



Janata Shikshan Sanstha's KISAN VEER MAHAVIDYALAYA, WAI

Department of Zoology "Certificate Course in Apiculture" Course Report - 2023-24

The department of Zoology conducted a certificate course entitled "Certificate Course in Apiculture". The notification and advertisement was made through our college website. The brochure of the course was uploaded on the college website. The course was started on 04 August to 06 November 2023. The time - table was displayed on the department's notice board. In all 46 students were admitted for the course. Regular lectures and practical were conducted as per the time-table. Examination of the said course was conducted and certificates were issued to the students who have completed the course successfully. Students were guided with the knowledge about apiculture and economic importance of honey. The supportive departmental staff and the administration of the college and specially Hon. Principal supported a lot.

The record of the course has maintained in the department.

Course Co-Ordinator
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DEPARTMENT OF ZOOLOGY
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Wai 412803

PRINCIPAL KISAN VEER MAHAVIDYALAYA Wai, Dist. Satara





Kisan Veer Mahavidyalaya, Wai

Department of Zoology

Year: 2023-2024

CERTIFICATE COURSE IN APICULTURE TECHNOLOGY

Apiculture, also known as beekeeping, is the practise of producing and maintaining honeybee colonies. If apiculture is integrated with farming in the rural areas, it is economically sustainable. Beekeeping can be started as a company by farmers, and apiculture is quite simple to learn. One of the oldest sweeteners, honey is a natural, healthy food that is pure and unfiltered. It is a food free of cholesterol and fat with no additional ingredients.

Beekeeping is a business that produces wax and honey. In India, the mountainous regions are where honey bee farming is most common, but in recent years, locals have also started this activity in the plains to increase their income. India has a great deal of potential for the growth of beekeeping because of its diverse environment and endless floral resources found in both natural vegetation and cultivated crops. Recent data indicates that around 50 million hectares of land are being used to grow crops including oilseeds, pulses, orchards, and other plants that benefit from bee pollination. Moreover, there are around 60 million hectares of forests that have the capacity to support beekeeping. At least one crore bee colonies may readily survive in this large expanse of agricultural and woodland.

Appropriate management techniques, superior beekeeping skills, ideal climatic conditions, and acceptable locations for beekeeping have boosted the quality and quantity of apicultural output while reducing unwanted risk. Beekeeping is becoming a more popular, economically viable, and environmentally acceptable agricultural enterprise, yet it still predominates in rural or interior areas of our nation, requiring increased government knowledge and assistance.

Outcomes of this Course:

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- Acquire knowledge about different species and casts of the honey bees.
- Aware about economic importance of honey bees.
- Identify role of honey bees in nature and in agricultural productivity.
- Use Apiculture for employment, self employment and conservation of nature.
- Apply knowledge and skill to establish its own apiary or provides services to
- Learn various products of honey bees and value addition in these products, create scope for entrepreneurship.
- Assess the pest, and enemies/ predator of honey bees.
- Understand the basics about beekeeping tools, equipment, and managing beehives.
- Manage beehives for honey production and pollination.

Do marketing of various bee products.

The key features are:

- Short-term skill based training programmes
- Identification of "minimum skills set" sufficient to get employment
- Flexible training delivery mechanism
- Opportunity for lifelong learning

Statement of learning outcomes:

- Working Process: Person may establish a small scale industry or a domestic business/generate employment for others.
- Professional knowledge: Basic facts, process and principle applied
- Professional skill: Recall and demonstrate practical skill, routine and repetitive work in narrow range of application
- Core skill: Communication with oral and written modes with minimum required

Employability Potential of the Programme

Choosing apiculture as a grade course gives a great deal of promise for entry into the unique profession of honey bee keeping. Development of knowledge and skills in handling bees and their colonies, identifying pests that they are affected by and taking preventative measures, need and supply of food, food sources, a suitable climate, basic requirements for beekeeping, and extraction of various products from bee colonies are all included in the certificate programme in apiculture.

