

# ALAGAPPA UNIVERSITY

(Accredited with A+ Grade by NAAC (CGPA : 3.64) in the Third Cycle ,  
Graded as Category-I University and granted autonomy by MHRD-UGC)

## DIRECTORATE OF COLLABORATIVE PROGRAMMES



### **B.Sc., Poultry Science**

Regulations and Syllabus

[For those who join the Course in July 2023 and after]

CHOICE BASED CREDIT SYSTEM

## **GENERAL INSTRUCTIONS AND REGULATIONS**

**B.Sc., Poultry Science**, degree program is conducted by Alagappa University, Karaikudi, Tamil Nadu through its Collaborative Institution.

Applicable to all the candidates are admitted for the academic year 2023 onwards.

**1. Eligibility:**

A minimum pass in Higher Secondary Examination (HSC)/ PUC/ Intermediate or Equivalent, or an examination accepted as equivalent thereto by the Syndicate for admission to **B.Sc. Poultry Science**.

**2. For the Degree:**

The candidates shall have subsequently undergone the prescribed programme of study in an institute for not less than three academic years, passed the examinations prescribed and fulfill such conditions as have been prescribed therefore.

**3. Admission:**

Admission is based on the marks in the qualifying examination.

**4. Duration of the course:**

The course shall extend over a period of **Three years** under the Semester pattern.

**5. Standard of Passing and Award of Division:**

- a. Students shall have a minimum of 40% of the total marks of the University examinations in each subject. The overall passing minimum is 40% both in aggregate of Continuous Internal Assessment and external in each subject.
- b. The minimum marks for passing in each theory / Lab course shall be 40% of the marks prescribed for the paper / lab.
- c. A candidate who secures 40% or more marks but less than 50% of the aggregate marks prescribed for three years taken together, shall be awarded **THIRD CLASS**.
- d. A candidate who secures 50% or more marks but less than 60% of the aggregate marks prescribed for three years taken together, shall be awarded **SECOND CLASS**.
- e. A candidate who secures 60% or more of the aggregate marks prescribed for three years taken together, shall be awarded **FIRST CLASS**.
- f. Only Part-III subjects were considered for the ranking.
- g. The Practical / Project shall be assessed by the two examiners, by an internal examiner and an external examiner.

**6. Continuous internal Assessment:**

- a. Continuous Internal Assessment for each paper shall be by means of Written Tests, Assignments, Class tests and Seminars
- b. **25 marks** allotted for the Continuous Internal assessment is distributed for Written Test, Assignment, Class test and Seminars.
- c. One Internal Tests of 2 hours duration may be conducted during the semester for each course / subject and the best marks may be considered and one Model Examination will be conducted at the end of the semester prior to University examination. Students may be asked to submit at least five assignments in each subject. They should also participate in Seminars conducted for each subject and mark allocated accordingly.
- d. Conduct of the continuous internal assessment shall be the responsibility of the concerned faculty.
- e. The continuous internal assessment marks are to be submitted to the University at the end of every year.
- f. The valued answer papers/assignments should be given to the students after the valuation is over, and they should be asked to check up and satisfy themselves about the marks they have scored.

- g. All mark lists and other records connected with the continuous internal assessments should be in the safe custody of the institution for at least one year after the assessment.

**7. Attendance:**

- Students must have earned 75% of attendance in each course for appearing for the examination.
- Students who have earned 74% to 70% of attendance to be applied for condonation in the prescribed form with the prescribed fee.
- Students who have earned 69% to 60% of attendance to be applied for condonation in the prescribed form with the prescribed fee along with the medical certificate.
- Pupils who have below 60% of attendance are not eligible to appear for the examination. They shall re-do the semester(s) after completion of the programme.

**8. Examination:**

The candidate must complete course duration to appear for the university examination. The examination will be conducted with the concurrence of Controller of Examinations as per the Alagappa University regulations. The **University may send the representatives as the observer during examinations.** University Examination will be held at the end of the semester for the duration of 3 hours for each subject. A certificate will be issued as per the AU regulations. **Hall ticket will be issued to the 1<sup>st</sup> year candidates and upon submission of the list of enrolled students along with the prescribed course fee subsequent 2<sup>nd</sup> and 3<sup>rd</sup> year hall tickets will be issued.**

**9. Question Paper pattern:**

Maximum: 75 Marks	Duration: 3Hours
Part A - Short answer questions with no choice	: 10 x 02=20
Part B – Brief answer with either or type	: 05 x 05=25
Part C- Essay – type questions of either or type	: 03 x 10=30

**10. Miscellaneous**

- a. Each student possesses the prescribed text books for the subject and the workshop tools as required for theory and practical classes.
- b. Each student is issued with an identity card by the University to identify his / her admission to the course
- c. Students are provided library and internet facilities for development of their studies.
- d. Students are to maintain the record of practical conducted in the respective laboratory in a separate Practical Record Book, and the same will have to be presented for review by the University examiner.
- e. Students who have successfully completed the course within the stipulated period will be awarded the degree by the University.
- f. The Internship / Project (any other viva-voce) where external examiner is assigned from the university, there may be changes in the exam dates as per the availability of the External Examiner.

**11. Fee structure**

Course fee shall be as prescribed by the University and 50% of the course fee should be disbursed to the University. Special fees and other fees shall be as prescribed by the Institution and the fees structure must intimated to the University. Course fees should be only by Demand draft / NEFT and AU has right to revise the fees accordingly.

Pattern	Course Fee payment deadline
Semester	Fee must be paid before 30 <sup>th</sup> September of the academic year

**12. Other Regulations:**

Besides the above, the common regulation of the University shall also be applicable to this programme.

**13. Industrial Exposure:**

The course is professionally the students are required to undergo industrial exposure in the 6<sup>th</sup> Semester of the programme. 6<sup>th</sup> Semester training is to introduce the students to the operational aspects of a Broiler, Breeder, Layer, Feed Mill, Hatchery and Processing Plant

**SUGUNA INSTITUTE OF POULTRY MANAGEMENT  
UDUMALPET -642 207**

**ALAGAPPA UNIVERSITY  
Karaikudi**

**DIRECTORATE OF COLLABORATIVE PROGRAMMES**

## **B.Sc., Poultry Science**

### ***Revised Regulations and Syllabus***

**[For those who join the Course in July 2023 and after]**

**SUGUNA INSTITUTE OF POULTRY MANAGEMENT  
UDUMALPET -642 207**

#### **Programme Educational Objectives (PEO):**

PGO - 1	To start Under Graduate Degree Programme in the area of Poultry Production Technology
PGO - 2	To fulfill the skilled man power demand of the ever growing poultry sector
PGO - 3	To educate the rural youths in the area of better employment opportunities
PGO - 4	To meet out the demand in changing scenario in Agricultural sector through quality education
PGO - 5	To develop an entrepreneurs in the area of poultry production management

#### **Programme Specific Objectives (PSO):**

PSO - 1	Students will know all scientific information and advancements in the discipline of Poultry Production Technology
PSO - 2	Students acquire in-depth knowledge in the area of commercial poultry operations and enable to become an entrepreneur / Researcher
PSO - 3	Students will become an expert in poultry management, nutrition, breeding and commercial chick production
PSO - 4	Students gain relevant knowledge on various poultry disease control measures along with farm biosecurity
PSO - 5	Students may become the technically competent skilled technocrat in the area of poultry production technology

**Programme Outcome (PO):**

PO – 1	Acquire the fundamental knowledge and skills in the area of poultry production technology
PO – 2	Gain knowledge on the anatomy and Physiology of chicken along with chick production
PO – 3	Develop specialized knowledge and skills in commercial broiler chicken and table egg production
PO – 4	Acquire knowledge on the poultry breeding concepts and the production of commercial poultry
PO – 5	Gain information with various housing systems adopted in poultry production management
PO - 6	Know about the feeding systems and feed production of poultry
PO – 7	Aware on the poultry industry waste management and its mitigation
PO – 8	Gain knowledge on processing and value addition of poultry products
PO – 9	Able to assess the chicken and production economics and marketing
PO – 10	Understand the various poultry disease problem and its control measures

