

**rediffmail**

Mailbox of shivajichk

**Subject: Approval of fresh programmes / courses under NSQF for the year 2020-21**

From: nsqfugc2020@gmail.com on Thu, 24 Sep 2020 13:07:05

To: shivajichk@rediff.com

Dear Sir/Madam,

This is with reference to your application for running skill-based programmes / courses. I am directed to convey that your institution may run the following fresh programmes / courses under National Skills Qualifications Framework (NSQF) during the academic session 2020 - 2021:

| Programme/s | Trade/Course  |
|-------------|---|
| Certificate | Agriculture/ Plant Propagation and Nursery Management |
| Certificate | Agriculture/ Bee keeping                              |
| Certificate | COMMUNICATION AND SOFT SKILLS DEVELOPMENT             |

The institution must adhere to the following terms and conditions:

1. The institution shall run the courses in accordance with the provisions of the UGC Guidelines for Providing Skill-based Education under National Skills Qualifications Framework (NSQF).
2. The institution shall meet the requirements of infrastructure and laboratory facilities for running the skill-based courses.
3. If the institution is recommended for running skill-based courses in the fields like medicine, law etc., it shall meet the parameters specified by the concerned regulatory bodies / professional councils.
4. The courses will be offered on regular mode only. The Institution shall not run the courses on online / distance education mode and through franchise arrangements.
5. The institution shall furnish details regarding students admitted (course-wise) for the forthcoming academic session on the online portal by **31.10.2020**. The link to the portal is <https://nsqf.ugc.ac.in/>  
With regards,

Yours faithfully,

**(Dr. Mriganka Sekhar Sarma)**  
**(Education Officer)**

Shri Shivaji College of Arts & Science  
Chikali, District Buldanad - 443 201



**Shri Shivaji Education Society Amravati's**  
**Shri Shivaji Science And Arts College, Chikhli Dist . Buldana**  
[Affiliated to Sant Gadge Baba Amravati University, Amravati]

**Department of Zoology**

**UGC Sponsored**

**NATIONAL SKILL DEVELOPMENT SCHEME**

**Six Month Certificate Course**

**In**

**Beekeeping/Apiculture**



**Eligibility Criteria**  
**12<sup>th</sup> Pass/Graduate**

**Admission Open**

**Course Coordinator**  
**Dr. R. B. Gade**

**Nodal Officer**  
**Dr. M. T. Nikam**

**Principal**  
**Dr. O. S. Deshmukh**

**Shri Shivaji Science And Arts college Chikhli**  
**Department of Zoology**

**SYLLABUS OF THE COURSE**  
**TITLE OF THE COURSE: BEE KEEPING/ APICULTURE.**  
**SPONSORED BY UNIVERSITY GRANT COMMISSION, NEW DELHI**

**Theory Syllabus of Six Month Certificate Course**

**Program of the Course:**

1. Course will be of 30 Credits, each credit will have 14 hours (45min.)
2. Out of 30 credits 20 credits will be assigned to field work/project/training
3. The candidate required to attend 75% lectures/periods.
4. The candidate must obtained 35% of the total marks in theory and practical/project work separate to pass the course.
5. Candidate will be offered English medium of instructions/examination.
6. All 12<sup>th</sup> examination passed.

**UNIT – I      Introduction to Apiculture - scope, importance (21L)**

- ✓ History of bee keeping: Definition, Bee keeping in worldwide, In India. Traditional bee keeping, Modern beekeeping, Urban or backyard beekeeping.
- ✓ Apiculture development in India - institutions involved. Role of Central Honey Bee Research & Training Institute.

**UNIT – II      Honey Bee morphology, Life cycle and Honeybee Enemies (30L)**

- ✓ Basic concepts of morphology of Honey bees - indigenous, exotic
- ✓ Honey bee species and identification. Origin, systematic and distribution of honey bees. Types of honey bees, Species of honey bees. Bee identification.
- ✓ Social organization in honey bees: Colony life and social organization – Queen, drone, worker. Annual biological cycle of the bee colony.
- ✓ Bee enemies and diseases: An introduction, Bee enemies – Wax Moth, Ants, Wasps, Microorganisms, Pests. Diagnosis and Identification.
- ✓ Mites attacking honey bees: Varroa mites, Mite Biology, Controlling Varroa Mites, Mechanical control, Mite-tolerant stocks, Biopesticides, Chemical (synthetic pesticide) treatments.

