SRI VENKATESWARA UNIVERSITY

B.Sc. DEGREE COURSE IN ZOOLOGY

SEMESTER SYSTEM WITH CBCS

SEMESTER V

W.E.F. 2022-2023

Skill Enhancement Courses (SECs) for Semester V, from 2022-23

(Syllabus with Learning Outcomes, References, Co-curricular Activities & Model Q.P. Pattern)

Structure of SECs for Semester–V

(To choose One pair from the Two alternate pairs of SECs)

Course Number	**Name of Course**	**Hours/Week Theory + Practical**	**Credits Theory+ Practical**	Marks	
				IA–20 FW- 05	Sem End T+P
6A	SUSTAINABLE AQUACULTURE MANAGEMENT	3+3	3+2	25	75+50
7A	POST HARVEST TECHNOLOGY OF FISH AND FISHERIES	3+3	3+2	25	75+50
(OR)					
6C	POULTRY MANAGEMENT- I (POULTRY FARMING)	3+3	3+2	25	75+50
7C	POULTRY MANAGEMENT- II (POULTRY PRODUCTION AND MANGEMENT	3+3	3+2	25	75+50

Note-1: For Semester-V, for the domain subject Zoology, any one of the two pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6C & 7C.The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note-2: *One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill* oriented. *Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.*

SRI VENKATESWARA UNIVERSITY

B.Sc. DEGREE COURSE IN ZOOLOGY

SEMESTER SYSTEM WITH CBCS

SEMESTER V

W.E.F. 2022-2023

Course Code:
Max. Marks: 100

Course6 A: **SUSTAINABLE AQUACULTURE MANAGEMENT**

(Skill Enhancement Course (Elective), -Credits: 05)

I. Learning Outcomes:

Students at the successful completion of this course will be able to

- Evaluate the present status of aquaculture at the Global level and National level
- Classify different types of ponds used in aquaculture
- Demonstrate induced breeding of carps
- Acquire critical knowledge on commercial importance of shrimps
- Identify fin and shell fish diseases

II**. Syllabus**: (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit: 1

1.1 Present status of Aquaculture – Global and National scenario

1.2 Major cultivable species for aquaculture: freshwater, brackish water and marine.

1.3 Traditional, extensive, modified extensive, semi-intensive and intensive cultures of fish and shrimp.

1.4 Design and construction of fish and shrimp farms

Unit: 2

2.1 Functional classification of ponds – head pond, hatchery, nursery ponds

2.2 Functional classification of ponds -rearing, production, stocking and quarantine ponds

2.3 Need of fertilizer and manure application in culture ponds

2.4 Physio-chemical conditions of soil and water optimum for culture (Temperature, depth, turbidity, light, water, PH, BOD, CO_2 and nutrients)

Unit: 3

3.1. Induced breeding in fishes

3.2. Culture of Indian major carps: Pre-stocking management (Dewatering, drying, ploughing/desilting; Predators, weeds and algal blooms and their control, Liming and fertilization)

3.3. Culture of Indian major carps - Stocking management

3.4. Culture of Indian major carps - post-stocking management

Unit: 4

4.1 Commercial importance of shrimp & prawn

4.2 *Macrobrachium rosenbergii*- biology, seed production.

4.3 Culture of *L. vannamei* – hatchery technology and culture practices

4.4 Mixed culture of fish and prawns

Unit: 5

5.1 Viral diseases of Fin Fish & shell fish

5.2 Fungal diseases of Fin & Shell fish

5.3 Bacterial diseases of Finfish & Shell fish

5.4 Prophylaxis in aquaculture

III. References:

1. Pillay TVR & M.A.Dill, 1979. Advances in Aquaculture. Fishing News Books Ltd., London
2. Stickney RR 1979. Principles of Warm Water Aquaculture. John Wiley & Sons Inc.1981
3. Boyd CE 1982. Water Quality Management for Pond Fish Culture. Elsivier Scientific Publishing Company.
4. Bose AN et.al. 1991. Costal Aquaculture Engineering. Oxford & IBH Publishing Company Pvt. Ltd.