As a Beekeeper, Bee Breeder, Bee Product Extractor, Bee Product Analyst, Bee Product Value Addition, Bee Trainer, Bee Entrepreneur-selling Bee Colonies, Establishment of Honey House-Extraction, Processing and Packaging of Honey, Honey Export, Bee Product Value Addition

Opportunities in Government organizations working in the field of beekeeping are-

- Khadi and Village Industries Commission (KVIC).
- Central Bee Research and Training Institute (CBRTI), Pune
- State Khadi and Village Industries Board (KVIB).
- Directorate of Honey Bee Keeping, Mahabaleshwar.

Private Sector, learner can provide services as -

- Beekeeper
- Honey Processer



- Bee Breeder
- Bee Product Extractor
- Bee Product Analysis and Quality Control.
- Value Addition in bee Product.

General Information and Course Structure:

Level: Certificate

Stream: Science or any stream

Subject: Bee Keeping Management / Honey Processing

Language: English/Marathi

Teaching mode: Offline, Online through Google meet, Video and PDF notes.

Intake: 20+20 seats

Attendance: 90%

Available infrastructure: Well equipped laboratory, small & large scale Apiculture units

Teaching Staff: Qualified, Experienced Guest Lecturers & eminent professors will be invited.

Duration of Course:

Sr.No.	Course	Duration	Eligibility
1)	Certificate Course in Apiculture technology	3 Month	B.Sc.



3 Months Apiculture Research Training (Apiculture Course):-

Sr. No.	Syllabus	Duration	Theory	Practical	Days
1)	General Introduction History Species Diversity Bee Keeping Equipments	4	4	4	12
2)	Morphology and lifecycle of Honey bees Social organization and communication in bees Collection and extraction of pollen Bee wax Nesting pattern Bee sting Bee venom	4	4	4	12
3)	Selection of location Up keeping and off seasonal management of bee colonies. Diseases and parasites of honey bees and their control measure.	6	6	6	18
4)	Composition of honey Conversion of nectar to honey Economic importance of honey and other bee products. Medical value. Special properties and uses of honey and processing and value addition of honey.	8	8	8	24
5)	Marketing aspect of bee products. Role of govt. and Non- Govt. agencies Scope of apiculture in India	8	8	8	24
	Total	30	30	30	90

Course Co-Ordinator

Kisan Veer Mahavidyalaya
Wai 412803

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PRINCIPAL
KISAN VEER MAHAVIDYALAYA
Wai, Dist. Satara

Department of Zoology

Kisan Veer Mahavidyalaya, Wai

Date: 01/08/2023

Notice

All B.Sc. (Zoology) students are here by informed that our department will be conducting a "Certificate Course in Apiculture". The course is scheduled to commence on 04/08/2023. The duration of the course is 3 months, and the fee is 500/-. Interested students should enroll their names with Lab Assistant Shri Thombare Navnath in the Department of Zoology

DEPARTMENT OF ZOOLOGY Kisan Veer Mahavidyalaya Wai 412803

Kisan Veer Mahavidyalaya, Wai

Department Of Zoology

Notice

The meeting of the Board of Studies of Zoology will be held on Thursday 11thMay 2023 at 11:00 am in the Department of Zoology. The meeting will be chaired by Dr. H. D. Kanase, Head, Department of Zoology, Kisan Veer Mahavidyalaya, Wai. All the members are advised to attend meeting.