**Programme Specific Outcome (PSO):**

PO – 1	Students will understand the poultry industry role in the national development
PO – 2	Students gained relevant knowledge and skill on poultry production technology
PO – 3	Students will become an employee / employer in the area of boiler chicken and table egg production
PO – 4	Students will have specialized skill in the area of poultry management, breeding, feeding and technology; which is very helpful to get better employment
PO – 5	Students will become an expert in poultry disease diagnosis and its control measures

**ALAGAPPA UNIVERSITY, KARAIKUDI**  
**NEW SYLLABUS UNDER CBCS PATTERN w.e.f.2023 -2024**  
**B.Sc., POULTRY SCIENCE – PROGRAMME STRUCTURE**

SEM	Part	Course Code	Courses	Title of the paper	T/P	Credit	Hrs/ week	Max. Marks		
								Int.	Ext.	Total
<b>I</b>	I	80111T/H/F/ M/TU/A/S	T/OL	Tamil / Other Languages - I	T	3	4	25	75	100
	II	80112	E	General English-I	T	3	4	25	75	100
	III	80113	CC	Poultry Production Systems, Housing and Automation	T	5	5	25	75	100
		80114	CC	Practical in Poultry Housing Systems and Equipment	P	4	8	25	75	100
		80115	Allied	Applied Avian Anatomy and Physiology	T	3	3	25	75	100
		80116	Allied	Practical in Avian Anatomy and Physiology	P	2	4	25	75	100
	IV	80117	SEC - I	Value Education	T	2	2	25	75	100
<b>Total</b>						<b>22</b>	<b>30</b>	<b>175</b>	<b>525</b>	<b>700</b>
<b>II</b>	I	80121T/H/F/ M/TU/A/S	T/OL	Tamil / Other Languages - II	T	3	4	25	75	100
	II	80122	E	General English-II	T	3	4	25	75	100
	III	80123	CC	Poultry Nutrition and Feed Milling Technology	T	5	5	25	75	100
		80124	CC	Practical in Poultry Nutrition and Feed Milling Technology	P	4	8	25	75	100
		80125	Allied	Incubation and Hatchery Management	T	3	3	25	75	100
		80126	Allied	Practical in Egg Incubation and Hatchery Management	P	2	4	25	75	100
	IV	80127	SEC - II	Environmental Studies	T	2	2	25	75	100
<b>Total</b>						<b>22</b>	<b>30</b>	<b>175</b>	<b>525</b>	<b>700</b>
<b>III</b>	I	80131T/H/F/ M/TU/A/S	T/OL	Tamil / Other Languages - III	T	3	4	25	75	100
	II	80132	E	General English-III	T	3	4	25	75	100
	III	80133	CC	Principles of Poultry Breeding	T	3	3	25	75	100
		80134	CC	Breeder Chicken Management	T	3	3	25	75	100
		80135	CC	Practical in Principles of Poultry Breeding and Breeder Chicken Management	P	3	6	25	75	100
		80136	Allied	Climatology and Poultry Production	T	3	3	25	75	100
		80137	Allied	Practical in Climatology and Poultry Production	P	2	3	25	75	100
	IV	80138	SEC- III	Entrepreneurship	T	2	2	25	75	100
		80139A 80139B 80139C	NME – I	1.Adipadai Tamil/	P	2	2	25	75	100
				2.Advance Tamil,	T					
				3. Skills for Employment	T					
				4. MOOC'S	T					

				<b>Total</b>		<b>24</b>	<b>30</b>	<b>225</b>	<b>675</b>	<b>900</b>
<b>IV</b>	I	80141T/H/F/ M/TU/A/S	T/OL	Tamil / Other Languages - IV	T	3	4	25	75	100
	II	80142	E	General English-IV	T	3	4	25	75	100
	III	80143	CC	Commercial Broiler Chicken Production Management	T	4	4	25	75	100
		80144	CC	Poultry diseases, Flock Health and Biosecurity	T	4	4	25	75	100
		80145	CC	Practical in Broiler Management and Poultry Diseases	P	3	5	25	75	100
		80146	Allied	Poultry Processing and Waste Management	T	3	3	25	75	100
		80147	Allied	Practical in Poultry Processing and Waste Management	P	2	4	25	75	100
	<b>IV</b>	80148A 80148B 80148C	NME – II	1. Adipadai /	<b>P</b>	<b>2</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
				2. Advance Tamil /	<b>T</b>					
				3. Small Business Management	<b>T</b>					
				4. MOOC'S	<b>T</b>					
				<b>Total</b>		<b>24</b>	<b>30</b>	<b>200</b>	<b>600</b>	<b>800</b>
<b>V</b>	III	80151	CC	Commercial Layer Chicken Production Management	T	4	4	25	75	100
		80152	CC	Poultry Production Economics and Marketing	T	4	4	25	75	100
		80153	CC	Poultry Products Technology and Value Addition	T	4	4	25	75	100
		80154	CC	Diversified Poultry Production	T	4	4	25	75	100
		80155	CC	Practical in Commercial Layer Management and Poultry Economics and Marketing	P	4	6	25	75	100
		80156	CC	Practical in Poultry Products Technology and Diversified Poultry Production	P	4	6	25	75	100
				Career Development / Employability skills			2			
				<b>Total</b>		<b>24</b>	<b>30</b>	<b>150</b>	<b>450</b>	<b>600</b>
VI	III	80161	DSE	Internship	I	24	30	150	250	400
				<b>Total</b>		<b>24</b>	<b>30</b>	<b>150</b>	<b>250</b>	<b>400</b>
				<b>Grand Total</b>		<b>140</b>	<b>180</b>	<b>1075</b>	<b>3025</b>	<b>4100</b>

**T – Theory**

**P – Practical**

**Minimum Credit load for B.Sc., Poultry Science programme = 140 +**

**Theory 1credit = 1 hour for Theory Paper / week**

**Practical 1credit = 2 hours for Practical Paper / week**

MIL - Modern Indian Language, E – English



- CC-Core course - Core competency, critical thinking, analytical reasoning, research skill and team work
- Allied / GEC - Exposure beyond the discipline
- SEC- Skill Enhancement Course - Exposure beyond the discipline (Value Education, Entrepreneurship Course, Computer application for Science, etc.,
- NME - Non Major Elective - Exposure beyond the discipline
- DSE - Discipline specific elective - Additional academic knowledge, critical thinking, and analytical reasoning - Student choice - either Internship or Theory papers or Project +2 theory papers.
- If internship - Marks = Internal (150 (75+75) two midterm evaluation through Viva voce + Report 150+ External Viva voce 100 = 400,
- If Project Marks = Internal - 25 + Thesis -+ Viva voce = 75 = 100 and + 3 theory paper = 300 = 400
- Extension activity and MOOCs - Voluntary basis