Web Links:

1. http://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/x6708e/x6708e06.htm
2. http://aquaticcommons.org/1666/1/Better-Practice3_opt.pdf
3. https://www.notesonzoology.com/india/fishery/fish-diseases-symptoms-and-control- fishery/871

SRI VENKATESWARA UNIVERSITY

B.Sc. DEGREE COURSE IN ZOOLOGY

V SEMESTER - W.E.F. 2022-23

Course6 A: **SUSTAINABLE AQUACULTURE MANAGEMENT**

MODEL QUESTION PAPER

Time: 3 hours Marks: 75 marks

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A.
Part B consists of 5 Units. Answer one full question (A or B) from each unit (i.e., Q.No 9 from Unit – I, Q.No 10 from Unit – II, Q.No 11 from Unit – III, Q.No 12 from Unit – IV, Q.No 13 from Unit – V). Each question carries 10 marks.

PART – A

Answer any *Five* of the following question. (5X5=25M)

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

(P.T.O)

PART – B

Answer All The Questions. Each question carries 10 marks (5X10= 50M)

9.	(A) OR (B)
10.	(A) OR (B)
11.	(A) OR (B)
12.	(A) OR (B)
13.	(A) OR (B)

Course6 A: SUSTAINABLE AQUACULTURE MANAGEMENT

PRACTICAL SYLLABUS

IV. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

- Identify the characaters of Fresh water cultivable species
- Etimate physico chemical characateristics of water used for aquaculture
- Examine the diseases of fin and shell fish
- Suggest measures to prevent diseases in aquaculture

V. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)

1. Fresh water Cultivable species any (Fin & Shell Fish Specimens – Observation of morphological characters by observation and drawings)-5

2. Brackish water cultivable species (Fin &Shell fish- Specimens- Observation of Morphological Character by observing drawing) -5

3. Hands on training on the use of kits for determination of water quality in aquaculture (DO, Salinity, pH, Turbidity- Testing kits to be used for the estimation of various parameters/ Standard procedure can be demonstrated for the same)

4. Demonstration of Hypophysation(Procedure of hypophysation to be demonstrated in the practical lab with any edible fish as model)

5. Viral diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of viral pathogens in fin/ shell fish – one edible specimen can be used for observation of same in the laboratory)

6. Bacterial diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of Bacterial pathogens in fin/ shell fish – One edible specimen can be used for observation of same in the laboratory)

7. Fungal diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of Bacterial pathogens in fin/ shell fish – One edible specimen can be used for observation of same in the laboratory)

VI. Lab References

1. Boyd CE 1982. Water Quality Management for Pond Fish Culture. Elsevier Scientific Publishing Company
2. http://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/x6708e/x6708e06.htm
3. http://aquaticcommons.org/1666/1/Better-Practice3_opt.pdf
4. https://www.notesonzoology.com/india/fishery/fish-diseases-symptoms-and-control- fishery/871

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. **Co-Curricular Activities**

a) **Mandatory**:*(Student training by teacher in field skills: Total 15 hrs., Lab:10 + field 05)*

1. For Teacher: Training of students by the teacher in laboratory/field fornotlessthan15 hours on Breeding- Induced breeding in carps -hatchery technology of *L. Vennami*- Farming techniques- disease diagnostic techniques—concepts –Demonstration @ any aqua laboratory
2. For Student: Students shall (individually) visit a Hatchery/Farm/ Aqua diagnostic center and make careful observations of the process method and implements- protocols and report on the same in 10 pages hand written Fieldwork/Project work Report.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work**:** Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE).Unit tests.

b) Suggested Co-Curricular Activities

1. Preparation of Model/Charts of Cultivable species of fin fish shell fish
2. Preparation of Model/Chart of Ideal fish Pond- with the standards prescribed.
3. Observation of aquaculture activities in their area (Observation of any activity related to aquaculture in the vicinity of the college/village)
4. Preparation of Model – charts of Fin /Shell fish Diseases with eco-friendly material.
5. Assignments, Group discussion, Seminar, Quiz, Collection of Material, Video preparation etc., Invited lecture

