Model Curriculum

Artificial Insemination Technician

SECTOR:	AGRICULTURE & ALLIED
SUB-SECTOR:	ANIMAL HUSBANDRY
OCCUPATION:	LIVESTOCK HEALTH MANAGEMENT
REF ID:	AGR/Q4803, V1.0
NSQF LEVEL:	3

Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

AGRICULTURE SKILL COUNCIL OF INDIA

for the

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: 'Artificial Insemination Technician' QP No. 'AGR/ Q4803 NSQF Level 3'

Date of Issuance: December 23rd, 2014

Valid up to: March 31st, 2019

* Valid up to the next review date of the Qualification Pack

Authorised Signatory
(Agriculture Skill Council of India)

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Artificial Insemination Technician

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Artificial Insemination Technician", in the "Agriculture & Allied" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Artificial Insemination Technician	
Qualification Pack Name & Reference ID. ID	AGR/Q4803, v1.0	
Version No.	1.0	**Version Update Date**
Pre-requisites to Training	8th Standard passed	
Training Outcomes	After completing this programme, participants will be able to: • **Implement cattle breeding service:** Cattle breeds and basics of breeding, artificial insemination, assistance to farmers on management of unproductive animals, breeding related data recording and performance monitoring. • **Assist in veterinary extension services:** Promotion of approved technologies for productivity and profitability of farming operations. • **Assist in development program implementation:** Engagement with farmers' institutions, promotion of economic activities, and marketing of farm inputs.	

This course encompasses 3 out of 3 National Occupational Standards (NOS) of "Artificial Insemination Technician" Qualification Pack issued by "Agriculture Skill Council of India".

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	**Introduction** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code**	• Understand General Discipline in the class room (Do's & Don'ts) • Refreshed basic language learning in formal schools. • Increased knowledge of serving area / village. • Understand the connect between rural livelihood and livestock farming. • Appreciate the role and responsibility of Artificial insemination technicians.	Laptop, white board, marker, projector
2	**Implementation of cattle breeding services** **Theory Duration** (hh:mm) 75:00 **Practical Duration** (hh:mm) 125:00 **Corresponding NOS Code** AGR/N4820	• Understand the female reproductive system of cattle and buffalo. • Understand important concepts e.g. Reproductive cell (Sperm / Ova), Fertilization, Foetus, Gestation, parturition, Puberty, fertility, conception • Understand oestrous / reproductive cycle in cattle / buffalo vis a vis heat detection, time of insemination etc. • Understand the basics of genetics e.g. Heredity, breeds, objective of breeding, types of breeding, breeding plan at farm level and basic aspect of state breeding policy. • Appreciate the importance of Artificial insemination, proper timing of AI and use of appropriate semen straws. • Understand use and maintenance of AI related equipment and accessories. • Appreciate and adherence to standard protocol of handling liquid nitrogen and artificial insemination taking care of hygiene, welfare and safety precautions etc. • Understand basic aspect of management of productive / unproductive animals, including reproductive disorders, need of proper feeding and supplementation. • Understanding of breeding related animal identification, data recording and performance monitoring	Laptop, white board, marker, projector, Stored reproductive organs, animal models, Liquid nitrogen, AI Gun and accessories, Straws etc.
3	**Assisting in Veterinary Extension Services** **Theory Duration** (hh:mm)	• Understanding of extension services required to identify farmers need, organize meetings etc. and to promote technology and best practices across all species e.g. KASA, Technology adoption	board, marker, projector, Promotion tools

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	30:00 Practical Duration (hh:mm) 50:00 Corresponding NOS Code AGR/ N4808	and extension methods, basics of PRA, Leadership, working with farmer groups, organizational / government extension delivery system. • Understanding of Production cycle of farm animals. (all species) • Understanding of practical aspect of farm input selection and procurement (e.g. Organoleptic testing of feed) • Understanding of basic principle of animal housing • Understanding of basics of livestock feeding, feed ingredient (including compound feed), fodder variety and preservation. • Understanding of Body condition scoring and selection of animals • Understanding of hygienic milking and livestock product handling. • Understanding of use of communication devices e.g. mobile applications.	
4	Development program implementation and marketing in livestock sector Theory Duration (hh:mm) 40:00 Practical Duration (hh:mm) 70:00 Corresponding NOS Code AGR/N4810	• Understanding of meaning of sustainable development and goal thereof. • Understanding of basic aspect of development project management • Understanding of basic business planning • Understanding of basics of marketing • Understanding of government or private organization promoted development programs including those related to insurance. • Understanding of livestock related economic activities and formation of Self Help Groups. • Understanding of functioning of farmer's institutions and engagement with them.	Laptop, white board, marker, projector, Promotion tools
	Total Duration: Theory Duration (hh:mm) 150:00 Practical Duration (hh:mm) 250:00	Unique Equipment Required: Laptop, white board, marker, projector, Stored reproductive organs, animal models, Liquid nitrogen, AI Gun and accessories, Straws, promotion tools etc	

