C–1536	Sub. Code 80123

B.Sc. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Poultry Science

INCUBATION AND HATCHERY MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Allantois

2. Fumigation

3. Chicks Pull out

4. Sexing of chicks

5. Ventilation

6. Fertility

7. Fertile hatchability

8. Sweating

9. Egg tooth

10. Malposition

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write briefly about methods of incubation.

Or

(b) Explain briefly about Important physical factors at hatcher.

12. (a) Write about the role of Setter during incubation.

Or

(b) Explain briefly about the vaccination at hatchery.

13. (a) Write briefly about Pedigree hatching.

Or

(b) Explain briefly about *In-ovo* technique.

14. (a) What is the importance of turning of hatching eggs?

Or

(b) What is the significance of relative humidity during incubation?

15. (a) What is the reason for poor hatchability?

Or

(b) Explain briefly about the importance of post hatch break open study.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Describe in detail about layout, design and location of hatchery.

Or

(b) Write in detail about physical requirements for incubation.

17. (a) Write in detail about the physical factors affecting the incubating eggs.

Or

(b) Explain in detail about the hatchery operations.

18. (a) Write in detail about biosecurity measures to be adopted in hatchery.

Or

(b) Describe in detail about hatchery waste management.

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C–1537	Sub. Code
	80124

B.Sc. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Poultry Science

POULTRY NUTRITION AND FEED MILLING TECHNOLOGY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **ALL** questions.

1. Proventriculus.

2. Nutrient.

3. Pellet.

4. Aflatoxin.

5. Maize.

6. Soyabean oilcake.

7. Grinder.

8. Rickets.

9. Curled toe paralysis.

10. Breeder.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write briefly about classification of feed ingredients.

Or

(b) Explain briefly about conventional feedstuffs.

12. (a) Write briefly about nutrient requirements of layer chick and grower.

Or

(b) Explain briefly about probiotic and prebiotic.

13. (a) Write briefly about crumble feed preparation.

Or

(b) Compare horizontal and vertical mixer.

14. (a) Explain briefly about storage of raw materials.

Or

(b) Write briefly about Proximate analysis.

15. (a) Write brief answer about duck feeding methods.

Or

(b) Write briefly about lay out of feed mill.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write in detail on digestive system of poultry with neat diagram.

Or

(b) Write an essay on metabolic disorders in poultry.

17. (a) Write an essay on feeding management of Japanese quails.

Or

(b) Write in detail on feeding standards different age groups of turkeys.

18. (a) Write an essay on national and international laws pertaining to feed manufacturers.

Or

(b) Write detailed answer on physical and biochemical evaluation of feed ingredients.

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C–1539	Sub. Code
	80142

B.Sc. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Poultry Science

BROILER PRODUCTION

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Crumble.
2. Breast blisters.
3. Crop score.
4. Growing.
5. Per capita consumption.
6. WHO.
7. Automation.
8. Vertical Integration.
9. Handling.
10. Livability.

Part B

$(5 \times 5 = 25)$

Answer **all** the questions.

11. (a) Temperature in the broiler farm.

Or

(b) Role of NGO in broiler production.

12. (a) Pellet feed.

Or

(b) Processed broiler marketing.

13. (a) Body weight monitoring.

Or

(b) CFCR.

14. (a) Weekly growth rate in broilers.

Or

(b) Pipeline cleaning in broiler waterlines.

15. (a) Production cost of broilers.

Or

(b) Lifting efficiency.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Write in detail on terminologies used in broiler production.

Or

(b) Describe in detail on winter management of broilers.

17. (a) Describe in detail on marketing channels in broiler industry.

Or

(b) Describe in detail on litter management in broiler production.

18. (a) Describe in detail on all in all out system and multiple batch system.

Or

(b) Describe in detail on water sanitation measures in a broiler farm.

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C–1540	Sub. Code
	80143

B.Sc. DEGREE EXAMINATION, APRIL 2024.

Fourth Semester

Poultry Science

POULTRY DISEASES AND FLOCK HEALTH

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Vitamin B2 deficiency.
2. Mortality.
3. Ochratoxin.
4. Beaudett form of RD.
5. Etiology of IB.
6. Pathognomonic lesions.
7. Gout.
8. Railletina tetragona.
9. Head louse.
10. Vaccination.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write briefly about Vitamin D deficiency in poultry.

Or

(b) Explain briefly about clinical signs and gross lesions of Fowl Cholera.

12. (a) Write briefly about vaccination schedule in broilers.

Or

(b) Explain briefly about precautions to be taken while vaccinating poultry.

13. (a) Explain briefly about hosts and transmission of ILT.

Or

(b) Write briefly about FLKS in poultry.

14. (a) Explain briefly about medication through water in poultry.