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SRI VENKATESWARA UNIVERSITY

B.Sc. DEGREE COURSE IN ZOOLOGY

SEMESTER SYSTEM WITH CBCS

SEMESTER V

W.E.F. 2022-2023

Course Code:
Max. Marks: 100

Course 7 A: **POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES**

(Skill Enhancement Course (Elective), - Credits: 05)

I. Learning Outcomes**:**

Students at the successful completion of this course will be able to

- Identify the types of preservation methods employed in aquaculture
- Choose the suitable Processing methods in aquaculture
- Maintain the standard quality control protocols laid down in aqua industry
- Identify the best Seafood quality assurance system

II. **Syllabus:** *Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit – I Handling and Principles of fish Preservation

1. 1 Handling of fresh fish, storage and transport of fresh fish, post mortem changes (rigor mortis and spoilage), spoilage in marine fish and freshwater fish.

1.2 Principles of preservation – cleaning, lowering of temperature, rising of temperature, denudation, use of salt, use of fish preservatives, exposure to low radiation of gamma rays.

Unit – II Methods of fish Preservation

2.1 Traditional methods - sun drying, salt curing, pickling and smoking.

2.2. Advanced methods – chilling or icing, refrigerated sea water, freezing, canning, irradiation and Accelerated Freeze drying (AFD).

Unit – III Processing and preservation of fish and fish by-products

3.1Fish products – fish minced meat, fish meal, fish oil, fish liquid (ensilage), fish protein concentrate, fish chowder, fish cake, fish sauce, fish salads, fish powder, pet food from trash fish, fish manure.

3.2 Fish by-products – fish glue, Using glass, chitosan, pearl essence, shark fins, fish Leather and fish maws.

Unit – IV Sanitation and Quality control

4.1 Sanitation in processing plants - Environmental hygiene and Personal hygiene in processing plants.

4.2 Quality Control of fish and fishery products – pre-processing control, control during processing and control after processing.

Unit – V Quality Assurance, Management and Certification

5.1. Seafood Quality Assurance and Systems: Good Manufacturing Practices (GMPs); Good Laboratory Practices (GLPs); Standard Operating Procedures (SOPs); Concept of Hazard Analysis and Critical Control Points (HACCP) in seafood safety.

5.2 National and International standards – ISO 9000: 2000 Series of Quality Assurance System, *Codex Aliment Arius*.

III. References:

1. Santharam R, N Sukumaran and P Natarajan 1987. A manual of aquaculture, Oxford- IBH, NewDelhi
2. Lakshmi Prasad's, Fish Processing Technology 2012, Arjun Publishing House
3. Dr Sunitha Rai, Fish Processing Technology, 2015, Random Publications
4. Safety and Quality Issues in Fish Processing (Woodhead Publishing Series in Food Science, Technology and Nutrition)by H A Bremner
5. K.A Mahanthy, Innovations in Fishing and Fish Processing Technologies, January 2021

Web Resources:

1. http://ecoursesonline.iasri.res.in/mod/page/view.php?id=145743
2. https://ecourses.icar.gov.in/e-Leaarningdownload3_new.aspx?Degree_Id=03

SRI VENKATESWARA UNIVERSITY

B.Sc. DEGREE COURSE IN ZOOLOGY

V SEMESTER - W.E.F. 2022-23

Course 7 A: **POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES**

MODEL QUESTION PAPER

Time: 3 hours Marks: 75 marks

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A.
Part B consists of 5 Units. Answer one full question (A or B) from each unit (i.e., Q.No 9 from Unit – I, Q.No 10 from Unit – II, Q.No 11 from Unit – III, Q.No 12 from Unit – IV, Q.No 13 from Unit – V). Each question carries 10 marks.