Sr. No.	Name	Designation	Position	Signature
1.	Dr. H. D. Kanase	Head Department of Zoology Kisan Veer Mahavidyalaya Wai	Chairperson	Thane
2.	Dr. Mrs. M. V. Ingawle	Head Department of Botany Kisan Veer Mahavidyalaya Wai	Member	(Figure)
3.	Mr. R.R. Tayade	Asst. Prof. Department of Zoology Kisan Veer Mahavidyalaya Wai	Member	red !
4.	Mrs. S. R. More	Asst. Prof. Department of zoology Kisan Veer Mahavidyalaya Wai	Member	Swell

Agenda:

 To recommended to the college Development Committee through the Principal the introduction of new Certificate Course/s

2. To recommended to the college Development Committee through the Principal the discontinuation of earlier Certificate Course

3. To recommended to the Principal of course syllabi, course structure & evaluation scheme of new Certificate course

 To recommended the reference books and other study material to be used for the study of the Course/s

5. Any other subject with the permission of the Chair

DEPARTMENT OF ZOOLOGY Repartment of Zoology Kisan Veer Mahavidyalaya Wai 412803 Way Dist. Sulars

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KISAN VEER MAHAVIDYALAYA
Wai, Dist. Satara

Kisan Veer Mahavidyalaya, Wai

Department Of Zoology

Certificate Course In Apiculture 2023-24

Syllabus

Jnit-I: Ge	neral Apiculture (Bee Keeping)	
1)	History of bee keeping	
2)	Species diversity of honey bees	
3)	Pollination support through beekeeping	
	Role f honeybees in ecosystem Domestication of Indian bees and Italian bees	
4)	Bee hives and peculiarities	
,	Capturing of bee colonies Bee keeping equipments	
Unit-II: B	iology and social life of honey bees	
Unit-II: B	Morphology and identification of Queen, drones and worker	
	Morphology and identification of Queen, drones and worker bees, cast system in honey bees-family and cast, division of labor, bee dance	
	Morphology and identification of Queen, drones and worker bees, cast system	
	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. Honey Bee biology-emerging of queen, swarming, mating,	
1)	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.	
2)	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. Honey Bee biology-emerging of queen, swarming, mating, egg laying, lifespan. Collection of pollen by bees, morphological modifications -	
1) 2) 3)	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. Honey Bee biology-emerging of queen, swarming, mating, egg laying, lifespan. Collection of pollen by bees, morphological modifications - modified legs, extraction of pollen.	
2)	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. Honey Bee biology-emerging of queen, swarming, mating, egg laying, lifespan. Collection of pollen by bees, morphological modifications - modified legs, extraction of pollen. Royal jelly and hormonal influence	

8)	Architectural design of bee hives, types of cells	
Unit III: Bas	sic operational principles of bee colonies	
1)	Selection of location	
2)	Up keeping of bee colonies	
3)	Off seasonal management of bee colonies	
4)	Growth period management .	
5)	Honey flow-seasonal management	
6)	Diseases and parasites of honey bees-control measures	
Unit IV:	Paper – II	
A)	Honey and its ingredients:	
B)	Economic importance of honey and other bee products: Medical value of honey, special properties and uses of honey, processing and value addition of honey Bee wax and uses, extraction, purification, processing and value addition of bee wax Bee pollen and bee venom - uses	
Unit V:		
1)	Marketing aspects of bee products	
2)	Role of Govt and Non-Govt agencies in promoting apiculture in Maharashtra.	
3)	Present status and future scope of apiculture as a small scale industry in Maharashtra.	
4)	Present scenario and Scope of apiculture in India	



Practical:	Practical - I	
1)	Introduction of parts of Bee box - ISI 'A' type 'B' type & Tools used in Bee keeping	
2)	Identification of different casts in honeybees-Queen, drones and workers & Brood	
3)	Structure of honey comb-different types of cells for queen, drones and workers	
4)	Morphological peculiarities of worker bees-Honey and pollen storage structures	
5)	Methods of Multiplication of Bee Colonies Steps for strengthening of colonies- Requeening technique	
6)	Propagation of bee plants- Preparation of floral calendar	
	Practical - II	
1)	Care- Transportation of bee colonies	
2)	Familiarize bee keeping instruments and bee hives	
3)	Extraction of Honey using Honey extractor, moisture reduction, packing and storing of Honey	
4)	Methods of Extraction of Bees wax, Royal Jelly and Bee venom	
5)	Fermentation and Granulation of Honey.	
7)	Visit to Apiculture Centre	