**UNIT – III Honey - its properties and application in various fields (23L)**

- ✓ Honey - its medicinal properties - application in various fields - other valuable by products of honey bees
- ✓ Value added honey products. Properties of honey products, Nutrients and composition of honey, Acid content and flavor effects.
- ✓ Types of value added honey products.

**UNIT – IV Bee keeping: Tools and Equipment. (21L)**

- ✓ Basic requirements of Tools for starting bee keeping: Getting Started in Beekeeping - Land and Buildings, Equipment and supplies.
- ✓ Bee keeping equipment - introduction to types of bee boxes - BIS standard Tools used in apiculture.
- ✓ Bee breeding multiplication of colonies - Queen rearing technique.

**UNIT – V Honeybee Plants and Floral Calendar. (15L)**

- ✓ Bee flora - importance propagation - congenial conditions for starting up of apiculture.
- ✓ Migratory Bee Keeping - designing floral Calendar
- ✓ Improved Agricultural practices - crop pollination - Pesticides impact on Honey bees.

**UNIT – VI Honey Processing and Bee Hive Products (15L)**

- ✓ Honey extraction & handling - Quality control standards - Honey testing kit
- ✓ Processing of honey. Other valuable by products of honey bees
- ✓ Bee venom & Royal jelly extraction.

**REFERENCES:**

**Reference Books for Theory**

- ✓ Prospective in Indian Apiculture - R.C. Mishra.
- ✓ Rearing queen bees in India - M.C. Suryanarayana et. al.
- ✓ Bee Keeping in India - G. K. Ghosh.
- ✓ Technology and value addition of Honey - Dr. D. M. Wakhle and K. D. Kamble.
- ✓ ABC & XYZ of Bee culture - A. I. Root.
- ✓ Indian Bee Journal - All India Bee Keeping Association.
- ✓ Asian Bee Journal.

**SYLLABUS OF THE COURSE**  
**TITLE OF THE COURSE: BEE KEEPING/ APICULTURE.**  
**SPONSORED BY UNIVERSITY GRANT COMMISSION, NEW DELHI**

**Practical Syllabus of Six Month Certificate Course**

1. To study the morphology of Honeybees and Identification of different species and classes of Honey bees.
2. To Study different stages in life cycle of Honey bees.
3. To study the behavior of Honeybees.
4. Bee keeping unit - Handling of frames with colonies.
5. Introduction of parts of Bee box - ISI 'A' type 'B' type & Tools used in Bee keeping.
6. Identification of Queen Cells, Drone cells & Brood.
7. Sugar feeding of colonies in scarcity period.
8. Identification of kinds of Queen Cells.
9. Methods of Multiplication of Bee Colonies.
10. Bee flora - Propagation of bee plants - Preparation of floral calendar.
11. Natural enemies and predators of Honey Bees - management involved.

**Reference for Practical:**

- ✓ David Cramp, 2012. The Complete Step-by-step Book of Beekeeping: A Practical Guide to Beekeeping, from Setting up a Colony to Hive Management and Harvesting the Honey. Lorenz Books. London.
- ✓ David Cramp, 2009. A Practical Manual of Beekeeping: How to Keep Bees and Develop Your Full Potential as an Apiarist. Spring Hill, London.
- ✓ Ted Hooper, 2010. Guide to Bees and Honey: The World's Best Selling Guide to Beekeeping. Northern Bee Books. Oxford.
- ✓ David Cramp, 2012. The Complete Step-by-step Book of Beekeeping: A Practical Guide to Beekeeping, from Setting up a Colony to Hive Management and Harvesting the Honey. Lorenz Books. London.
- ✓ Vijay Kumar Kaushik Bee keeping in India a profitable enterprise.

**Shri Shivaji Science And Arts College Chikhli**

**Department of Zoology**

**Certificate Course**

**Apiculture/Beekeeping**

**❖ List of Teacher**

| <b>Sr. No.</b> | <b>Name of Teacher</b> | <b>Qualification</b>    |
|----------------|------------------------|-------------------------|
| 1              | Dr. M. T. Nikam        | M.Sc., B.Ed., Ph.D.     |
| 2              | Dr. V. M. Hemke        | M.Sc., Ph.D. (Post-doc) |
| 3              | Dr. R. B. Gade         | M.Sc., Ph.D.            |