PART – A

Answer any *Five* of the following question. (5X5=25M)

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

(P.T.O)

PART – B

Answer All The Questions. Each question carries 10 marks (5X10= 50M)

9.	(A) OR (B)
10.	(A) OR (B)
11.	(A) OR (B)
12.	(A) OR (B)
13.	(A) OR (B)

Course 7 A: POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES

PRACICAL SYLLABUS

IV. Learning Outcomes: On successful completion of this practical course, student shall be able to:

- Identify the quality of aqua processed products.
- Determine the quality of fishery by products by observation
- Analyze the protocols of aqua processing methods

V. **Practical(Laboratory) Syllabus**:

1. Evaluation of fish/ fishery products for organo leptic, chemical and microbial quality.
2. Preparation of dried, cured and fermented fish products

   For detailed procedure method visit sites:
3. Examination of salt, protein, moisture in dried / cured products
4. Examination of spoilage of dried / cured fish products, marinades, pickles, sauce.
5. Preparation of isinglass, collagen and chitosan from shrimp and crab shell.
6. Developing flow charts and exercises in identification of hazards – preparation of hazard analysis worksheet
7. Corrective action procedures in processing of fish- flow chart- work sheet preparation

   (** Refer the following web sites for complete procedure method and estimations of above listed practicals)

VI. References:

1. Dr Sunitha Rai, Fish Processing Technology, 2015, Random Publications
2. https://ecourses.icar.gov.in/e-Leaarningdownload3_new.aspx?Degree_Id=03
3. https://vikaspedia.in/agriculture/fisheries/post-harvest-and-marketing/processing-in- fisheries/fermented-products
4. https://krishi.icar.gov.in/jspui/bitstream/123456789/20500/1/Fermentation%20technology%20for%20fish.pdf
5. http://jebas.org/00200620122014/Abujam%20et%20al%20JEBAS.pdf

6. https://krishi.icar.gov.in/jspui/bitstream/123456789/20770/1/Training%20Manual_Hygienic%20drying%20and%20packing%20of%20fish.pdf
7. https://krishi.icar.gov.in/jspui/bitstream/123456789/20770/1/Training%20Manual_Hygienic%20drying%20and%20packing%20of%20fish.pdf
8. https://agritech.tnau.ac.in/fishery/fish_byproducts.html
9. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5352841/
10. http://www.fao.org/3/i1136e/i1136e.pdf
11. http://www.fao.org/3/x5989e/X5989e01.htm#What%20is%20sensory%20assessment)

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. **Co-Curricular Activities**

a) Mandatory: *(Lab/field training of students by teacher (lab 10 + field 05):*

1. For Teacher: Training of students by the teacher in laboratory/fieldfornotlessthan15hourson various steps of post-harvest techniques of fishes, on the advanced techniques in post-harvest technology – Training of students on other employability skills in the Post-harvest sector of Aquaculture Industry- like Processing, Packing, marketing of processed aqua products.
2. For Student: Students shall (individually) visit - Any fish/shrimp Processing Plant/Packing industry and make observations on post harvesting techniques and submit a brief handwritten Fieldwork/Project work Report with pictures and data /survey in 10 pages.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*
5. (IE): Unit tests,

b) <u>Suggested Co-Curricular Activities</u>

1. Observation of fish/shrimp processing plants – visit web sites of processing companies and record the details of that Unit
2. Interaction with local fishermen to know the method of preservation and details with the available traditional technology
3. Collection of web resources on the Quality assurance, quality control measures in Aqua Industries- cross checking the standards during the visit to any processing units.
4. Assignments, Seminar, Group discussion. Quiz, Collection of Material, Invited lecture, Video preparation etc.,

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SRI VENKATESWARA UNIVERSITY

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SEMESTER SYSTEM WITH CBCS

SEMESTER V

W.E.F. 2022-2023

Course Code:
Max. Marks: 100

COURSE6 C: POULTRY MANAGEMENT- I (POULTRY FARMING)

(Skill Enhancement Course (Elective), - Credits: 05 (3+2))

I. Learning Outcomes:

Students at the successful completion of the course will be able to

- Evaluate the status of Indian Poultry Industry
- Explain the Scientific Poultry keeping
- Compare the diversified Poultry practices
- Inspect the different breeds of chicken