References:

- 1) Anatomy of Honey bee R.E. Snoadgrass.
- Apiculture, 1987 (Translated from French in English by R.K.Kauls 1994), P.Jean-Prost, Oxford and IBH Publication, New Delhi.
- 3) Bee Biology of the Honey Bee, 87, M. Winston, Harvard University Press, Cambridge, England. 27. (The)
- 4) Bee Genetica and Breeding 1986, T.E.Reinderer, Academic Press Inc., London.
- 5) Beekeeping by E.F.Phillips. Agrobios (India) Publication.
- 6) Beekeeping in India, 1962,82, Sardar singh, ICAR, New Delhi.
- Beekeeping in Integrated Mountain Development Economics & Scientific perspective Publication.

- 8) Beekeeping- Teach yourself Books, By-Vernon F.(1984)
- 9) Bees and Bee keeping in India, D.P. Abrol, Kaluani Publications.
- 10) Bees and Bee Keeping Science, Prentice & World Resources, 1990 Eva Crane, Heinemann Newnes, Oxford, UK.
- 11) Bees and Mankind 1982, J.B.Free, George Allen & Unwin (Pub.), Limited London, UK. 25. Biogeography and Taxonomy of Honeybees 1985, F.Ruttnar, Springer-Verlag, Berlin, Jermany.
- 12) Bees their vision, chemical senses & language-1950, Cornel University Press- By Fon firsh, & Karl.
- 13) Dance Language and Orientation of Bee 1967, K. VonFristch, Harvard University Press, Cambridge, England.
- 14) Ecology and Neutral History of Tropical Bees 1989, D.W.Roubik, Cambridge University Press, Cambridge, England.
- 15) First Lesson in Beekeeping : Dadant C.D. Malilton, Illinois.
- 16) Handbook of Beekeeping by Dharamsingh, Devendra Pratap Singh, Agrobios.
- 17) Honey bee Biology 1982- By Free Johnson & Central Association of Bee Keepers England.
- 18) Honey Bee Ecology A study of adaptation in social life 1985, T.D.Seeley, Princeton University Press, Princeton, NJOBS 40, USA.
- 19) List of Reference Books for the subject Apiculture :-
- 20) The hive & the Honey Bee- 1975, 4th edition Dadant Publication, America.
- 21) The Hive and the Honey Bee 1992 (Revised Edition), J.Graham, Dadint& Sons Inc., Hamilton, Illingis 62341, USA.
- 22) The Social Behaviour of the Bees, 1974: By Missioner C.D.

Course Gordinator
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Kishakartmunthal/Zahaluna
Wai 412803

MAHAVIDI Mil. Dist. Salara

Principal
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(ISAN VEER MAHAVIC ALAYA
Wai, Dist. Satura

