Model Answer Paper

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION
B. Sc. (Hons.) Agriculture

Semester	**: VI (New)**	**Term**	**: II**	**Academic Year**	**: 2023-24**
Course No.	**: AHDS-364**	**Title**	**: Sheep, Goat and Poultry Production**		
Credits	**: 2(1+1)**				
Day & Date	**:**	**Time**	**: 2 hrs**	**Total Marks**	**: 40**

Note : 1. Solve **ANY EIGHT** questions from **SECTION "A"**.
2. All questions from **SECTION "B"** are compulsory.
3. All questions carry equal marks.
4. Draw neat diagram wherever necessary.

Q. 1.	**Explain the importance of sheep and goat production in national economy.**	
Ans:	Importance of sheep and goat production in national economy by considering relevant information on following points. • Livestock population • Meat production • Milk production • Hide and skin • Manures production • Wool production • Employment • Contribution in GDP • Export / Import • Others **(It is expected to explain above points in brief)**	(4)
Q. 2.	**Enlist breeding methods followed in sheep and goat and explain any two in detail.**	
Ans:	i) Flock mating ii) Pen system iii) Hand service iv) Upgrading v) Cross breeding vi) A.I. **(It is expected to explain any two of them)**	(4)
Q. 3.	**Enlist various systems of poultry housing and explain in detail semi intensive system.**	
Ans:	The type of housing adopted depends to a large extent on the availability of land. Type of bird and the capital. Three systems of housing are generally followed 1. Free range system 2. Semi intensive system 3. Intensive system a. Deep litter system b. Cage system **Semi intensive system** As the name indicates birds are half-way reared in houses and half-way on ground or range, i.e. birds are confined to houses in night or as per need and they are also given access to runs. The houses are with solid floors while runs are fields only. The success of rearing depends on maintenance condition of runs to reduce the contamination. Runs	(4)

can also be used on rotation basis. The stocking density rate on an average for adult birds is 750 per hectare. This system is usually adopted for duck rearing. The feeding and watering facilities are provided in the pen.

Advantages

More economical use of land compared to free range system.
Protection of birds from extreme climatic conditions.
Control over scientific operation to some extent is possible.

Disadvantages

High cost for fencing.
Need for routine cleaning and removal of litter material from the pen.

Q. 4. **Enlist methods of preservation of eggs and explain any two of them.**

Ans: Various methods have been used to extend the shelf life of eggs, these includes (4)

- Dry packing
- Immersion in liquids
- Shell sealing treatments
- Cold storage
- Dried and frozen eggs

(It is expected to explain any two methods of preservation of eggs in short)

Q. 5. **State the systems of rearing of sheep and goat and explain intensive system in detail**

Ans: **Systems of rearing of sheep and goat:** (4)

1) Intensive system
2) Semi-intensive system
3) Extensive system
4) Teathering

Intensive system- It is also called zero grazing-system

1. It is a system in which sheep goats are continuously kept under housing in confinement with limited access in which they are stall fed.
2. It implies a system where goats are not left to fend for themselves with only minimum care.
3. Intensive operation of medium sized herd of 50 to 250 heads or more oriented towards commercial milk production goes well with this system particularly of dairy goats.
4. It merits exploitation of the system of feeding agro-industrial by products as on fodder grass with carrying capacity of 37 to 45 goats per hectare.
5. This system of management requires more labour and high cash input.
6. However, this has the advantage of close supervision and control over the animals.
7. In this method, the dung is collected in one place and used as a good fertilizer.
8. Less space is sufficient for more number of animals.

Q. 6. **Give the vaccination schedule for broilers.**

Ans: Vaccination Schedule for broiler poultry birds is as :- (4)

Age	Vaccine	Route of administration
First day	Marek's disease (at hatchery)	S/C at neck
5-7th day	RDV F1	I/O or I/N
14th day	IBD Vaccine	I/O or I/N
21st day	RDV La Sota	Drinking water

	28th day	IBD Vaccine (Booster)	Drinking water	

Q. 7. **Discuss the care and management of breeding buck.**

Ans: (4)

- Buck is half of the band, therefore select pure breed buck of good breeding ability.
- Breeding males should not be tethered.
- Buck should be housed separately to have free movement and exercise. A single stall measuring 2.5 X 2 m with usual fittings for food and water is suitable for the buck.
- Two bucks should not be kept together, particularly during breeding season they may fight causing injury to each other.
- Buck should be taken to does for breeding only when need.
- Ensure proper nutrition for bucks especially during breeding season.
- Give enough exercise to prevent them becoming sluggish.
- Buck should neither be over fed nor under fed otherwise health breakdown may occur. Good pasture alone will maintain them healthy and also provide enough salt, minerals and vitamins in diet.
- Cleanliness and feeding plenty of greens will help to reduce "goaty smell". Average green fodder per buck per day is 7 – 8 kg.
- Carry out grooming / brushing every day to keep them clean, free of parasites and to make them docile.
- Young bucks up to 1 year age be used for not more than 25 to 30 does, but those of age 18 to 24 months may be used for 50 does.
- Periodical trimming of hoofs to prevent lameness.
- Keep them free of parasites.

Q. 8. **Describe etiology, symptoms and treatment of anthrax in goat.**

Ans: (4)

Anthrax in goat

Etiology : Anthrax is a bacterial disease caused by *Bacillus anthraces.* These bacteria release highly resistant spores, which contaminate the environment and help to spread the disease.