II. **Syllabus**: (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit 1 Indian poultry Industry

1.1 Importance of poultry farming and poultry development in India.

1.2 Present status and future prospectus of poultry Industry

Unit -2 Scientific Poultry Keeping

2.1 Modern breeds of Chicken

2.2 Present day egg production lines- meat production lines

Unit-3 Diversified Poultry

3.1 Ducks and Geese-classification- rearing system-classification-advantages

3.2 Guinea fouls - guinea fowl farming in India-Production-varieties

Unit-4 Desi Chickens:

4.1 Indigenous breeds and economical aspects of desi chicken

4.2 Indigenous breeds-Aseel -Chittagong- Kadaknath -Bursa

4.3 Improved varieties in India–Giriraja - Vanaraja – Gririani - Kalinga brown, Gramapriya,Swarnandhra

Unit -5 Breeds from Central Avian Research Institute – Izatnagar

5.1 CARI Nirbheek - CARI- Shyama-HITCARI (Naked Neck Cross)

5.2 CARI- Priya Layer, CARI- Sonali Layer,

5.3 CARIBRO-VISHAL, CARI-RAINBRO,

III. References:

1. Text Book of Poultry Science, P V Sreenivasaiah, Write and Print Publications, ISBN No.9788192970592, 8192970590

2. Poultry Science Practices, Nilothpal Ghosh, CBS Publication & Distributions, 2015

3. Principles of Poultry Science, 1996, CAB Publishers, ISBN 9780851991221

4. A Text Book of Animal Husbandry, C. C. Banerjee, Oxford and IBH, Publish Co, ISBN:9788120412606

Web sources

1. https://www.drvet.in/p/e-books.html

2. https://byjus.com/biology/animal-husbandry-poultry-farming/

3. https://www.helpforag.app/2018/02/livestock-production-and-management-lpm_14.html?m=1

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SEMESTER SYSTEM WITH CBCS

SEMESTER V

W.E.F. 2022-2023

Course 6 C: POULTRY MANAGEMENT- I (POULTRY FARMING)

MODEL QUESTION PAPER

Course Code:

Time:3 hrs Max.Marks:75

SECTION - A

(Total: 5x5=25Marks)

(Answer any Five questions. Each answer carries 5 marks)
(At least1 question should be given from each Unit)

1. Poultry development
2. Meat production life
3. Duck rearing system
4. Aseel
5. Types of guinea fowl
6. Hitcari
7. Kadaknath
8. CARI nirbheek

SECTION B

(Total: 5x10 = 50 Marks)

(Answer all questions. Each answer carries10 marks
(Atleast1questionshould be given from each Unit)

9. Describe the importance of poultry farming
(or)
Explain the present status and future prospectus of poultry

10. Write any five modern breeds of chicken
Or
Explain in detail about the egg production lines of present day

11. Write about ducks and geese classification
Or
Give an account on guinea fowl farming in India

12. Explain the economical aspects of desi chicken
Or
Add a note on giri raja, kalinga brown, gramapriya and swarnandhra

13. Write about central avian research institute
Or
Give an account of caribro-vishal and cari-rainbro

COURSE6 C: POULTRY MANAGEMENT- I (POULTRY FARMING)
PRACTICAL SYLLABUS

IV. Learning Outcomes: On successful completion of this practical course, student shall beable to:

- Identify different types of Poultry rearing practices
- Evaluate the efficacy of different types of poultry practices in maximizing yield
- Understand the importance of different hybrid breeds in poultry

V. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)

1. Different types of Poultry rearing (Students has to observe and draw the different ty pes ofpoultry rearing systems)

2. Different types of poultry Housing - Models / Images/charts

3. Different layer breeds images/charts/ Models (Observation of characters)

4. Types of broilers images/charts/ Models (Identification of important Characters)

5. CARI breeds characters –images/charts

*** (This practical is 70 % (Web based /virtual) 30% physical: student and teachers must browse the web for the specimens models – write down the important characters based on theweb resources)

VI. Lab references

1. A Text Book of Animal Husbandry, C. C. Banerjee, Oxford and IBH, Publish Co, ISBN: 9788120412606

Web resources suggested by the teacher concerned and the college librarian including re adingmaterial

VII. Co-Curricular Activities:

a) **Mandatory**:*(Student training by teacher in field skills: total15hours (lab:10, field 05))*

1. For Teacher: Training of students by the teacher in laboratory and field for notlessthan15hour s on the techniques of identification of layers, broilers and management practices in poultry.