Kisan Veer Mahavidyalaya, Wai

Department of Zoology Certificate Course In Apiculture Student List 2023-24

			Class
Sr No	Roll No	Student Name	B.Sc. III
1	40	SHINDE AKSHADA G	B.Sc. III
2	48	KAMBLE RONIT S	B.Sc. III
3	49	CHIKANE OMKAR S	B.Sc. III
4	53	KAYANGUDE SAKSHI	B.Sc. III
5	65	WALGE SANIYA J	B.Sc. III
6	78	BHILARE JYOTI R	B.Sc. II
7	1	INGAWALE SANIKA S	B.Sc. II
8	2	HAGAVANE TEJASWI A	B.Sc. II
9	3	CHAVAN SNEHAL S	B.Sc. II
10	4	WADKAR OMKAR A	B.Sc. II
11	5	DALVI SANKET M	B.Sc. II
12	6	KAMBLE ADITYA R	B.Sc. II
13	7	JADHAV SHUBHAM L	B.Sc. II
14	10	BARGE MAYUR K	B.Sc. II
15	11	DANGE RAMAJAN R	B.Sc. II
16	12	WAGH AAKANKSHA R	B.Sc. II
17	13	GAIKWAD AKANKSHA H	B.Sc. II
18	14	NIKITA K WAGHMARE	B.Sc. II
19	15	CHAVAN UTKARSHA S	B.Sc. II
20	16	NEHA K WAGHMARE	B.Sc. II
21	17	VEDPATHAK ATHARV S	B.Sc. II
22	23	SHELAR SAHIL S	B.Sc. II
23	24	ITHAPE PRAJJWAL B	B.Sc. II
24	25	PAWAR KIRAN S	B.Sc. II
25	26	JADHAV SOURAV S	B.Sc. II
26	27	PAWAR NIKHIL D	
27	30	CHETANA A SAWANT	B.Sc. II
28	32	NIKAM ARYAN J	B.Sc. II
29	34	JADHAV APEKSHA M	B.Sc. II
	35	DHAMAL PRIYANKA J	B.Sc. II
30	36	ITHAPE MRUNALINI J	B.Sc. II
31	87	JAMBHALE TEJAL M	B.Sc. I
32	88	GHORPADE SANIKA S	B.Sc. I
33	90	TIKNUR SITARAM V	B.Sc. I
34	91	YADAV MINAKSHI S	B.Sc. I
35	94	DHAMAL ARTI R	B.Sc. I
36	95	BAGADE DHANARAJ R	B.Sc. I
37	100	DHEKANE DIKSHA D	B.Sc. I
38		RAUT TEJAL A	B.Sc. I
39	101	DHONE PRATHAMESH N	B.Sc. I
40	102	PISAL SAKSHI A	B.Sc. I



	105	KALE PRAGATI J	B.Sc. I
42	105	YADAV UTTARA S	B.Sc. I
43	107	SAPKAL SAIEE C	B.Sc. I
44	109	MULANI ALTAF K	B.Sc. I
46	121	MOZAR TANVI A	B.Sc. I

Head,

Head,

Department Of Zoology

Kisan Veer Mahavidyalaya

Wai 412803



Principal
Kisan Veer Mahavidyalaya, Wai
KISAN VEER MAHAVIDYALAYA
Wai, Dist. Satara

Janata Shikshan Sanstha's Kisan Veer Mahavidyalaya, Wai

Department of Zoology

Short Term Course 2023-24

Apiculture

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Teacher Inchange

Janata Shikshan Sanstha's Kisan Veer Mahavidyalaya, Wai

Department of Zoology

Short Term Course 2023-24 Apiculture

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Tember Incharge

Kisan Veer Mahavidyal

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KISAN VEER MAHAVIDYALAYA Wai, Dist. Satara

In The James

DEPARTMENT OF ZOOLOGY Kisan Veer Mahavidyalaya Wai 412803

Salue Argo Towner Inchange

Kisan Veer Mahavidyalaya, Wai

Department of Zoology

Date: 01/02/2024

Notice

Students of B.Sc. (Zoology) are hereby informed that their theory and practical's examination of Certificate Course in Apiculture is arranged on Friday, 09/02/2024 as per following Schedule.

Title	Time
Title	11.00
Paper I	9:00 am to 11:00 am
Paper II	11:30 am to 1:30 pm
Practical I	9:00 am to 11:00 am
	11:30 am to 1:30 pm
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Head;
DEPARTMENT OF ZOOLOGY
Department of Zoology
Wai 412803

Kisan Veer Mahavidyalaya, Wai Department of Zoology

Certificate Course In Apiculture (2023-2024) Paper I& II

Day & Date: Time: 2 Hrs Total Marks: 50 Q1. Select correct option and rewrite the sentence. 10 1) 2) 3) 4) 5) 6) 7) 8) 10) Q2. Answer the following questions. 20 1) 2) Q3. Write short notes on. 20 1) 2) 3) 4)