## Course Structure for B.Sc., Poultry Science Programme

Semester I					
CC/DSE/NME/ SEC/ Tamil		Tamil	Credits	H/W	T/P
Course Code:	80111T	தமிழ் இலக்கியவரலாறு - 1	3	4	T
Objectives	<ul style="list-style-type: none"> <li>முதலாமாண்டுப்பட்ட வகுப்பு மாணவர்களுக்குத் தமிழ்மொழி இலக்கியங்களை அறிமுகம் செய்தல்.</li> <li>தமிழ் இலக்கியப் போக்குகளையும், இலக்கணங்களையும் மாணவர் அறியுமாறு செய்து அவர்களின் படைப்பாற்றலைத் தூண்டுதல்.</li> <li>தமிழ் இலக்கியம் சார்ந்த போட்டித்தேர்வுகளுக்கு ஏற்ப கற்பித்தல் நடைமுறைகளை மேற்கொள்ளுதல்.</li> </ul>				
Unit - I	<p><b>தமிழ்இலக்கிய, இலக்கணவரலாறுஅறிமுகம்.</b></p> <p><b>1. இலக்கணம்;</b>  அ.தொல்காப்பியம், இறையனார் களவியல் உரைநம்பியகப் பொருள், புறப்பொருள் வெண்பாமாலை, நன்னூல், தண்டியலங்காரம், யாப்பருங்கலக்காரிகை- நூல்கள்</p> <p><b>ஆ.மொழிப்பயிற்சி-ஒற்றுப்பிழைதவிர்த்தல்</b></p> <ul style="list-style-type: none"> <li>வல்லினம்மிகும் இடங்கள்</li> <li>வல்லினம்மிகா இடங்கள்</li> <li>ஈரொற்றுவரும் இடங்கள்</li> <li>ஒருஓர்வரும் இடங்கள்</li> <li>அது, அஃதுவரும் இடங்கள்</li> <li>தான், தாம்வரும் இடங்கள்</li> </ul> <p><b>பயிற்சி:</b> வல்லினம்மிகும்இடங்கள், மிகா இடங்கள் தவறாக வரும் வகையில் ஒரு பத்தி கொடுத்து   ஒற்றுப்பிழை திருத்தி எழுதச்செய்தல்</p> <p>2.சங்க இலக்கியம் - எட்டுத்தொகை, பத்துப்பாட்டு</p> <p>3.அறஇலக்கியம் பதினெண்கீழ்கணக்கு நூல்கள்</p> <p>4.காப்பிய இலக்கியம் - ஐம்பெருங்காப்பியங்கள், ஐஞ்சிறுகாப்பியங்கள், சமயக்காப்பியங்கள்</p> <p>5.பக்தி இலக்கியமும் (பன்னிருதிருமுறைகள், நாலாயிரதிவ்வியப்பிரபந்தம் – பகுத்தறிவு இலக்கியமும் \ (சித்தர் இலக்கியங்கள், புலவர் குழந்தையின் இராவண காவியம்)</p>				
Unit - II	<p><b>சங்க இலக்கியம்</b>  எட்டுத்தொகை:</p> <p>1.நற்றிணைமுதல்பாடல் -நின்றசொல்லர்</p> <p>2.குறுந்தொகை 3 ஆம்பாடல் -நிலத்தினும்பெரிதே</p> <p>3.ஐங்குறுநூறு-நெல்பலபொலிக! பொன்பெரிதுசிறக்க!  (முதல்பாடல்) வேட்கைப்பத்து.</p> <p>4.கலித்தொகை 51 அடர்த்தொடிக் கேளாய் --குறிஞ்சிக்கலி</p> <p>5.புறநானூறு -189 தெண்கடல்வளாகம்பொதுமையின்றி,  நாடாகொன்றோ 187</p> <p><b>பத்துப்பாட்டு,</b>  1.முல்லைப்பாட்டு (முழுவதும்)</p>				
Unit -	அறஇலக்கியம்				

III	1.திருக்குறள் -அறன்வலியுறுத்தல்அதிகாரம் 2.நாலடியார்-பாடல்: 131 (குஞ்சியழகம்) 3.நான்மணிக்கடிகை-நிலத்துக்கு அணியென்ப 4.பழமொழி நானூறு தம்நடைநோக்கார் 5.இளியவைநாற்பது 37. இளமையைமூப்புஎன்று
Unit - IV	<b>காப்பியஇலக்கியம்</b> 1.சிலப்பதிகாரம் - வழக்குரைகாதை 2. மணிமோலை பாத்திரம்பெற்றகாதை 3 பெரியபுராணம் - பூசலார்நாயனார்புராணம் 4. கம்பராமாயணம்குதப்படலம் 5. சீறாப்புராணம்- மானுக்குப்பீணைநின்றபடலம் 6. இயேசுகாவியம் -ஊதாரிப்பிள்ளை
Unit - V	<b>பக்திஇலக்கியமும், பகுத்தறிவுஇலக்கியமும்</b> <b>பக்திஇலக்கியம்</b> 1. திருநாவுக்கரசர் தேவாரம் – நாமார்க்கும் குடியல்லேம் எனத்தொடங்கும் பாடல் மட்டும் 2. மாணிக்கவாசகர்திருவாசகம் – நமச்சிவாயவா அழகநாதன்தான் வாழ்க முதல்சிரம்குவிவார் ஓங்குவிக்கும் சீரோன்கழல் வெல்கவரை. 3. பொய்கையாழ்வார்-வையந்தகளியாவார்கடலே 4. பூதத்தாழ்வார்-அன்பேதகளியா 5. பேயாழ்வார்-திருக்கண்டேன்பொன்மேனிகண்டேன் 6. ஆண்டாள் - திருப்பாவைமார்கழித்திங்கள் (முதல்பாடல்) <b>பகுத்தறிவுஇலக்கியம்;</b> திருமூவர் - திருமந்திரம் (270,271, 274, 275285) * பட்டினத்தார்- திருவிடைமருதூர் (காடேதிரிந்து - எனத்தொடங்கும் பாடல் பா.எண் 279 280) கடுவெளிசித்தர்பாபஞ்செய்யாதிருமனமே (பாடல்முழுவதும்) இராவணகாவியம் - தாய்மொழிப்படலம் 18. எடுகையில்லாரில்லைமுதல் 22 செந்தமிழ்வளர்த்தார். வரை
<b>References:</b> <ul style="list-style-type: none"> <li>• மு. வரதராசன், தமிழ் இலக்கிய வரலாறு, சாகித்ய அக்காதெமி,</li> <li>• புதுடெல்லி..</li> <li>• மது.ச.விமலானந்தன், தமிழ் இலக்கியவரலாறு,</li> <li>• மீளாட்சிபுத்தகநிலையம், மதுரை.</li> <li>• தமிழண்ணல், புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு,</li> <li>• மீளாட்சி புத்தக நிலையம், மதுரை.</li> <li>• தமிழ் இலக்கிய வரலாறு -முனைவர் சிற்பிபாலசுப்ரமணியம்,</li> <li>• முனைவர்.சொசேதுபதி.</li> <li>• புதிய தமிழ் இலக்கியவரலாறு- முனைவர் சிற்பி பாலசுப்ரமணியம்,</li> <li>• நீல.பத்மநாபன்.</li> <li>• தமிழ் இலக்கியவரலாறு - டாக்டர்.அ.கா.பெருமான்.</li> <li>• தமிழ் இலக்கியவரலாறு-முனைவர் ப.ச.ஏசுதாசன்</li> <li>• தமிழ் இலக்கியவரலாறு ஸ்ரீகுமார்</li> <li>• வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு-பாக்கிய மேரி</li> <li>• தமிழ் பயிற்றும் முறை, பேராசிரியர் நசுப்புரெட்டியார் –</li> <li>• மணிவாசகர் பதிப்பகம், சிதம்பரம்</li> </ul>	
Outco	➤ சங்க இலக்கியத்தில் காணப்பெறும் வாழ்வியல் சிந்தனைகளை