2. For Student: Students shall Individually visit a Poultry farm, make observations and report on the Rearing, Housing, Brooding, Feeding and water management activities. The student shall submit a handwritten Fieldwork/Project work Report on the observations along with pictures in the given format not exceeding 10 pages to teacher.

3. Max marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, detailsof place visited, observations made, findings and acknowledgements*.

5. Unit tests. (IE)

b) Suggested Co-Curricular Activities

1. Web resources – visiting the web sites of CARI-IZATNAGAR-
   https://cari.icar.gov.inprocuring additional information on the poultry breeds

2. Web resources- visiting the web site of
   NANADANAMhttp://www.tanuvas.ac.in/ippmmadhavaram_tech.html

3. Collection of additional data on different types of Poultry breeds

4. Seminar, Assignment, Group discussion. Quiz, Collection
   of Material, Invited Lecture, Videopreparation etc.

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SEMESTER SYSTEM WITH CBCS

SEMESTER V

W.E.F. 2022-2023

6 C: POULTRY MANAGEMENT- I (POULTRY FARMING)

PRACTICAL MODEL QUESTION PAPER

Course:

Time:3 hrs Max.Marks:75

1. Observe and draw the given poultry rearing system	10M
2. Identify the following models/charts with characters and draw the labeled diagram	6x5=30M
3. Certified record	10M
4. Total	50M

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SEMESTER V

W.E.F. 2022-2023

Course Code:
Max. Marks: 100+50

Course 7 C: POULTRY MANAGEMENT – II (POULTRY PRODUCTION AND MANGEMENT)

(Skill Enhancement Course (Elective), - Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to

- Suggest measure for Health care in Poultry
- Evaluate the economics of poultry production
- Elaborate the poultry Breeder flock management
- Differentiate the poultry hatchery practices

II. **Syllabus:** (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1 HEALTH CARE

1.1 Common poultry diseases: bacterial, viral, fungal, parasitic and nutritional deficiencies.

1.2Vaccination schedule for commercial layers and broilers: factors that govern vaccination sch edule; vaccination principles type, methods, pre and post vaccination care.

1.3Disinfection: Types of disinfectants; mode of action; recommended procedure; precaution andhandling.

Unit-2 ECONOMICS

2.1 Economics of layer and broiler production

2.2 Feasibility studies on poultry rearing- in context of small units and their profitability.

2.3 Export/import of poultry and poultry products.

Unit-3 BREEDER FLOCK MANAGEMENT

3.1 Layer and broiler breeder flock management housing & space requirements.

3.2Different stage of management during life cycle; Light management during growing and laying period, Artificial insemination.

3.3Feeding: Feed restriction, separate male feeding. Nutrient requirement of layer and broilerbreeder s of different age groups.

Unit-4 BREEDER HEALTHCARE

4.1Vaccination of breeder flock; difference between vaccination schedule of broilers andc ommercial birds.

4.2 Common diseases of breeders (Infectious and metabolic disorders)-prevention.

Unit-5 HATCHERY PRACTICES

5.1 Management principles of incubation.

5.2Factors affecting fertility and hatchability. Selection, care and incubation of hatching egg s.Fumigation; sanitation and hatchery hygiene.

5.3 Importance of hatchery records, break even analysis of unhatched eggs.

III. References:

1. HVS Chauhan, S. Roy, Poultry Diseases, Diagnosis and Treatment, New Age Interna tional

   Publishers-2018

2. https://www.drvet.in/p/e-books.html

3. https://byjus.com/biology/animal-husbandry-poultry-farming/

4. https://www.helpforag.app/2018/02/livestock-production-and-management-lpm_14.html?m=1