Teacher In-charge

Course Congrainator
DEPARTMENT OF ZOOLOGY
KISSIN VEST MANAVIOYATAYA
Wai 412803

KISAN VEER MAHAVIDYALAYA
Wai, Dist. Satara



Janata Shikshan Sanstha's Kisan Veer Mahavidyalaya, Wai Department of Zoology Certificate Course In Apiculture (2023-2024) Practical Exam Paper I

Day & Date:

Time: 2 Hrs

Total Marks: 50

Inst	tru	ctio	ns:

- 1) All Questions are Compulsory.
- 2) Draw diagram wherever necessary.
- 3) Figures to the right indicate full marks.

Q.1. Answer the following.

Q.2.	Submission of a report on apiculture.	10
	10. Describe disease	04
	9. Identify, describe & sketch label	04
	8. Identify and give its function	04
	7. Identify, and state its functions	04
	6. Identify and state its morphological features	04
	5. Identify, and give uses	04
	4. Identify and describe	04
	3. Identify & give function	04
	2. Identify and describe	04
	1. Identify, and mention the diagnostic features	04

Teacher In-charge

Course Co-Ordinator

Wai 412803



KISAN VEER WAHAVIDYALAYA

Wai, Dist. Satara

Janata Shikshan Sanstha's Kisan Veer Mahavidyalaya, Wai Department of Zoology Certificate Course In Apiculture (2023-2024) Practical Exam Paper II

Day & Date:

Time: 2 Hrs

Total Marks: 50

Instruction	s:
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- 1) All Questions are Compulsory.
- 2) Draw diagram wherever necessary.
- 3) Figures to the right indicate full marks.

Q.1. Answer the following.

	1. Identify, and give uses	0-
	2. Identify and describe	04
	3. Identify, describe and mention its peculiar features	04
	4. Identify and describe	04
	5. Identify, and give uses	04
	6. Identify and state its morphological features	04
	7. Identify, and describe given species	04
	8. Identify and give function	04
	9. Identify, sketch and label life cycle	04
	10. Identify & give function	04
0.2.	Submission of a report on apiculture.	10

Teacher In-charge

Course Co-Ordinator

Kisan Veer Mahavidy Llays

Wai 412803

Principal
PRINCIPAL
KISAN VEER MAHAVIDYALAYA
Wai, Dist. Satara

Kisan Veer Mahavidyalaya, Wai Department of Zoology

Certificate Course In Apiculture (2023-2024) Paper I

Total Marks: 50	Tim	e: 2 Hrs
Q1. Select correct option and rewrite the s	entence.	1
 Honey bee belongs to class 		•
a) Mammalia c) Insecta	b) Pices d) Reptilia	
2) Apis dorsata is used to refer to		
a) little bee c) european bee	b) indian bee d) rock bee	
3) The honey bee is of greatest use to mank	cind as	
a) it is of medicinal valuec) we get honey from them	b) helps in cross po d) none of these	llination
4) Nature of honey is		
a) acidic c) neutral	b) alkaline d) basic	
5) The development of a male bee (drone) to	akes	J
a) 16 c) 22	b) 19 d) 24	_days.
6) Queen is specified for		
a) administration c) egg laying	b) making hived) collection of food	
7) In honey breathe drones are produced from		
a) unfertilized eggsc) larvae fed by royal jelly	b) fertilized eggs d) fasting larvae	
8) is commanly know		

a) Apis melifera c) Apis cerana indica	b) Apis dorsata d) Apis florea	
9) Body of honey bee is divided into a) 1 c) 3	b) 2 d) 4	
 10) Species construct hive on tall plants. b) Apis melifera c) Apis cerana indica 	b) Apis dorsata d) Apis florea	
 Q2. Answer the following questions 1) Describe the diseases of honey bees and 2) Describe the casts of Honey bee Q3. Write short notes on 	d write control measures.	20
 Bee keeping equipment's Chemical composition of honey History of bee keeping Bee dance 		20
67.	Head Head Wai. Satara Kluan Veer Mahavidyalay: Wai 412803	3Y 2

