



S.S.G. PAREEK P.G. COLLEGE

(Affiliated to the University of Rajasthan)
UGC Approved "First Heritage College in Rajasthan"



Estd.- 1906

Value added-on Certificate Course

APICULTURE

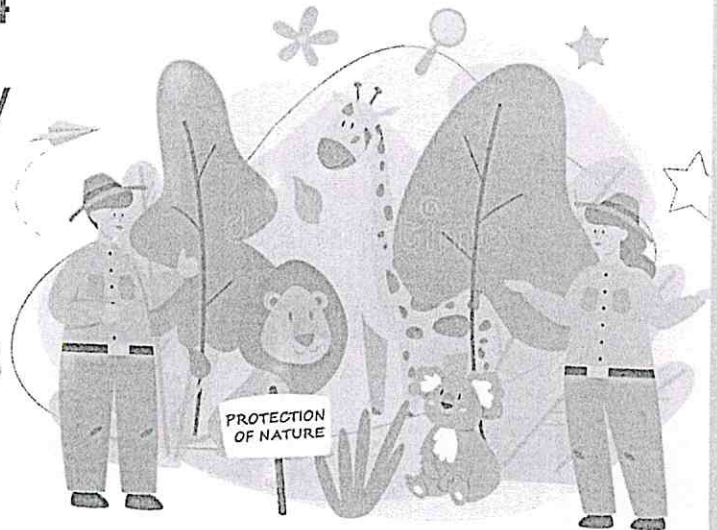
Academic Year 2023-24

Department of Zoology

Duration : 36 Hours

Date : 1 November 2023

Venue : Zoology Dept.



Course Outcome

After the completion of the course, the students should be able to

- To analyze behavior of animals
- To identify animal species and their conservation.
- To analyze cause climate change and impact on health of creatures.
- To able to determine the common behavior of animals.
- To analyze environmental effect on animals

Coordinator Name - Dr. Rajneesh Mishra

Note: 75% Attendance Required

📍 Kanti Chandra Road, Bani Park, Jaipur-302016 (Raj.)

☎ 0141-2202167

🌐 www.ssgpareekpgcollege.com

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Date -: 27/10/2023

Notice

Value Added Certificate Course

Dear Students,

We are pleased to announce the commencement of registration for our upcoming Value Added Course. This course aims to supplement your academic learning and enhance your skills.

Key Details:

Course Name: Apiculture

Duration: 36Hours

Venue: Zoology Department

Course Started – 1 November 2023

This Value Added Course is designed to equip you with practical skills that will complement your academic journey and enhance your employability prospects. We encourage all interested students to take advantage of this opportunity. For any inquiries or assistance regarding the course, feel free to contact Coordinator.

Coordinator Name – Dr. Rajneesh kumar Mishra

Department of Zoology

Note - 75% Attendance is must.


Principal



Value added Course in " Apiculture "

1.	Course Name	Apiculture
2.	Coordinator Name	Dr. Rajneesh Kumar Mishra
3.	Instructor Name	Dr. Shakuntala singh
4.	Class	M.Sc.Zoology
5.	Number of Student	40
6.	Duration	36 Hours
7.	No. of Hours/Day	1

OBJECTIVES (BACKGROUND ON INTRODUCING THE COURSE)

The course is open to all students. Certificate will be provided by the College for the participants.

COURSE OUTCOME:

- ✓ Illustrate the steps in beekeeping and management
- ✓ Describe various steps in apiculture
- ✓ Attain practical skill in keeping the bee hive and maintain bee colonies
Identify the role of beekeeping in enhancing women entrepreneurial skill
- ✓ Understand the composition and applications of bee products
- ✓ Describe the market value of bee products Identify various products from honey bees
- ✓ Understand the biology, morphology, species composition and social life of honey bees



SYLLABUS

(36 hrs)

Unit I

(7 hrs)

1. History of bee keeping
2. Species diversity of honey bees
3. Pollination support through beekeeping -Role of honeybees in ecosystem
4. Domestication of Indian bees and Italian bees
5. Bee hives and peculiarities
6. Capturing of bee colonies
7. Bee keeping equipments