<b>me:</b>	<p>அறிந்துகொள்வர்.</p> <p>➤ அற இலக்கியம் மற்றும் தமிழ்காப்பியங்களின் வழிவாழ்வியல் சிந்தனையைப்பெறுவர்.</p> <p>➤ பக்தி இலக்கியங்களைக் கற்பதன் மூலம்பக்தி நெறியினையும், பகுத்தறிவு இலக்கியங்களைக் கற்பதன் வழிநல்லிணக்கத்தையும் தெரிந்துபின்பற்றுவர்.</p> <p>➤ மொழியறிவோடுசிந்தனைத்திறனைப்பெறுவர்.</p> <p>➤ மொழிப்பயிற்சிக்குத்தேவையானஇலக்கணங்களைக்கற்பர்.</p>
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Semester I					
Tamil / OL	Hindi		Credits	H/W	T/P
Course Code:	80111H	हिन्दीकासामान्यज्ञानऔरव्याकरण	3	4	T
Objectives	1.हिन्दीकेबुनियादीज्ञानकेसाथ-साथहिन्दीउच्चारणकाप्रशिक्षणदेना 2.वाक्यरचना 3.गद्यांशकापठन				
Unit - I	बुनियादीहिन्दी : * स्वर * व्यंजन * बारहखड़ी -*शब्द*वाक्यरचना				
Unit - II	हिन्दीशब्दावली : * रिश्तोंकेनाम * घरेलूपदार्थोंकेनाम				
Unit - III	व्याकरण : * साधारणवाक्यऔरसंज्ञा * सर्वनाम * विशेषण * क्रिया				
Unit - IV	छोटेगद्यांशकापठन : * बच्चोंकीकहानियाँ * पत्र-पत्रिकाओंमेंप्रकाशित गद्यांशकापठन				
Unit - V	निबंध : * संततिरुवल्लुवर * ईवेरातंदेपेरियार * नारीशक्तिकरण * पर्यावरणसंरक्षण * विभिन्नप्रतियोगीपरीक्षाओंकेबारेमेंजानकारीदेना				
References :	1. हिन्दीकेअव्ययवाक्यांश - चतुर्भुजसहाय 2. सुबोधहिन्दीव्याकरण - फूलचंदजैन 3. सक्षिप्तहिन्दीव्याकरण - कामताप्रसाद 4. व्यवहारिकहिन्दी - नागप्पा 5. अभिनवहिन्दीव्याकरण - नागप्पा 6. व्याकरणप्रदीप - रामदेव 7. लघुबालकथाएँ - रमाशंकर 8. मनोरंजककहानियाँ - प्रेमचंद 9. Concise Grammar of the Hindi Language - H.C Scholberg 10. Hindi Grammar - Edwin Greaves				
Outcome:	1. हिन्दीध्वनियोंसेपरिचयकराना 2. हिन्दीमेंवाक्यरचना 3. हिन्दीशब्दावलियोंकाज्ञान-ग्रहण 4. कहानियोंवअन्यगद्यांशोंकापठन 5. प्रतियोगीपरीक्षापरआधारितनिबंधोंद्वाराभाषा कीक्षमताबढानेवालेप्रशिक्षणकार्य				

<b>Semester I</b>					
<b>CC/DSE/NME/ SEC/ T / OL / E</b>		<b>English</b>	<b>Credits</b>	<b>H/W</b>	<b>T/P</b>
<b>Course Code:</b>	<b>80112</b>	<b>General English - I</b>	<b>3</b>	<b>4</b>	<b>T</b>
<b>Objectives</b>	1. To enable learners to acquire self-awareness and positive thinking required in various life situations. 2. To help them acquire the attribute of empathy 3. To assist them in acquiring creative and critical thinking abilities 4. To enable them to learn the basic grammar 5. To assist them in developing LSRW skills				
<b>Unit - I</b>	<b>Self-Awareness (WHO) and Positive Thinking (UNICEF)</b> <b>Life Story</b> 1.1 Chapter1 from Malala Yousafzai,Iam Malala 1.2 An Autobiography or The Story of My Experiments with 1.3 Truth(Chapters1,2&3) M. K. Gandhi <b>Poem</b> 1.3WheretheMind is Without Fear– Gitanjali 35– Rabindranath Tagore 1.4 Love Cycle–Chinua Achebe				
<b>Unit - II</b>	<b>Empathy</b> <b>Poem</b> 2.1 Nine Gold Medals–David Roth 2.2 Alice Fell or poverty–William Wordsworth <b>Short Story</b> 2.3 The School for Sympathy–E.V.Lucas Barn Burning– William Faulkner				
<b>Unit - III</b>	<b>Critical and Creative Thinking</b> <b>Poem</b> 3.1 The Things That Haven't Been Done Before–Edgar Guest 3.2 Stopping by the Woods on a Snowy Evening–Robert Frost <b>Readers Theatre</b> 3.3 The Magic Brocade–A Tale of China Stories on Stage – Aaron Shepard (Three Side way Stories from Wayside School” by Louis Sachar)				
<b>Unit - IV</b>	<b>Part of Speech</b> 4.1 Articles 4.2 Noun 4.3 Pronoun 4.4 Verb 4.5 Adverb 4.6 Adjective Preposition				
<b>Unit - V</b>	<b>Paragraph and Essay Writing</b> 5.1 Descriptive 5.2 Expository 5.3 Persuasive 5.4 Narrative <b>Reading Comprehension</b>				

## References

### Text books (Latest Editions)

MalalaYousafzai. *I am Malala*, Little, Brown and Company, 2013.

M.K. Gandhi. *An Autobiography or The Story of My Experiments with Truth* (Chapter – I), Rupa Publications, 2011.

Rabindranath Tagore. "Gitanjali 35" from Gitanjali (Song Offerings): A Collection of Prose Translations Made by the Author from the Original Bengali. MacMillan, 1913.

N.Krishnasamy. *Modern English: A Book of Grammar, Usage and Composition* Macmillan, 1975.

Aaron Shepard. *Stories on Stage*, ShepardPublications, 2017.

J.C. Nesfield. *English Grammar Composition and Usage*, Macmillan, 2019.

### Web Resources

MalalaYousafzai. I am Malala (Chapter 1) <https://archive.org/details/i-am-malala>

M.K Gandhi. An Autobiography or The Story of My Experiments with Truth(Chapter-1)-

Rupa Publication, 2011 <https://www.indiastudychannel.com/resources/146521-Book-Review-An-Autobiography-or-The-story-of-my-experiments-with-Truth.aspx>

Rabindranath Tagore. "Gitanjali 35" from Gitanjali (Song Offerings) <https://www.poetryfoundation.org/poems/45668/gitanjali-35>

Aaron Shepard.Stories on Stage, Shepard Publications, 2017<https://amzn.eu/d/9rVzINv>

JC Nesfield. Manual of English Grammar and Composition. <https://archive.org/details/in.ernet.dli.2015.44179>

### Outcome:

On completion of this course, students will:

1. Acquire self -awareness and positive thinking required in various life situations
2. Acquire the attribute of empathy.
3. Acquire creative and critical thinking abilities.
4. Learn basic grammar
5. Development and integrate the use of four language skills i.e., listening, speaking, reading and writing.