Or

(b) Write briefly about the types of vaccines.

15. (a) Write briefly about diagnosis and treatment of Infectious coryza.

Or

(b) Explain briefly about clinical signs and gross lesions of Mycoplasmosis.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write in detail on etiology, host, transmission, signs, morbidity mortality, gross, HP lesions, diagnosis, treatment prevention and control of Colibacillosis.

Or

(b) Describe in detail on etiology, host, transmission, signs, morbidity, mortality, gross, HP lesions, diagnosis, treatment prevention and control of Coccidiosis.

17. (a) Write in detail on etiology, host, transmission, signs, morbidity mortality, gross, HP lesions, diagnosis, treatment prevention and control of Infectious bronchitis.

Or

(b) Write an essay on shed cleaning and disinfection procedures in poultry farms.

18. (a) List out the metabolic diseases affecting poultry and explain in detail on sudden death syndrome.

Or

(b) List out the nutritional deficiency diseases in poultry and write in detail on Vitamin B complex deficiencis.

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C–2332

Sub. Code
80113

B.Sc. DEGREE EXAMINATION, APRIL 2024

First Semester

Poultry Science

POULTRY PRODUCTION SYSTEMS, HOUSING AND AUTOMATION

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. The following factor is very important for the building site to avoid low-lying areas with flooding potential

   (a) Topography

   (b) Orientation

   (c) Length of the poultry house

   (d) Width of the house

2. A good litter materials should

   (a) be light in weight

   (b) be highly absorbent

   (c) be soft and compressible

   (d) all of the above

3. Advantages of conventional cage system are

(a) Higher housing density possible

(b) Incidence of cannibalism and coccidiosis are minimal

(c) Both (a) and (b)

(d) None of the above

4. The plat forms in the elevated cage houses are raised by ———————— above the ground level.

(a) 1 m (b) 2 m

(c) 1.5 m (d) 2.5 m

5. The width of the open sided poultry houses should not exceed

(a) 30 feet (b) 25 feet

(c) 35 feet (d) 40 feet

6. When the environment temperature is above 32°C, Foggers can be operated for

(a) 15 minutes/hr

(b) 20 minutes/hr

(c) 25 minutes/hr

(d) 30 minutes/hr

7. Front feeding length 18^{11} is available in the following cages

(a) Conventional cages

(b) Reverse cages

(c) Both (a) and (b)

(d) None of the following

8. In enriched cages, the feeding space/hen allowed is

(a) 12 cm/hen trough space

(b) 10 cm/hen trough space

(c) 14 cm/hen trough space

(d) 16 cm/hen trough space

9. The optimum temperature and relative humidity for better performance in poultry farming are

(a) 18°C and 65%

(b) 24°C and 50-60%

(c) 27°C and 70%

(d) 26°C and 70%

10. Automatic feeder focused on ducks and turkeys available in the market is

(a) Polyfeeder

(b) Twist

(c) Both (a) and (b)

(d) None of the above

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Write briefly about the differences between All in All out multiple batch system.

Or

(b) Differentiate briefly between semi-intensive system and intensive system of poultry rearing.

12. (a) What are the floor space requirements for different age groups of poultry?

Or

(b) Write briefly about poultry farm location.

13. (a) What are the points to be considered in the construction of open sided poultry houses?

Or

(b) What are the roof types? And explain them with neat diagram.

14. (a) Explain briefly about the conventional and reverse cages with suitable diagram.

Or

(b) Explain about debeaking in poultry with suitable diagrams.

15. (a) Explain the concept and applications of automation in poultry production.

Or

(b) Write briefly about automation in feeding and watering system.

Part C

$(5 \times 8 = 40)$

Answer **all** questions.

16. (a) Write in detail on organic poultry production.

Or

(b) Explain in detail in Backyard system of rearing poultry.

17. (a) Write a detailed answer on macro and micro environment in poultry production.

Or

(b) Explain in detail on the importance of poultry housing and equipment.

18. (a) Explain in detail on tunnel and duct ventilation in poultry houses.

Or

(b) Write a detailed answer on Environmentally controlled poultry houses.

19. (a) Explain in detail on types of cages and A type and H type cages.

Or

(b) Write a detailed answer on transport crates and fumigation equipment.

20. (a) Explain in detail on automation in egg collection and egg grading system.

Or

(b) Write a detailed answer an automation in hatchery operations.

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C–2333	Sub. Code 80115

B.Sc. DEGREE EXAMINATION, APRIL 2024.

First Semester

Poultry Science

APPLIED AVIAN ANATOMY AND PHYSIOLOGY

(2023 onwards)

Duration : Three Hours Maximum : 75 Marks

Section A (10 × 1 = 10)

Answer **all** the questions.