Unit II

(5 hrs)

8. Biology and social life of honey bees
 - a) Morphology and identification of Queen, drones and worker bees, cast system in honey bees-family and cast, division of labor, bee dance and communication in bees
 - b) Honey Bee biology-emerging of queen, swarming, mating, egg laying, life span
 - c) Collection of pollen by bees, morphological modifications - modified legs, extraction of pollen
 - d) Royal jelly and hormonal influence Bee wax, wax



glands

- e) Nesting pattern of bees
- f) Bee sting, bee venom, venom gland
- g) Architectural design of bee hives, types of cells

Unit III

(8 hrs)

- 9. Basic operational principles of bee colonies
 - a) Selection of location
 - b) Up keeping of bee colonies
 - c) Off seasonal management of bee colonies Growth period management
 - d) Honey flow-seasonal management
 - e) Diseases and parasites of honey bees-control measures

Unit IV

(7 hrs)

- 10. Honey and its ingredients
 - a) Composition of honey, conversion of nectar to honey,
- 11. Economic importance of honey and other bee products
 - a) Medical value of honey, special properties and uses of honey, processing and value addition of honey



- b) Bee wax and uses, extraction, purification, processing and value addition of bee wax Bee pollen and bee venom - uses

Unit V

(5 hrs)

12. Marketing aspects of bee products
13. Role of Govt and Non-Govt agencies in promoting apiculture in Rajasthan
14. Present status and future scope of apiculture as a small scale industry in Rajasthan
15. Present scenario and Scope of apiculture in India

Unit VI –Practical Session

(4hrs)

16. Identification of different casts in honeybees-Queen, drones and workers
17. Structure of honey comb-different type of cells for queen, drones and workers
18. Morphological peculiarities of worker bees-Honey and pollen storage structures
19. Familiarize bee keeping instruments and bee hives

REFERENCES

- Graham, J M (1992) The hive and the honey bee. Dadant and Sons, Hamilton, Illinois.



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- Mishra R.C. (1995) Honey bees and their management in India. ICAR Publication, New Delhi.
- Singh, S. (1971) Beekeeping in India, ICAR publication.
- Gupta, J.K., Sharma, H K and Thakur, R K. **2009**. Practical Manual on Beekeeping. Department of Entomology and Apiculture, Dr Y S Parmar University of Horticulture and Forestry, Nauni, Solan, p 83


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Student Attendance Sheet

Session-2023-24

Course- Blue added course - Apiculture Date -

S.No.	Student Name	Student ID	Class	Signature
1.	ARCHANA NAGARWAL	14055	M SC BOTANY FINAL	Archana
2.	ARPIT GAUTTAM	14346	M SC BOTANY FINAL	Arpit
3.	DIMPAL SHARMA	13846	M SC BOTANY FINAL	Dimpal
4.	INDU SHARMA	13964	M SC BOTANY FINAL	Indu
5.	KUSUM SHARMA	14222	M SC BOTANY FINAL	Kusum
6.	MAYANK SHARMA	14341	M SC BOTANY FINAL	Mayank
7.	NANDINI SHARMA	14342	M SC BOTANY FINAL	Nandini
8.	NEHA CHOUDHARY	14257	M SC BOTANY FINAL	Neha
9.	POOJA THAKUR	14023	M SC BOTANY FINAL	Pooja
10.	PREETI KUMARI	13807	M SC BOTANY FINAL	Preeti
11.	RAVI PRAKASH MEENA	14205	M SC BOTANY FINAL	Ravi
12.	SAURABH SINGH	14325	M SC BOTANY FINAL	Saurabh
13.	STUTI BUNKAR	14018	M SC BOTANY FINAL	Stuti
14.	AANCHAL SETHI	14954	M SC ZOOLOGY (PREV.)	Aanchal
15.	ALISHA QURESHI	14508	M SC ZOOLOGY (PREV.)	Alisha
16.	AMBIKA SHARMA	14976	M SC ZOOLOGY (PREV.)	Ambika
17.	ANJALI KHANDELWAL	14938	M SC ZOOLOGY (PREV.)	Anjali
18.	ANUSHREE SHARMA	14472	M SC ZOOLOGY (PREV.)	Anushree
19.	APARNA PAREEK	14959	M SC ZOOLOGY (PREV.)	Aparna
20.	ASHISH CHOUDHARY	14611	M SC ZOOLOGY (PREV.)	Ashish
21.	CHANCHAL RAWAT	14350	M SC ZOOLOGY (PREV.)	Chanchal
22.	CHARU KUMAWAT	14967	M SC ZOOLOGY (PREV.)	Charu
23.	DEEPAK KUMAR SAINI	14859	M SC ZOOLOGY (PREV.)	Deepak
24.	DEVESHNA PAREEK	14634	M SC ZOOLOGY (PREV.)	Deveshna
25.	DIVY SHANKAR SHARMA	14415	M SC ZOOLOGY (PREV.)	Divy
26.	DIVYA PANDEY	14936	M SC ZOOLOGY (PREV.)	Divya
27.	DIVYANSHI SOLANKI	14420	M SC ZOOLOGY (PREV.)	Divyanshi
28.	GARIMA BANSAL	14582	M SC ZOOLOGY (PREV.)	Garima
29.	GARVITA CHHALIYA	14810	M SC ZOOLOGY (PREV.)	Garvita
30.	HARSHITA PAREEK	15027	M SC ZOOLOGY (PREV.)	Harshita
31.	HARSHITA SONI	14871	M SC ZOOLOGY (PREV.)	Harshita