Kisan Veer Mahavidyalaya, Wai

Department of Zoology

Certificate Course In Apiculture (2023-2024) Paper II

Day & Date: Friday 09/02/2024 Total Marks: 50	Time: 2 Hr
Q1. Select correct option and rew	rite the sentence.
1) Rearing of honey bee is calle	d as
a) sericulture	b) lac Culture
c) vermiculture	d) apiculture
2) is comm	only known as Europian bee.
a) Apis melifera	b) Apis dorsata
c) Apis cerana indica	d) Apis florea
3) Mouth parts of worker bees are	e modified for
a) sucking & lapping	b) biting and chewing
c) grasping	d) biting
4) In workers egg laying apparatus	s modified into
a) Sting	b) Ovipositor
c) Scent glands	d) all of these
5) In Queen bee egg laying is calle	d
a) scent glands	b) ovipositor
c) sting	d) all of these
6) Reproductive organs are fully de	veloped in

10

a) queen	b) drone
c) both in queen and drone	d) Worker
7) The pollen basket is represent on _	leas
a) Prothoracic	b) Mesothoracic
c) Metathoracic	d) All of these
8) The primary objective of bee keepi	ng is to increase
a) Propagation	b) Honey extraction
c) Crop Production	d) Wax production
9)is commontt	
a) Apis	known as little bee
a) Apis melifera	b) Apis dorsata
c) Apis cerana indica	d) Apis florea
10) Abdomen of Honey bee bears	
b) Sting	b) Wax glands
c) Scent gland	d) All of these
Q2. Answer the following questions	
	20
Describe economic importance of hor formation of honey	ney and add a short note on
2) Describe present scenario and scope o	.f
Q3. Write a short notes on	of apiculture in India
	20
1) Types of honey	
2) Royal jelly	
3) Role of Gov. and Non Gov. agencies I	n apiculture
4) Uses of Bee wax	aproditute
	Head Head Mai DEPARTMENT OF ZOOLOGY Kisan Veer Mahavidyalaya Wal 412803

Janata Shikshan Sanstha's Kisan Veer Mahavidyalaya, Wai Department of Zoology Certificate Course In Apiculture (2023-2024) Practical Exam Paper I

Day & Date: Saturday 10/02/2024

Total Marks: 50

Time: 2 Hrs

Inst	ructi	ions:	
	- 400	10112:	

- 1) All Questions are Compulsory.
- 2) Draw diagram wherever necessary.
- 3) Figures to the right indicate full marks.

Q.1. Answer the following.

	 Identify, and mention the diagnostic features – Queen 	04
	2. Identify and describe Newton Hive	04
	3. Identify & give functions Smoker	04
	4. Identify and describe - Bee Veil	04
	5. Identify, and give uses -Bee wax	04
	6. Identify and state its morphological features - Worker.	04
	7. Identify, and state its functions Royal Jelly	04
	8. Identify and give its function Honey	04
	9. Identify, describe & Sketch label Uncapping knife	04
	10 Describe diseases of - Honey bees	
Q.2.	Submission of a report on apiculture.	10
		10

JS.SAVSTAPS Wai VEEP MAHAVIONED

Head
Head
DEPARTMENT OF ZOOLOGY
Kisan Veer Mahavidyalaya
Wai 412803

Janata Shikshan Sanstha's Kisan Veer Mahavidyalaya, Wai Department of Zoology Certificate Course In Apiculture (2023-2024) Practical Exam Paper II

Day & Date: Saturday 10/02/2024

Total Marks: 50

Time: 2 Hrs

1	nsi	tru	cti	io	ng	•

- 1) All Questions are Compulsory.
- 2) Draw diagram wherever necessary.
- 3) Figures to the right indicate full marks.

