINCIPAL
Vivekanand College
Kolhapur