Grand Total Course Duration: **400 Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by Agriculture Skill Council of India)

Trainer Prerequisites for Job role: "Artificial Insemination Technician" mapped to Qualification Pack: "AGR/Q4803, v1.0"

Sr. No.	Area	Details
1	Description	Trainer provides education and guidance on cattle breeding, management and development related services mostly in the outdoor setting.
2	Personal Attributes	Trainer should have a mind for science, belongingness to the community, compassion for animals, good leadership, communication and observation skills. He / she should be physically strong and have manual dexterity.
3	Minimum Educational Qualifications	Regular Diploma (more than 15 months in veterinary /Animal Husbandry / Dairying)
4a	Domain Certification	Certified for Job Role: "Artificial Insemination Technician" mapped to QP: "AGR/Q4803, v1.0". Minimum accepted score is 80%
4b	Platform Certification	Certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q0102". Minimum accepted score is 80%
5	Experience	- M.V.Sc. - M Sc (Animal Science) B. V. Sc. with 1 year of relevant work experience B. Tech (Dairy) with 2 years of relevant work experience and a total of 3 years of work experience B. Sc Agriculture with 2 years of relevant work experience and a total of 4 years of work experience - B.Sc (Biology/Zoology) with 2 years of relevant work experience and a total of 5 years of work experience - Regular Diploma (more than 15 months in veterinary /Animal Husbandry / Dairying) with 2 years of relevant work experience and a total of 5 years of work experience 10+2 with a 7 years of relevant work experience

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Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Artificial Insemination Technician
Qualification Pack	AGR/Q4803, v1.0
Sector Skill Council	Agriculture

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3	Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS
4	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
5	To pass the Qualification Pack , every trainee should score a minimum of 50% of aggregate marks to successfully clear the assessment.
6	In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
1. AGR/N4820 : Implementation of cattle breeding services	PC1. help farmers / clients with information on sources of good breeding animals.	100	5	5	0
	PC2. assist farmers / clients in selecting animal with proper breed and other characteristics for breeding purpose.		10	3	7
	PC3. detect heat in cattle.		10	5	5
	PC4. use semen of appropriate quality and blood level.		5	3	2
	PC5. follow protocols pertaining to biosecurity, safety, hygiene and welfare		10	5	5
	PC6. follow the prescribed procedures in handling semen straw and in conducting insemination.		30	10	20
	PC7. conduct artificial insemination in time.		5	5	0
	PC8. guide farmers / clients on appropriate feeding practices required for breeding animals e.g. mineral supplementation etc.		10	5	5

	PC9. guide farmers on maintaining optimum number of animals based on breeding plan and suggested performance goal.		5	3	2
	PC10. use field data collection tools (including electronic reader / mobile based data collection) as per given specifications.		5	3	2
	PC11. provide organization with standard required information such as semen used; time of heat, time of insemination, calf born etc. needed to monitor breeding services.		5	3	2
	Total		**100**	**50**	**50**
2. AGR/ N4808 Assisting in veterinary extension services	PC1. understand and explain the applicability and benefit associated with common approved technology(s) / best practice(s) in the context of local situations, opportunities and constraints.	100	35	15	20
	PC2. give feedback on technology application in field and need for improvement (if any).		10	5	5
	PC3. organize extension events based on farmer convenience and seasonal suitability.		15	10	5
	PC4. understand and explain quality parameters regarding various farm inputs.		10	5	5
	PC5. scout sources, plan and organize farmers for intelligent (timely, quality and cost based) procurement of inputs.		10	5	5
	PC6. keep record that can help make farmer meeting and farm school activities 'targeted' and 'need based'		10	5	5

	PC7. Use modern communication devices, audio-visual aids to explain farmers / clients.		10	5	5
	Total		**100**	**50**	**50**
3. AGR/ N4810 Development program implementation and marketing in livestock sector	PC1. promote awareness of programs and help in targeted beneficiary selection as envisioned in the promoted project / program.		10	5	5
	PC2. work with selected project beneficiaries in implementing activities as envisaged in promoted programs.		10	5	5
	PC3. attend and cooperate during meetings / programs of farmer's institutions / panchayats.		10	5	5
	PC4. inform / involve farmer leaders / panchayat functionaries in selection of program beneficiaries.	**100**	10	5	5
	PC5. facilitate organizations's / panchayat's endeavor to ensure convergence of development projects for synergy.		5	5	0
	PC6. motivate and handhold formation of self-help groups.		15	5	10
	PC7. guide farmers on business options and basic economics of various livestock linked activities.		15	5	10
	PC8. motivate farmers to produce for market and ensure aggregation, collective marketing of livestock products.		10	5	5

	PC9. provide market related e.g. prices etc. information to farmers.				
			7	2	5
	PC10. provide information on livestock farm inputs e.g. feed, fodder, supplements etc.				
			8	8	0
			100	50	50
	Grand Total	300	300	150	150
	Percentage Weightage:			50%	50%
	Minimum Pass% to qualify (aggregate):			50%	