1. Today, practically all commercial white egg lines of chicken are

   (a) Single Comb White Leghorns

   (b) Single Comb RIR

   (c) White Plymouth Rock

   (d) New Hampshire

2. All meat lines on the male side include genes derived from

   (a) New Hampshire

   (b) Cornish

   (c) Barred Plymouth Rock

   (d) Light Sussex

3. Chicken consists of how many air sacs?

   (a) Seven (b) Eight

   (c) Nine (d) Ten

4. The heart of chicken has four chambers namely
   (a) Two atria and two ventricles
   (b) One atria and three ventricle
   (c) Three atria and one ventricle
   (d) Four atria and 0 ventricle

5. Which is the frame that supports the body and to which the muscles are attached?
   (a) Skin (b) Skeleton
   (c) Head (d) Shanks

6. Medullary bone is absent in
   (a) Female bird (b) Male bird
   (c) Non-laying female (d) Both (b) and (c)

7. The number of taste buds present in the mouth of chicken is
   (a) 250–350 (b) 150–250
   (c) 350–450 (d) 450–550

8. Which part of the digestive system is called as the glandular stomach?
   (a) Gizzard (b) Proventriculus
   (c) Esophagus (d) Crop

9. Hearing and sight in chicken are
   (a) Not developed (b) Poorly developed
   (c) Well developed (d) None of the above

10. The function of Islets of Langerhans is to
   (a) increase the production of gastric juice
   (b) produce insulin and glycogen
   (c) regulate the metabolic rate
   (d) affect the broodiness

Section B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write briefly about the comb types of chicken with a neat diagram.

Or

(b) Write short notes on the role of skin and feathers.

12. (a) Explain briefly about the Inhalation and Exhalation process in poultry.

Or

(b) Explain briefly the structure and functions of heart with a suitable diagram.

13. (a) Write briefly about wing and limb bones.

Or

(b) Explain briefly about the role of kidney in the poultry.

14. (a) Draw the digestive system of poultry neatly and explain the mouth and oesophagus.

Or

(b) Explain the male reproductive system of poultry with a neat diagram.

15. (a) Explain briefly about Bursa of Fabricins and thymus.

Or

(b) Write briefly about GALT.

Section C (5 × 8 = 40)

Answer **all** the questions.

16. (a) Write a detailed answer on classification and breeds of chicken.

Or

(b) Explain in detail on feather patterns and feather tracts of poultry with neat diagrams.

17. (a) Explain in detail on the types of blood vessels and components of blood.

Or

(b) Write a detailed answer on nasal cavity, larynx, trachea and their functions.

18. (a) Explain in detail on different types of bones.

Or

(b) Write a detailed answer on the muscular system of chicken.

19. (a) Explain in detail on the physiology of egg production.

Or

(b) Explain in detail on the female reproductive system in poultry.

20. (a) Write a detailed answer on immune system of poultry.

Or

(b) Explain in detail on principles of poultry behaviour.

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C–2334	Sub. Code
	80123

B.Sc. DEGREE EXAMINATION, APRIL 2024

Second Semester

Poultry Science

POULTRY NUTRITION AND FEED MILLING TECHNOLOGY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Section A (10 × 1 = 10)

Answer **all** the questions.

1. Which energy is commonly used to describe the energy value of ingredients and compound rations used for poultry?

   (a) Digestible energy (b) Metabolizable Energy

   (c) Gross energy (d) Net energy

2. Most energy sources contain ———— per cent of protein.

   (a) 8-9 (b) 15

   (c) 12 (d) 16

3. Japanese quails starter mash should contain crude protein level of

   (a) 20 per cent (b) 26 per cent

   (c) 18 per cent (d) 16 per cent

4. Nutritional encephalomalacia in chicks is caused due to the deficiency of

(a) Vitamin A (b) Vitamin D

(c) Vitamin E (d) Vitamin C

5. Which of the following is highly susceptible to Aflatoxicosis?

(a) Ducklings (b) Poults

(c) Keets (d) None of the above

6. Which of the following is/are pellet binder(s)?

(a) Sodium alginate (b) Bentonite

(c) Both (a) and (b) (d) None of the above

7. During manual feed formulation, it is sufficient to check

(a) Energy

(b) Crude protein

(c) Lysine and methionine

(d) All of the above

8. Pellets are characterized by

(a) Lower moisture content

(b) Higher calorific value

(c) Uniform shape

(d) All of the above

9. Organic eggs are produced from the hens which consume

(a) Vegetarian food

(b) Free from insecticide

(c) Free from pesticide

(d) All of the above

10. Common adulterant found in DORB and wheat bran is

(a) Saw dust (b) Paddy husk

(c) Urea (d) Sand

Section B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write briefly about classification of feed ingredients.