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32.	JYOTI SINGH	14603	M SC ZOOLOGY (PREV.)	Jyoti
33.	KAJAL KAPOOR	15004	M SC ZOOLOGY (PREV.)	Kajal
34.	KIRTI TAILOR	14574	M SC ZOOLOGY (PREV.)	Kirti
35.	KUSUM HARJANI	14958	M SC ZOOLOGY (PREV.)	Kesum
36.	LAKSHITA PAREEK	14768	M SC ZOOLOGY (PREV.)	Lakshita
37.	LAKSHMI	15014	M SC ZOOLOGY (PREV.)	Lakshmi
38.	MADHULATA KUMAWAT	14916	M SC ZOOLOGY (PREV.)	Madhu
39.	MAMTA KURI	14426	M SC ZOOLOGY (PREV.)	Mamta
40.	MANEESHA JAT	15121	M SC ZOOLOGY (PREV.)	Maneesha
41.	MEGHRAJ GURJAR	15016	M SC ZOOLOGY (PREV.)	Megha
42.	MONIKA KUMAWAT	14683	M SC ZOOLOGY (PREV.)	Monika
43.	MUSKAN AGRAWAL	14409	M SC ZOOLOGY (PREV.)	Muskan
44.	NEHA SHARMA	14408	M SC ZOOLOGY (PREV.)	Neha
45.	NISHA PAREEK	14965	M SC ZOOLOGY (PREV.)	Nisha
46.	POONAM MISHRA	14892	M SC ZOOLOGY (PREV.)	Poonam
47.	PRIYANKA	14614	M SC ZOOLOGY (PREV.)	Priyanka
48.	PRIYANKA SWAMI	15015	M SC ZOOLOGY (PREV.)	Priyanka
49.	SHIVANI LAKHIWAL	14918	M SC ZOOLOGY (PREV.)	Shivani
50.	SIMRAN NAGORI	14644	M SC ZOOLOGY (PREV.)	Simran
51.	SOFIYA KHAN	14927	M SC ZOOLOGY (PREV.)	Sofiya
52.	SONAM YOGI	14786	M SC ZOOLOGY (PREV.)	Sonam
53.	VIHAL KANOJIYA	14844	M SC ZOOLOGY (PREV.)	Vihari
54.	VIVEK KUMAR	15017	M SC ZOOLOGY (PREV.)	Vivek


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CERTIFICATE

This certificate is proudly presented to

He/She has successfully completed the Value Added course on

“ APLICULTURE”

From 01 November 2023 to 14 January 2024

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COURSE-COORDINATOR

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