Symptoms: In goats sudden death is the typical sign. Fever, staggering, excitement, depression and difficulty breathing may be seen in some animals, followed by rapid collapse, terminal convulsions and death. Bloody discharges from natural body openings such as the nose, mouth, ears, penis and rectum are sometimes observed.

Treatment: Official diagnosis is made by laboratory identification of the organisms in samples of body fluids, skin lesions, lymph node or spleen. Anthrax is a highly communicable disease. However, it is not highly transmissible among animals.. Timely vaccination is most effective control measure. Treatment is possible with antibiotics if started early. Antibiotics like penicillin and doxycycline are used in treatment of anthrax.

Q. 9. Write short notes (Any Two).

a) i) Care of newly born kid b) ii) Composition of sheep and goat milk c) iii) Flushing

Ans:

i) Care of newly born kid (2)

- Ensure the nose and mouth are free of membranes and mucus fluid immediately after birth.
- Place the kid in a clean and sheltered place.
- Clean the mucus from body of kid and make it dry.
- Let the doe also lick her kid for cleaning and removal of mucus from kid's body. It will help for establishing the affinity between kid and doe.
- Leaving 3 cm from the body cut the naval cord with sterilized scissors and treat with tincture iodine.
- Mark the kid and give permanent number and record age and number of ewe, sex of kid , date born.
- Weight the kid and record it.
- Help the kid to reach the teats of doe for suckling.
- Make sure that kid gets first milk.
- Protect the kid from getting chill by wrapping in jute / blanket.

ii) Composition of sheep and goat milk (2)

Species	Constituents %				
	Water	Fat	Protein	Lactose	Ash
Goat	87.10	4.25	3.52	4.27	0.86
Sheep	81.00	7.90	5.80	4.50	0.80

iii) Flushing (2)

Feeding of extra allowance of concentrates for a short time to increase ovulation rate. About two weeks before the rams are let free with ewes. The good sheep man will put ewes on a grain ration or move them to fresh pasture areas, where feed is more abundant. This process is known as flushing. Flushing the ewes start the heat period earlier, which is an advantage when early lambs are desire. It also has effect on bringing all the ewes into heat at nearly the same time resulting in more uniform lamb crop. Flushing also increases the lambing rate and incidence of multiple births in the flock.

When the ewes are gaining flesh, their reproductive organ usually begins functioning normally. Twins under rugged range conditions are sometimes a disadvantageous. Twins are smaller than a single lamb and ewe's milk is in scanty condition. However, twins have an advantage when the flocks are provided with extra fodder and grain.

Q. 10. Describe the salient features of the following breeds (Any Two).

a) i) Deccani b) ii) Assel c) iii) Jamunapari

Ans:

i) Deccani: The Deccani breed of sheep is widely distributed in the Deccan plateau across the three states of Maharashtra, Andhra Pradesh and Karnataka. The breed has a thin neck, narrow chest, prominent spinal processes. It has Roman nose and dropping ears. The colour is dominantly black, with some grey and roan. Average birth weight 3.13 Kg. Sheep are sheared two times a year. Deccani has the great potential for mutton production under intensive system of management. (2)

	ii) Assel: Found in most parts of Andhra Pradesh, especially the East Godavari, Visakhapatnam districts and in the Dantewada district of Chhattisgarh. Plumage is of varied colour red, yellow, white, black. Comb is pea or single comb. Ear lobes are red in colour. Skin and shank is yellow in colour. Standard body weight for cocks is 3 to 4 kg and hens are 2 to 3 kg. Assel is reared under backyard poultry management system and is vital source of meat and income for small holder poultry rearers. The bird is important in tribal culture for cock fighting.	(2)
	iii) Jamunapari: It is the biggest and most majestic breed of goats in India. The breed has been extensively used to upgrade indigenous breeds for milk and meat. Its home tract is between Jamuna and Chambal river. It is also found in Etawah district of Uttar Pradesh. The breed has various colours, including white tan, and black. The ears are pendulous tubular and drooping and are about 30 cm long. The udders are well developed, having big teats. The breed has roman nose. Both the sexes are horned. Average milk ranges from 2 to 3.0 kg per day with the lactation yield of 200 kg with fat percentage 4-5 per cent. The breed usually kid once in a year. Single 57 % and Twins 43 %. Average matured weight of male and female is 50-60 and 40-50 kg, respectively.	(2)

SECTION "B"

Q. 11.	Define the following terms.	
Ans:	**i)** Wether: Castrated male sheep, older than 6 months.	(1)
	ii) Brooding: Brooding refers to the period immediately after hatch when special care and attention must be given to chicks to ensure their health and survival.	(1)
	iii) Serving: Act of mating in goat is called serving	(1)
	iv) Cannibalism: The act of one individual of a poultry species consuming all or part of another individual of the same species as food.	(1)
Q. 12.	Fill in the blanks.	
	i) <u>Saanen</u> breed is known as "Milk Queen" of goat world.	(1)
	ii)) Goat species belongs to **<u>Capra</u>** genus	(1)
	iii) A ration to be fed to commercial broiler birds in first ten days is called as **Pre-<u>starter</u>.**	(1)
	iv) The average gestation period of goat is **150 to 155** days.	(1)

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