Semester I					
CC/DSE/NME/ SEC		Core Course	Credits	H/W	T/P
Course Code:	80113	Poultry Production Systems, Housing and Automation	5	5	T
Objectives	1. To understand the existing various poultry production system 2. To impart knowledge on the requirements of poultry rearing system 3. To teach on the construction of different housing system 4. To provide in depth knowledge on the equipment for poultry farming 5. To introduce the importance of automation in poultry production				
Unit - I	<b>Systems of Poultry Rearing:</b> Poultry production terminology - Systems of poultry rearing - Backyard system - Semi - intensive system - Intensive system of poultry rearing – Alternate poultry production system – Organic poultry production system- All in All out and Multiple batch system - Poultry Housing systems - Floor space - Watering and Feeding space requirements for different age groups of poultry				
Unit - II	<b>Poultry Farm Planning:</b> Poultry farm location – Macro and Micro environment on poultry production - Comfort zone - Importance of poultry housing and equipment – Poultry Farm Plan and Layout - Construction of poultry house				
Unit - III	<b>Poultry Housing:</b> Poultry housing systems - Open sided house - Deep litter housing – Slatted floor system - Cage houses and Raised platform cage houses - Environmentally Controlled housing system - Fundamentals of ventilation – Tunnel and Duct ventilation – Pad cooling - Litter materials – Roof types and Roofing materials – Insulation materials – R Value				
Unit - IV	<b>Poultry Farm Equipment:</b> Cages - Types of cages – Conventional, Californian and Battery cages - “A” type cages – “H” Type cages - Flat deck cages - Furnished cages - Brooding equipment - Feeding and Watering equipment – Nest box – Egg Filler flats - Dubbing and Debeaking equipment – Vaccinators – Curtains – Foggers and sprinklers – Transport crates – Fumigation equipment – AI equipment - Sprayers – Shovels and Racks – Ventilators and exhaust fans - Flame gun				
Unit - V	<b>Automation:</b> Introduction - Concept and applications of automation in poultry production - Automation in poultry housing – Automation in feeding and watering system - Automation in Egg collection and egg grading system – Automation in Manure collection system - Automation in feed production- Automation in Hatchery operation – Automation in Egg and Meat Processing				
<b>Reference and Text books:</b> Hurd M. Louis, 2003. <i>Modern Poultry Farming</i> . 1 <sup>st</sup> Edition. International Book Distributing Company, Lucknow Mountney J. George and Parkhurst R. Carmen, 2001. <i>Poultry Products Technology</i> . 1 <sup>st</sup> Edition. The Harwoth Press Inc., USA. Narahari D., and Kumararaj R., 2008. <i>Handbook of Applied Broiler Production</i> . 1 <sup>st</sup> Edition. Poultry Punch Publication (I) Pvt. Ltd., New Delhi, India. Sreenivasaiah., P. V., 2015. <i>Textbook of Poultry Science</i> . 1st Edition. Write & Print Publications, New Delhi Jull A. Morley, 2007. <i>Successful Poultry Management</i> . 2nd Edition. Biotech Books, New Delhi. Jadhav N. V., and Siddique M. F., 2007. <i>Handbook of Poultry Production and Management</i> . 2 <sup>nd</sup> Edition. Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi.					

<b>Outcome:</b>	<p>On successful completion of the course may</p> <ol style="list-style-type: none"><li>1. Enrich the knowledge on various poultry rearing system</li><li>2. Understand the floor, feeder and water space requirements of poultry</li><li>3. Gain knowledge on the construction of poultry houses</li><li>4. Understand the importance and types of equipment required in poultry production</li><li>5. Acquire knowledge on the importance of automation in poultry production system</li></ol>
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Semester I					
CC/DSE/NME/ SEC		Core Course	Credits	H/W	T/P
Course Code:	80114	Practical in Poultry Housing Systems and Equipment	4	8	P
<b>Objectives</b>	1. To understand the existing various poultry production system 2. To impart knowledge on the various requirements of poultry 3. To teach on the construction of different housing system 4. To provide in depth knowledge on equipment for poultry farming 5. To introduce the importance and advantages of automation in poultry production				
1.	Floor, Feeder and Water Space requirements of chicken				
2.	Layout, Design and Construction of Deep Litter House				
3.	Lay out, Design and Construction of Cage House				
4.	Types of Cages, Specification and Design				
5.	Litter Materials and its Management				
6.	Brooding Equipment				
7.	Types of Feeders and Drinkers for poultry				
8.	Debeaking, Dubbing, Vaccinating equipment				
9.	Visit to Deep litter house				
10.	Visit to Cage house				
11.	Visit to Slatted floor house				
12.	Visit to Environmentally Controlled House				
13.	Visit to Feed Mill plant				
14.	Visit to Poultry Egg and meat Processing plant				
15.	Visit to a Hatchery				
<b>Outcome:</b>	Successful completion of the course, the students may 1. Enriched the knowledge on various poultry rearing system 2. Understand the floor, feeder and water space requirements for poultry 3. Improved the knowledge on the construction of poultry houses 4. Understand the importance and types of equipment required for poultry production 5. Developed awareness and importance of automation in poultry production system				

Semester I					
CC/DSE/NME/ SEC		Allied Course	Credits	H/W	T/P
Course Code:	80115	Applied Avian Anatomy and Physiology	3	3	T
Objectives	1. To create awareness on the physiological standards of avian species 2. To impart knowledge on the external anatomy of chicken 3. To Impart knowledge on respiratory and circulatory system of chicken 4. To provide in depth knowledge on digestive and reproductive system 5. To create the scientific knowledge on Chicken egg formation				
Unit - I	<b>External Anatomy:</b> Introduction - Terminology - Classification and breeds of chicken - External Anatomy - Integumentary parts of chicken - Feather patterns - Feather tracts - Comb pattern of chicken - Role of skin, Feather, Scales, Nails, Plumage and Beak in poultry				
Unit - II	<b>Respiratory and Circulatory System:</b> Respiratory system - Anatomical structures - Nasal cavity, larynx, Syrinx, Trachea, Bronchi, Lungs, Air sacs and its function - Inhalation and exhalation process - Circulatory system - Structure, Functions of heart, Types of blood vessels and Components of blood				
Unit - III	<b>Skeletal and Excretory System:</b> Skeletal system - Different types of bones - Pneumatic, Medullary, Cervical, Thoracic, Fused, Wing and Limb bones - Excretory system - Role of Kidney, ureter and Cloaca – Muscular system of chicken				
Unit - IV	<b>Digestive and Reproductive System:</b> Digestive system - Anatomical structure and its functions – Reproductive system - Male and Female reproductive system - Structure and its function- Physiology of egg production - Egg structure and its composition				
Unit - V	<b>Nervous and Endocrine System:</b> Nervous system - Endocrine system - Immune system - Definition - Different organ and its Functions - Bone marrow, Bursa of Fabricius, Thymus, Harderian gland, Spleen and Gut Associated Lymphoid Tissues (GALT) - Principles of poultry behaviour - Normal physiological indices of chicken - Physiology of stress and adaptation				
<b>Reference and Text books:</b> Sathapathy S., Singh M. K., and Joshi S. K., 2015. <i>A Handbook on Anatomy &amp; Physiology of Domestic Animals and Birds</i> . Sathish Serial Publishing House, New Delhi, India. Ensmiger. M. E., 2015. <i>Poultry Science</i> . 3rd Edition. International Book Distribution Co., Lucknow, India. Bell D. Donald and Weaver D. William Jr., 2007. <i>Commercial Chicken Meat and Egg Production</i> . 5th Edition. Springer India Pvt. Ltd., Noida. Singh, R. A., 2011. <i>Poultry Production</i> . 3rd Edition. Kalyani Publishers, New Delhi.					
Outcome:	On Successful completion of the course, the students may 1. Understand the Avian Anatomy and Physiology 2. Acquire in depth knowledge on Digestive system 3. Develop knowledge on Reproductive system 4. Understand the external parts and its importance in poultry 5. Gain knowledge on the functions of Nervous and Endocrine system				