Q.1. Answer the following.

	 Identify, and give uses – Queen Excluder 	0.
	2. Identify and describe Honey extractor	04
	3. Identify, describe and mention its peculiar features Worker	04
	4. Identify and describe - Natural Bee hive	04
	5. Identify, and give uses -Honey	04
	6. Identify and state its morphological features - Drone.	04
	7. Identify, and describe given species Apis dorsata	04
	8. Identify and give function Hand gloves	04
	9. Identify, sketch and label life cycle Bee brush	04
	10. Identify & give function of - Royal jelly	04
Q.2.	Submission of a report on apiculture.	10

Wai, Dist Satara AY

DEPARTMENT OF ZOOLOGY Kisan Veer Mahavidyalaya Wal 412803

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Kisan Veer Mahavidyalaya, Wai

Department of Zoology Certificate Course In Apiculture Maeksheet (2023 - 24)

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Total	lotal	173	161	162	169	179	161	144	142	110	129	125	132	146	139	112	112	108	110	109	119	116	138	141	137
	Practical II	46	43	44	45	46	42	42	42	30	39	38	40	41	40	32	32	31	34	28	34	32	40	40	40
	Practical I	48	20	48	20	47	49	35	36	32	38	34	36	39	37	30	30	30	30	30	32	30	35	38	38
Marks	Theory Paper II	39	36	36	42	40	38	29	28	26	24	25	26	28	28	24	26	25	22	28	25	28	27	27	23
	Theory Paper I	40	32	34	32	46	32	38	36	22	28	28	30	38	34	76	24	22	24	23	28	26	36	36	36
Student Name		SHINDE AKSHADA G	KAMBLE RONIT S	CHIKANE OMKAR S	KAYANGUDE SAKSHI	WALGE SANIYA J	BHILARE JYOTI R	INGAWALE SANIKA S	HAGAVANE TEJASWI A	CHAVAN SNEHAL S	WADKAR OMKAR A	DALVI SANKET M	KAMBLE ADITYA R	JADHAV SHUBHAM L	BARGE MAYUR K	DANGE RAMAJAN R	WAGH AAKANKSHA R	GAIKWAD AKANKSHA H	NIKITA K WAGHMARE	CHAVAN UTKARSHA S	NEHA K WAGHMARE	VEDPATHAK ATHARV S	SHELAR SAHIL S	ITHAPE PRAJJWAL B	PAWAR KIRAN S
Class		B.Sc. III	B.Sc. III	B.Sc. III	B.Sc. III	B.Sc. III	B.Sc. III	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II	B.Sc. II
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Sr No		1	2	3	4	2	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

	136	15	707	148	134	141	130	135	96	96	109	AB	104	119	127	AB	140	96	AB	8	AB
	44	76	5	42	43	32	43	39	24	24	30	AB	26	24	33	AB	46	56	AB	25	AB
	40	28	40	38	44	30	33	32	22	26	28	AB	28	33	32	AB	36	24	AB	23	AB
	30	26	34	26	26	26	27	28	24	22	26	AB	24	26	26	AB	26	24	AB 23	77	AB
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92	27	30	32	8	35	98	87	88	8	91	8	88	100	101	102	5	105	106	107	109	121
2	56	27	28	53	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46

PRINGRAL N VEER MAHAVIDYALAYA Wai, Dist. Satara





JANATA SHIKSHAN SANSTHA'S

KISAN VEER MAHAVIDYALAYA, WAI DIST. SATARA



DEPARTMENT OF ZOOLOGY

Certificate

This is to certify that Shri/Miss Walge Saniya Javed completed successfully Certificate Course in Apiculture conducted by Department of Zoology, Kisan Veer Mahavidyalaya, Wai for the Academic year 2023-24.

Course Co-Ordinator

DEPARTMENT OF ZOOLOGY Bepartment Of Zwology Wai 412803 Principal

Kistin-Weeter Alaha Wai, Dist. Satara