SRI VENKATESWARA UNIVERSITY
B.Sc. DEGREE COURSE IN ZOOLOGY

SEMESTER SYSTEM WITH CBCS

SEMESTER V - W.E.F. 2022-2023

7 C: POULTRY MANAGEMENT -II (POULTRY PRODUCTION AND MANGEMENT)

MODEL QUESTION PAPER

Course Code

Time:3 hrsMax Marks:75

SECTION – A

(Total: 5X5=25Marks)

(Answer any Five questions. Each answer carries 5 marks)
(At least1 question should be given from each Unit)

1. Types of Disinfectants
2. Poultry rearing
3. Light management
4. Metabolic disorders
5. Fumigation
6. Separate male feeding
7. Pre and post vaccination care
8. Hatchery hygiene

SECTION B (Total: 5X10 = 50 Marks)

(Answer any five questions. Each answer carries10 marks(Atleast1questionshould be given from each Unit)

9. a Write about the common poultry diseases

or

b Explain the vaccination schedule for commercial layers

10. a Describe the economics of broiler production

or

b Write about the export and import of poultry products

11.a Explain the various steps in artificial insemination

or

b Write a note on nutrient requirement of layer breeds of different age groups

12. a Discuss about difference between vaccination schedule of broilers and commercial birds

or

b. Explain the various common diseases of breeds

13. a Describe the management principles of Incubation

or

b Write an essay on importance of hatchery records

Course 7C: POULTRY MANAGEMENT –II- PRACTICAL SYLLLABUS

(POULTRY PRODUCTION AND MANGEMENT)

IV. Learning Outcomes:

On successful completion of this practical course, student shall be able to:
· Identify Poultry diseases by observation

· Analyze Poultry establishment feasibility

· Understand the Poultry Records

V. Practical(Laboratory) Syllabus:(30hrs) (Max.50Marks)

1. Poultry Viral diseases – Observation of histopathological slides/charts

2. Poultry Fungal Diseases- Observation of histopathological slides/charts

3. Poultry Bacterial Diseases-Observation of histopathological slides/charts

4. Rearing of Layers – (Preparation of Flow chart

5. Rearing of broiler- Flow chart

VI. Lab references :

1. HVS Chauhan, S. Roy, Poultry Diseases, Diagnosis and Treatment, New Age Inter nationalPublishers-2018

2. Flow chart hatchery : http://lms.tanuvas.ac.in/mod/resource/view.php?id=45106

3. Feasibility report: https://www.manage.gov.in/stry&fcac/content/19.%20Project%20Report%20on%20Layer%2 0Poultry.pdf

Web resources suggested by the teacher concerned and the college librarian including readin gmaterial

VII. Co-Curricular Activities

a) **Mandatory**:*(Lab/filed training of students by teacher: (lab10+ field 05)*

1. For Teacher: Training of students by the teacher laboratory and fieldfornotlessthan15 hourson skills in different practices employed in poultry with regard to the disease management – analysis of poultry project- preparation of flow chart – Observation ofPoultry records – computerization activities

2. For Student: students shall (individually) visit a Layer/ Broiler Poultry farming places (small scale/corporate), make observations on practices- resources – management and marketing - analysis and submit a handwritten Fieldwork/Project work Report of 10 pages with necessary images.

3. Max marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, detailsof place visited, observations made, findings and acknowledgements*.

6. (IE): Unit tests.

b) **Suggested Co-Curricular Activities**

1. Preparation of Poultry diseases charts

2. Preparation of feasibility report poultry establishment with different variables

3. Seminar, Assignment, Group discussion. Quiz, Collection of Material, Invited Lecture, Videopreparation etc.

SRI VENKATESWARA UNIVERSITY

B.Sc. DEGREE COURSE IN ZOOLOGY

SEMESTER SYSTEM WITH CBCS

SEMESTER V

W.E.F. 2022-2023

7 C: POULTRY MANAGEMENT – I

(POULTRY PRODUCTION AND MANGEMENT)

MODEL PRACTICAL PAPER

Course code:
Max.Marks:75 Time:3 hrs

1. Prepare and draw the flow chart of rearing of Layers/Broilers 10M

2. Identify the following histo- pathological slides/charts with characters and labeled diagram 6x5=30M

3. Certified record 10M

4. Total 50M