<b>Semester I</b>					
<b>CC/DSE/NME/ SEC</b>		<b>Allied Course</b>	<b>Credits</b>	<b>H/W</b>	<b>T/P</b>
<b>Course Code:</b>	<b>80116</b>	<b>Practical in Avian Anatomy and Physiology</b>	<b>2</b>	<b>4</b>	<b>P</b>
<b>Objectives</b>	1. To create awareness on the breeds of chicken 2. To Impart knowledge on the anatomy of poultry 3. To understand the normal physiological standards of chicken 4. To provide in depth knowledge on Digestive and reproductive system 5. To create the scientific knowledge on egg and meat production				
1.	Genetic classification and Breeds of chicken				
2.	Types of comb				
3.	Normal physiological value of chicken				
4.	Different types of feather and its function				
5.	Skeletal System of fowl				
6.	Digestive System of fowl				
7.	Male and Female reproductive system of fowl				
8.	Formation of egg				
9.	Egg structure and its composition				
10.	Immune system of fowl				
<b>Outcome:</b>	On Successful completion of the course, the students may 1. Understand the Avian Anatomy and Physiology 2. Acquired in depth knowledge on Digestive system 3. Developed knowledge on egg formation and its composition 4. Understand the external parts and its importance in poultry 5. Created awareness on the physiological standards of chicken				

Semester I					
CC/DSE/NME/ SEC/ T / OL / E		SEC	Credits	H/W	T/P
Course Code:	80117	Value Education	2	2	T
Objectives	<ol style="list-style-type: none"> <li>1. To impart humanism values among the student under various religious thoughts</li> <li>2. To make them awareness of ethics and civil rights</li> <li>3. To familiarities the students with basic features of extracurricular activities such NSS and NCC and relevance of Abdul Kalam and Mother Teresa efforts to teach values</li> <li>4. To impart skills by preparing project works such as writing poems and stories</li> </ol>				
Unit - I	Definition – Need for Value Education – How Important Human Values are – Humanism and Humanistic Movement in the World and in India – Literature on the Teaching of Values Under Various Religions Like Hinduism, Buddhism, Christianity, Jainism, Islam, Etc. Agencies for Teaching Value Education in India – National Resource Centre for Value Education – NCERT– IITS and IGNOU.				
Unit - II	<b>Vedic Period:</b> Influence of Buddhism and Jainism – Hindu Dynasties – Islam Invasion – Moghul Invasion – British Rule – Culture Clash – Bhakti Cult – Social Reformers – Gandhi – Swami Vivekananda – Tagore – Their Role in Value Education.				
Unit - III	<b>Value Crisis – After Independence:</b> Independence – Democracy – Equality – Fundamental Duties–Fall of Standards in All Fields –Social, Economic, Political, Religious and Environmental– Corruption in Society. Politics Without Principle–Commerce Without Ethics–Education Without Character–Science Without Humanism–Wealth Without Work –Pleasure Without Conscience–Prayer Without Sacrifice–Steps Taken by The Governments – Central and State – To Remove Disparities on the Basis of Class, Creed, Gender.				
Unit - IV	<b>Value Education on College Campus:</b> Transition from School to College – Problems –Control – Free Atmosphere – Freedom Mistaken for License – Need for Value Education –Ways of Inculcating It – Teaching of Etiquettes – Extra-Curricular Activities – N.S.S., N.C.C., Club Activities–Relevance of Dr. A.P.J.Abdual Kalam’s Effortsto Teach Values–Mother Teresa.				
Unit - V	<b>Project Work</b> <ol style="list-style-type: none"> <li>1. Collecting Details about Value Education from Newspapers, Journals and Magazines.</li> <li>2. Writing Poems, Skits, Stories Centering on Value-Erosion in Society.</li> <li>3. Presenting Personal Experience in Teaching Values.</li> <li>4. Suggesting Solutions to Value –Based Problems on the Campus.</li> </ol>				
<b>References</b> Chakrabarti,M.(1997). <i>Valueeducation:changingperspectives</i> .KanishkaPublishers. Eknath Ranade (1991). <i>Swami Vivekananda’s Rousing Call to Hindu Nation</i> . Centenary PublicationKarabi Kakoti, <i>ValueEducation – Need ofthe Hour</i> . Radhakrishnan,S.(1968). <i>Religionandculture</i> .Orient Paperbacks,NewDelhi Saraswathi,T.S.(Ed.).(1999). <i>Culture,socializationandhumandevlopment: Theory,researchandapplicationsin India</i> . SAGEPublications Pvt.Limited.					

Satchidananda, M. K. (1991). *Ethics, education, Indian unity and culture*. Ajanta Publications, Delhi.  
Venkataiah, N. (Ed.). (1998). *Value education*. APH Publishing, New Delhi.

<b>Outcome:</b>	<p>After studied, the student will be able to</p> <ol style="list-style-type: none"><li>1. Knowledge about Humanism and Humanistic Movement in the World and in India</li><li>2. Understand the Social Reformers and Their Role in Value Education</li><li>3. Explore the theories of Fundamental Duties, Ethics, Extra-Curricular Activities – N.S.S., N.C.C</li><li>4. Know the concept of Value Education on College Campus, Project Work regarding</li><li>5. Writing Poems, Skits, Stories Centering on Value- Erosion in Society</li></ol>
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Semester II					
CC/DSE/NME/ SEC/ Tamil		Tamil	Credits	H/W	T/P
Course Code:	80121T	தமிழ்இலக்கியவரலாறு-2	3	4	T
Objectives	<ul style="list-style-type: none"> <li>முதலாமாண்டுப்பட்டவகுப்புமாணவர்களுக்குத்தமிழ்மொழிஇலக்கியங்களைஅறிமுகம்செய்தல்.</li> <li>தமிழ்இலக்கியப்போக்குகளையும், இலக்கணங்களையும்மாணவர்அறியுமாறுசெய்துஅவர்களின்படைப்பாற்றலைத் தூண்டுதல்.</li> <li>தமிழ்இலக்கியம்சார்ந்தபோட்டித்தேர்வுகளுக்குஏற்பகற்பித்தல்நடைமுறைகளை மேற்கொள்ளுதல்.</li> </ul>				
Unit - I	<ul style="list-style-type: none"> <li>தமிழ்இலக்கியவரலாறுஅறிமுகம்.</li> <li>1.சிற்றிலக்கியம்; குறவஞ்சி, கலம்பகம், உலா, பரணி, பள்ளு, பிள்ளைத்தமிழ், தூது, அந்தாதி.</li> <li>2.தனிப்பாடல்அறிமுகம்</li> <li>3.இக்காலஇலக்கியம்கவிதை, சிறுகதை, நாடகம், உரைநடை, திராவிடஇயக்கம்வளர்த்ததமிழ்.</li> </ul>				
Unit - II	<ul style="list-style-type: none"> <li>சிற்றிலக்கியக்கமும்,தனிப்பாடலும்</li> <li>சிற்றிலக்கியம்</li> <li>கலிங்கத்துபரணி.</li> <li>விருந்தினரும்வறியவருநெருங்கியுண்ணரும்முதல்கேட்பாரைக்காண்மின்காண்மின் – வரை.</li> <li>திருக்குற்றாலக்குறவஞ்சி - வாளரங்கன்கனிகொடுத்து.</li> <li>முக்கூடற்பள்ளு - ஆற்றுவெள்ளம்நாளைவரத்.</li> <li>அபிராமிஅந்தாதி- கலையாதகல்வியும்குறையாதவயதும் (பதினாறுசெல்வங்கள்)</li> <li>திருவரங்கக்கலம்பகம் - மறம் -பின்னைப்பெருமாள்ஐயங்கார்- பேசவந்ததூதசெல்லரித்தலைசெல்லுமோ</li> <li>தமிழ்விடுதூதுமுதல்பத்துகண்ணிகள்.</li> <li>தனிப்பாடல்;</li> <li>*வான்குருவிபின்கூடு - ஒளவையார்.</li> <li>*ஆமணக்குக்கும்யானைக்கும்சிலேடைமுத்திருக்கும்கொம்பசைக்கும்மூரித்தண்டேகாளமேகப்புலவர்.</li> <li>*இப்பர்வான்எல்லைஇராமனையேபாடி-வீரராகவர்</li> <li>*நாராய்நாராய்சத்திமுத்தப்புலவர்</li> </ul>				
Unit - III	<p><b>இக்காலஇலக்கியம்- 1</b></p> <p>1. பாரதியார்பாரதசமுதாயம்வாழ்கவே.</p> <p>2. பாரதிதாசன்சிறுத்தைதையேவெளியில்வா.</p> <p>3. நாமக்கல்கவிஞர்-கத்தியின்றி.</p>				