**❖ List of Non Teaching Staff:**

| <b>Sr. No.</b> | <b>Name of Non-Teaching Staff</b> | <b>Qualification</b> |
|----------------|-----------------------------------|----------------------|
| 1              | Mr. V.D. Sawle                    | SSS., ITI            |
| 2              | Mr. R.A. Shaikh                   | --                   |

**Shri Shivaji Science And Arts College Chikhli**

**Department of Zoology**

**Certificate Course**

**Apiculture/Beekeeping**

**2020-2021**

**Time Table**

| <b>Sr.No.</b> | <b>Day</b> | <b>Name of Teacher</b>                            | <b>Theory/Practical</b> | <b>Time</b>     |
|---------------|------------|---|-------------------------|-----------------|
| 1             | Monday     | Dr. M.T. Nikam                                    | Theory                  | 2:45 to 3:30PM  |
| 2             | Tuesday    | Dr. V.M. Hemke                                    | Theory                  | 2:45 to 3:30 PM |
| 3             | Wednesday  | Dr. R.B. Gade                                     | Theory                  | 2:45 to 3:30 PM |
| 4             | Thursday   | Dr. R.B. Gade                                     | Theory                  | 2:45 to 3:30 PM |
| 5             | Friday     | Dr. V.M. Hemke                                    | Theory                  | 2:45 to 3:30 PM |
| 6             | Saturday   | Dr. M.T. Nikam<br>Dr. V.M. Hemke<br>Dr. R.B. Gade | Practical               | 2:45 to 5:00 PM |

**Coordinator**

**H.O.D.**

**Department of Zoology**

# Shri Shivaji Science And Arts College Chikhli

## Department of Zoology

2020-2021

### Certificate Course Apiculture/Beekeeping

❖ List of Admitted Students

| Sr. No. | Name of the Student    | Contact No. |
|---------|------------------------|-------------|
| 1       | Sonone Ganesh Santosh  | 9370202931  |
| 2       | Rahul Dipak Paraskar   | 9689196295  |
| 3       | Shirale Laukik Ashok   | 9527997042  |
| 4       | Ashant Deorao Kharat   | 9307124834  |
| 5       | Pankaj Sanjay Dhanve   | 9075596881  |
| 6       | Ajay Sanjay Jadhao     | 8261894802  |
| 7       | Ingle Pravin Rajendra  | 7775885450  |
| 8       | Tayde Satish Rameshwar | 7666785437  |
| 9       | Morey Lokesh Harihar   | 8080722308  |
| 10      | Khakre Ashish Vinayak  | 9923155143  |
| 11      | Suradkar Om Sanjay     | 9637047973  |
| 12      | Janhavi Sakharam Joshi | 9156725780  |
| 13      | Muskan Husen Hiriwale  | 9011547867  |
| 14      | Shradha Sunil Deshmukh | 9175312959  |
| 15      | Sunita Samadhan Gawai  | 9021352405  |
| 16      | Pratiksha Ramesh Salve | 8975285061  |

|    |                          |            |
|----|--------------------------|------------|
| 17 | Pooja Santosh More       | 9359316334 |
| 18 | Gayatri Rajiv Patil      | 9373498774 |
| 19 | Aishwarya Rameshwar Raut | 8767662446 |
| 20 | Sakshi Vittal Chinchole  | 9860030331 |
| 21 | Harshada Kaduba Ghule    | 8380994269 |
| 22 | Purva Vishvanath Sawale  | 9767083768 |
| 23 | Pragati Janardhan Saraf  | 9730039057 |
| 24 | Priyanka Ramdas Missal   | 9322196860 |
| 25 | Shital Tejrao Jadhav     | 9730033866 |
| 26 | Sakshi Sunil Chavan      | 9322513426 |
| 27 | Sakshi Manish Chopda     | 9970700508 |
| 28 | Adiba Firdous Afroz Khan | 9822275556 |



## Certificate

Ms. Pooja Santosh More D/O Santosh (Aadhaar No.: XXXXXXXXX7695)

student of Shri Shivaji Science And Arts College, Chikhli affiliated to Sant Gadge Baba Amravati University

has successfully passed assessment for First semester of

Certificate in Beekeeping, Session 2020-21

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Maneesh Mansingka  
Chairman

Agriculture Skill Council of India

E-Mail : info@asci-india.com, www.asci-india.com



Registration No: ASCI/UGC/9313  
Date of Issuance 10 Nov, 2021