Or

(b) Explain briefly about conventional feedstuffs.

12. (a) Write briefly about nutrient requirements of layer chick and grower.

Or

(b) Write briefly about the restricted feeding in broiler breeders.

13. (a) Write briefly about antioxidants and enzymes.

Or

(b) Explain briefly about the performance enhancers.

14. (a) Give a brief account of hammer mill.

Or

(b) Write briefly about vertical mixer.

15. (a) Explain briefly about physical evaluation of feed ingredients.

Or

(b) Explain briefly about the SPF egg production.

Section C (5 × 8 = 40)

Answer **all** the questions.

16. (a) Write in detail on digestive system of poultry with neat diagram.

Or

(b) Explain in detail on vegetable and animal protein sources.

17. (a) Write in detail on metabolic disorders in Poultry.

Or

(b) Describe in detail on the factors influencing nutrient requirements of poultry.

18. (a) Describe in detail on mycotoxicosis and preventive measures.

Or

(b) Describe in detail on the feeding of ducks and turkeys.

19. (a) Write in detail about lay out and design of feed mill.

Or

(b) Write in detail about poultry feed formulation.

20. (a) Describe in detail about biosecurity measures in feed mills

Or

(b) Describe in detail about designer egg production.

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C–2335

Sub. Code
80125

B.Sc. DEGREE EXAMINATION, APRIL 2024

Second Semester

Poultry Science

INCUBATION AND HATCHERY MANAGEMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Section A $(10 \times 1 = 10)$

Answer **all** the questions.

1. Hatching eggs should be collected daily in the breeder farms

   (a) Three to four times

   (b) 2 times

   (c) 5 times

   (d) One time

2. For every day hatching eggs are stored after four days, hatching time is delayed

   (a) 45 minutes (b) 30 minutes

   (c) 60 minutes (d) 50 minutes

3. Incubation period for Japanese quail eggs

   (a) 17 days (b) 21 days

   (c) 28 days (d) 42 days

4. Appearance of alimentary tract in development of embryo is seen at

(a) 16 hours of incubation (b) 19 hours of incubation

(c) 22 hours of incubation (d) 24 hours of incubation

5. Hatching eggs have to be kept in the setter up to

(a) 19^{th} day of incubation (b) 17^{th} day of incubation

(c) 20^{th} day of incubation (d) 18^{th} day of incubation

6. The recommended relative humidity for hatcher compartment is

(a) 50% (b) 60%

(c) 70% (d) 75-80%

7. Candling of hatching eggs has to be done at setter at

(a) 7^{th} day of incubation

(b) 17^{th} day of incubation

(c) 10^{th} day of incubation

(d) 18^{th} day of incubation

8. Single strength concentration of fumigation refers to

(a) 20 g $KMNO_4$+40 ml Formalin

(b) 20 g $KMNO_4$+20 ml Formalin

(c) 40 g $KMNO_4$+20 ml Formalin

(d) 40 g $KMNO_4$+40 ml Formalin

9. The hatch day break out analysis should be performed at least once

(a) Every week (b) Every two weeks

(c) Both (a) and (b) (d) None of the above

10. New method of sanitation currently being made available to hatcheries involves

(a) Electrostatic technology

(b) Hatcher air ionization

(c) Both (a) and (b)

(d) None of the above

Section B $(5 \times 5 = 25)$

Answer **all** the questions.

11. (a) Explain briefly about hatchery lay out.

Or

(b) Give a brief account of selection of hatching eggs.

12. (a) Write briefly about the effect of temperature on hatchability of chicken.

Or

(b) Explain briefly about the effect of humidity on hatchability of chicken.

13. (a) Write briefly about setter management.

Or

(b) Briefly explain the types of incubators.

14. (a) Write briefly about pedigree hatching.

Or

(b) Explain briefly about grading of chicks.

15. (a) Explain briefly about chick quality assessment.

Or

(b) Write briefly about malformations of chicken embryo.

Section C (5 × 8 = 40)

Answer **all** the questions.

16. (a) Describe in detail on the design and construction of hatchery.

Or

(b) Describe in detail on the different methods of fumigation of hatching eggs.

17. (a) Describe in detail on the physical requirements of incubation.

Or

(b) Describe in detail on the events in the chicken embryonic development.

18. (a) Discuss in detail on automation in hatchery.

Or

(b) Describe in detail on the single stage and multiple stage incubators.

19. (a) Write in detail about hatchery operations.

Or

(b) Write in detail about In-Ovo and In-hatch vaccinations and medications.

20. (a) Describe in detail about factors affecting hatchability.

Or

(b) Describe in detail about biosecurity measures to be followed in hatchery.

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