	<p>4. தமிழ்ஒளி - மீன்கள் (அந்திநிலாபார்க்கவா).</p> <p>5. ஈரோடுதமிழன்பன் - எட்டாவதுசீர் (வணக்கம்வள்ளுவ ).</p> <p><b>சிறுகதைகள்...</b></p> <p>1. புதுமைப்பித்தன் – கடிதம்.</p> <p>2. ஜெயகாந்தன் -வாய்ச்சொற்கள் (மாயைபயக்கம்தொகுப்பு).</p> <p>3. ஆர்கூடாமணிஅந்நியர்கள்.</p> <p><b>உரைநடை:</b></p> <p>1. மு.வகடிதங்கள் - தம்பிக்குநூலில்முதல்இரண்டுக்கடிதங்கள்.</p>
Unit - IV	<p><b>இக்காலஇலக்கியம்-2</b></p> <p>1.தந்தைபெரியார் - திருக்குறள்( மாநாட்டு) உரை</p> <p>2.பேரறிஞர்அண்ணா-இரண்டாம்உலகத்தமிழ்மாநாட்டுஉரை</p> <p>3.கலைஞர்மு. கருணாநிதி - தொல்காப்பியபூங்கா -எழுத்து -முதல்நூற்பாகட்டுரை.</p> <p><b>நாடகம் / திரைத்தமிழ்</b></p> <p>1.வேலைக்காரி -திரைப்படம்.</p> <p>2.ராஜா ராணி -சாக்ரடீஸ் -ஓரங்க நாடகப்</p> <p><b>இதழியல் தமிழ் :</b></p> <p><b>முரசொலி கடிதம்</b></p> <p>1. செம்மொழி வரலாற்றில் சில செப்பேடுகள்.</p>
Unit - V	<p><b>பொழிப் பயிற்சி சொல் வேறுபாடு / பிழை தவிர்த்தல்</b></p> <ul style="list-style-type: none"> <li>• வாசிப்பது- வாசிப்பவர்</li> <li>• சுவர்-சுவரில்</li> <li>• வயிறு வயிற்றில்</li> <li>• கோவில்-கோவில்</li> <li>• கறுப்பு கருப்பு</li> <li>• இயக்குநர்-இயக்குனர்</li> <li>• சில்லறை சில்லரை</li> <li>• முறித்தல் – முரித்தல்</li> <li>• மனம்-மளக- மனது</li> <li>• அருகில்-அருகாமையில்</li> <li>• அக்கரை அக்கறை</li> <li>• மங்கலம்-மங்களம்.</li> </ul> <p><b>பயிற்சி</b></p> <ul style="list-style-type: none"> <li>• பிழையான சொற்களை ஒரு பத்தியில் கொடுத்து அந்தப் பிழையான சொற்களைச் சரியாகஎழுதச் செய்தல்.</li> <li>• சிறிய பத்தி ஒன்றை ஆங்கிலத்தில் கொடுத்து அதனைத் தமிழில் மொழிபெயர்க்க வைத்தல்.</li> </ul>
<p><b>References:</b></p> <ul style="list-style-type: none"> <li>• மு. வரதராசன், தமிழ்இலக்கியவரலாறு, சாகித்யஅக்காதெமி, புதுடெல்லி..</li> <li>• மது.ச.விமலானந்தன், தமிழ்இலக்கியவரலாறு, மீனாட்சிபுத்தகநிலையம், மதுரை.</li> <li>• தமிழண்ணல், புதியநோக்கில்தமிழ்இலக்கியவரலாறு, மீனாட்சிபுத்தகநிலையம், மதுரை.</li> </ul>	

- தமிழ்இலக்கியவரலாறு -முனைவார்சிற்பிபாலசுப்ரமணியம், முனைவர்.சொசேதுபதி.
- புதியதமிழ்இலக்கியவரலாறு- முனைவார்சிற்பிபாலசுப்ரமணியம், நீல.பத்மநாபன்.
- தமிழ்இலக்கியவரலாறு - டாக்டர்.அ.கா.பெருமான்.
- தமிழ்இலக்கியவரலாறு-முனைவர்ப.ச.ஏசுதாசன்
- தமிழ்இலக்கியவரலாறுஸ்ரீகுமார்
- வகைமைநோக்கில்தமிழ்இலக்கியவரலாறு-பாக்கியமேரி

தமிழ்பயிற்றும்முறை, பேராசிரியர்நகப்புரெட்டியார் - மணிவாசகர்பதிப்பகம், சிதம்பரம்

<b>Outcome:</b>	<ol style="list-style-type: none"> <li>1. சிற்றிலக்கியங்களின்வழிஇலக்கியச்சுவையினையும்பண்பாட்டுஅறிவினையும்பெறுவர்.</li> <li>2. புதுக்கவிதைவரலாற்றினைஅறிந்துகொள்வர்.</li> <li>3. திராவிடஇயக்கஇலக்கியங்களைக்கற்பதன்மூலம்மொழிஉணர்வுஉணர்வு, சமத்துவம்சார்ந்தசிந்தனைகளைப்பெறுவர்.</li> <li>4. தமிழ்மொழியைப்பிழையின்றிஎழுதவும், புதியகலைச்சொற்களைஉருவாக்கவும்அறிந்துகொள்வர்.</li> <li>5. போட்டித்தேர்வுகளில்வெற்றிபெறுவதற்குத்தமிழ்ப்பாடத்தினைப்பயன்கொள்ளும்வகையில்பயிற்சிபெறுவர்.</li> </ol>
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Semester II					
Tamil / OL		Hindi	Credits	H/W	T/P
Course Code:	80121H	कहानी, एकांकी और व्याकरण	3	4	T
Objectives	1. हिन्दी कथा साहित्य से परिचय कराना 2. कहानियों व एकांकिकों के माध्यम से सामाजिक मूल्यों का पाठन 3. व्याकरण का व्यावहारिक प्रयोग				
Unit - I	हिन्दी कथा-साहित्य परिचय : * कहानी के तत्व * हिन्दी के प्रमुख कहानीकारों का परिचय * एकांकिक के तत्व * हिन्दी के प्रमुख एकांकीकारों का परिचय				
Unit - II	हिन्दी कहानियाँ : * प्रेमचंद – बड़े घर की बेटी * मालती जोशी : वो तेरा घर य हमेरा घर * पिता – ज्ञानरंजन				
Unit - III	हिन्दी एकांकी : * लक्ष्मी का स्वागत * विभाजन – विष्णु प्रभाकर * माँ-बाप - श्री विष्णु				
Unit - IV	व्याकरण : * क्रिया विशेषण * संबंध बोधक * समुच्चय बोधक * विस्मयादिबोधक आदि शब्दों का प्रयोग				
Unit - V	प्रतियोगी परीक्षा पर आधारित : * तमिल भाषा – महाकवि भारतियार * संकेत विकास द्वारा लेखन कला और कहानी लेखन * गद्यांश देखकर सही शीर्षक चुनना – पठित व्याकरण पर आधारित वाक्य रचना * विभिन्न प्रतियोग				
References	आठ एकांकी नाटक - डॉ. रामकुमार वर्मा				
दस एकांकी					
Outcome:	1. हिन्दी कथा साहित्य का परिचय मिलता है। 2. कहानियों द्वारा सामाजिक मूल्य सिखाया जाता है। 3. उपन्यासों के पठन से आलोचनात्मक क्षमता में विकास। 4. व्याकरण का व्यावहारिक प्रयोग। 5. प्रतियोगी परीक्षा पर आधारित कथा साहित्य से संबंधित प्रशिक्षण कार्य।				

