

Title of course- Pearl culture technician	
Nodal Department of HEI to run course	
Broad Area/Sector-	Agriculture and Allied
Sub Sector-	Economic Zoology
Nature of course - Independent / Progressive	Independent
Name of suggestive Sector Skill Council	Agriculture Skill Council of India
Aliened NSQF level	Level 3
Expected fees of the course –Free/Paid	
Stipend to student expected from industry	
Number of Seats-.....	
Course Code-.....	Credits- 03 (1 Theory, 2 Practical)
Max Marks...100..... Minimum Marks.....	
Name of proposed skill Partner	
Job prospects-Expected Fields of Occupation where student will be able to get job after completing this course in	Pearl Culture Technician, Pearl Farm Owner

Syllabus

Unit	Topics	General/ Skill component	Theory/ Practical/ OJT/ Internship/ Training	No of theory hours (Total-15 Hours=1 credit)	No of skill Hours (Total-60 Hours=2 credits)
I	Introduction	<ul style="list-style-type: none"> Study the importance of pearl culture as a source of economic activity in India. Understand the role of pearl culture technician and progression pathway. Identify species capable of producing pearl, its anatomy and theoretical base of surgical implantations, post-care and pearl culture operations 	<ul style="list-style-type: none"> Understand the general discipline in training room (Do's & Don'ts), familiarization with participants, and their background. 	2 hours	5 hours
II	Perform preparations for nuclear implantation	<ul style="list-style-type: none"> Methods and procedure of nuclear implantation for pearl oyster 	<ul style="list-style-type: none"> Ensure selection of suitable sites safe from hostile weather, predators, and availability of pearl producing oysters. Ensure fertilization schedule based on water and soil nutrient profile (in case of pond), natural food assessment of water. Perform acclimatization of freshwater oyster in 200 litre capacity tank. Ensure preparation of pearl culture units, small bags (12x12 cm) mesh net bags with multiple pockets, crates covered with mesh net. Perform preparation of nucleus of various sizes and images. Familiarization of trainees with surgical instruments and sterilization; and arrange proper place for surgery. Ensure yard facilities for pre and post-operative care units and also for cultivation of algae 	9 hours	40 hours

			<p>chlorella, chlorococcum.</p> <ul style="list-style-type: none"> • Perform surgical procedure for implantation. • Ensure collection of healthy big oyster from preoperative unit and arrange them in water filled trays; ensure big oysters are kept in separate trays. • Perform preparation of graft from big oyster (donor) • Ensure mantle ribbon is stretched gently and cleaned • Perform cutting of 2-3mm square grafts by graft scalper and ensure grafts are kept moist till implantation. • Perform mantle cavity implantation. • Perform mantle tissue implantation • Perform gonadal implantations • Ensure pushing of gills and vicera aside and small holes are made in the mantle without piercing through the mantle using specialized needle, and insert live graft tissue in these holes • Ensure water soluble antibiotic (chloramphenicol), @ 500mg/100 litres is added in post-operative units to avoid any infection. Add small amount of algae in these tanks after 5 days. • Remove dead oysters before shifting to pearl culture unit in culture area. 		
III	Post processing techniques for pearl oyster	<ul style="list-style-type: none"> • Perform pearl culture, harvesting and marketing activities and Ensure safety, hygiene and sanitation practices for culture operations 	<ul style="list-style-type: none"> • Perform placement of implanted pearl oyster in culture units in simple nylon bags, crates covered by nylon mesh net hanging on rafts made from PVC pipe or bamboos in rows. • Ensure periodic fertilization schedules (incase of fresh water pearl culture), feeding, sampling to ensure pearl formation are followed. Ensure entry of predators and aquatic weeds is restricted and optimum level of water is maintained. • Ensure harvesting after ascertaining the crop is ready. (It takes over 1 year for pearl formation), remove the entire implanted oyster from pearl culture units. • Ensure removal of half round pearl or pearl images by using small saw, use filer to remove extra unwanted shell. • Ensure proper cleaning, removing of stains by using bleaching powder, and proper polishing and categorization on 	4 hours	15 hours

			<p>the basis of size, shape, colour, lustre, quality</p> <ul style="list-style-type: none"> • Survey market demand for cultured pearls, price fixation, display of products in the exhibition to create awareness after value addition: (Necklace, pendants, toe rings, finger rings, bangles, designer pearls etc.) • Perform proper data maintenance and documentation; put tags on each implanted oyster to know date of implantation and other details. • Maintain personal hygiene by washing hands by soap or hand wash to prevent infection • Ensure monitoring of health of pearl oyster by periodic sampling and maintain hygienic condition of culture units, pre and post operative tanks • Ensure proper record keeping 		
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Suggested Readings: Southgate, C. Paul and Lucas, S. John. "The Pearl Oyster", Elsevier Publication, Amsterdam, The Netherland, 2008.

Suggested Digital platforms/ web links for reading-N.A.

Suggested OJT/ Internship/ Training/ Skill partner: N.A.

Suggested Continuous Evaluation Methods: Test/Quiz/Exam/Skill test

Course Pre-requisites:

- No pre-requisite required, open to all
- To study this course, a student must have the subject in class/12th/ certificate/diploma
- If progressive, to study this course a student must have passed previous courses of this series.

Suggested equivalent online courses: N.A.

Any remarks/ suggestions: N. A.

Notes:

- Number of units in Theory/Practical may vary as per need
- Total credits/semester-3 (it can be more credits, but students will get only 3credit/ semester or 6credits/ year
- Credits for Theory =01 (Teaching Hours = 15)
- Credits for Internship/OJT/Training/Practical = 02 (Training Hours = 60)