Semester II					
CC/DSE/NME/ SEC/ T / OL / E		English	Credits	H/W	T/P
Course Code:	80122	General English - II	3	4	T
Objectives	1. To make students realize the importance of resilience 2. To enable them to become good decision makers 3. To enable them to imbibe problem-solving skills 4. To enable them to use tenses appropriately 5. To help them use English effectively at the work place.				
Unit - I	<b>Resilience</b> <b>Poem</b> 1.1 Don't Quit- Edgar A. Guest 1.2 Still Here-Langst on Hughes <b>Short Story</b> 1.3 Engine Trouble -R.K. Narayan Rip Van Winkle-Washing tonIrving				
Unit - II	<b>Decision Making</b> <b>Short Story</b> 2.1 The Scribe - Kristin Hunter 2.2 The Lady or the Tiger - Frank Stockton <b>Poem</b> 2.3 The Road not Taken - Robert Frost 2.4 Snake - D. H Lawrence				
Unit - III	<b>Problem Solving</b> <b>Prose life Story</b> 3.1 How I taught My Grandmother to Read - Sudha Murthy <b>Autobiography</b> 3.3 How frog Went to Heaven - A Tale of Angolo 3.4 Wings of Fire (Chapters 1,2,3) by A.P.J Abdul Kalam				
Unit - IV	<b>Tenses</b> 4.1 Present 4.2 Past 4.3 Future 4.4 Concord				
Unit - V	<b>English in the Workplace</b> 5.1 E-mail - Invitation, Enquiry, Seeking Clarification 5.2 Circular 5.3 Memo 5.4 Minutes of the Meeting				
<b>References</b> <b>Text Books (Latest Editions)</b> Martin Hewings. Advanced English Grammar. Cambridge University Press, 2000SP Bakshi, Richa Sharma. Descriptive English. Arihant Publications (India) Ltd., 2019. Sheena Cameron, Louise Dempsey. The Reading Book: A Complete Guide to Teaching Reading. S & L. Publishing, 2019. Barbara Sherman. Skimming and Scanning Techniques, Liberty University Press, 2014. Phil Chambers. Brilliant Speed Reading: Whatever you need to read, however. Pearson, 2013.					

Communication Skills : Practical Approach Ed.ShaikhMoula  
Ramendra Kumar. Stories of Resilience, Blue Rose Publications, 2020.

**Web Sources**

Langston Hughes. Still Here

<https://poetryace.com/im-still-here>

R. K. Narayan. Engine Trouble

<http://www.sbioaschooltrichy.org/work/Work/images/new/8e.pdf>

Washington Irving. Rip Van Winkle <https://www.gutenberg.org/files/60976/60976-h/60976-h.htm>

Frank Stockton. The Lady or the Tiger <https://www.gutenberg.org/ebooks/396>

<b>Outcome:</b>	On completion of this course, students will; <ol style="list-style-type: none"><li>1. Realize the importance of resilience</li><li>2. Become good decision-makers</li><li>3. Imbibe problem-solving skills</li><li>4. Use tenses appropriately</li><li>5. Use English effectively at the work place.</li></ol>
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Semester II					
CC/DSE/NME/ SEC		Core Course	Credit	H/W	T/P
Course Code:	80123	Poultry Nutrition and Feed Milling Technology	5	5	T
Objectives	1. To understand the poultry nutrition and feeding of poultry 2. To teach on poultry feed ingredients and its usage 3. To Impart knowledge on nutrient requirements of poultry 4. To provide in depth knowledge on feeds and feeding of poultry 5. To create awareness on feed milling technology and feed quality control				
Unit - I	<b>Feed Ingredients:</b> Terminology - Digestive system – Digestion – Nutrients classification - Macro and Micro nutrients - Classification of feed ingredients – Conventional and Un conventional feed resources - Energy sources – Protein sources - Vegetable and animal origin - Utilization of Conventional and non-conventional feed stuffs – Nutrient content of feed stuffs				
Unit - II	<b>Feeds and Feeding of Poultry:</b> Nutrient requirements of poultry - Factors influencing the nutrient requirement - Physical forms of feed – mash, pellet and crumble - System of feeding – <i>Ad libitum</i> feeding - Restricted feeding - Phase feeding - Precision feeding - Supplementary feeding – Sex separate feeding - Feeding of chicken – Commercial layer chicks, growers, layers and broilers – Feeding of breeder chicken - Feeding of ducks, turkeys, Japanese quails and Guinea fowl - Feeding in different seasons - Nutritional deficiencies and metabolic disorders in poultry				
Unit - III	<b>Feed Toxins and Additives:</b> Anti-Nutritional Factors in feed stuffs – Classification - Feed Toxins – Mycotoxins – Aflatoxin and Ochra-toxin and their prevention – Pesticide toxicity in poultry - Feed supplements and Feed Additives - Classification - Enzymes, Emulsifiers, Antioxidants, probiotics, prebiotics, Synbiotics, phytobiotics, antibiotics, toxin binders - Herbs and performance enhancers				
Unit - IV	<b>Feed Milling Technology:</b> Poultry feed formulation - Least cost formulation - Feed Mill Layout and design - Raw material purchase and storage - Feed milling equipment - Feed grinder – Roller mills and hammer mill - Feed mixer – Horizontal and vertical mixer - Elevators, conveyors, boiler, cyclone etc. - Basic feed milling process - Batch weighment, grinding, mixing, conditioning, pelleting, cooling, crumbling, Sifting and other processing operation - Pelleting and crumbling technology - Packaging, labelling and description of processed feed- Feed Storage				
Unit - V	<b>Feed Quality Control:</b> Systematic quality control during various stages - Sampling techniques - Physical and Chemical evaluation of feed ingredients - Raw Material Adulteration - Bio security in feed mills - GMP and HACCP protocols – National and International regulations on feed manufacturing – Organic, Designer and SPF egg production				
<b>Reference and Text books:</b> Leeson S., & Summers J. D., 2001. <i>Scott's Nutrition of the Chicken</i> . 4 <sup>th</sup> Edition. University Books, Cananda Reddy Ramasubba V., and Bhosale T. Dinesh, 2004. <i>Handbook of Poultry Nutrition</i> . 1 <sup>st</sup> Edition. International Book Distribution Co., Lucknow, India. Mahajan Naresh, 2015. <i>Poultry Nutrition and Management</i> . 1 <sup>st</sup> Edition. Anmol Publications Pvt.					

Ltd., New Delhi.

Bell D. Donald and Weaver D. William Jr., 2007. *Commercial Chicken Meat and Egg Production*. 5th Edition. Springer India Pvt. Ltd., Noida.

Wiseman. J, and Garnsworthy. P. C., 1999. *Recent Development in Poultry Nutrition*.

Titus Harry. W, and Fritz James. C, 1971. *The Scientific Feeding of Chickens*. 5th Edition.

Dr. M T Bandy, DE. S.S Mondal, Vishal Gupta, 2020. *Practical poultry feeding and nutrition* , Pixie publication India pvt, Ltd, karanal.

Dr. M T Bandy, Dr. S.s Mondal, Vishal gupta, *Practical poultry feeding and nutrition* ,2000, Pixie publication indiapvt,ltd, karnal.

Nithyan and pathak, 2021. *Avian nutrition (poultry, ratite & tamed birds)*, CRC press, London, New York

<b>Outcome:</b>	On successful completion of the course, the students may
	1. Understand the digestion and absorption of nutrients in poultry
	2. Acquire in depth knowledge on nutrient requirements of poultry
	3. Understand the type of feed and feeding for poultry
	4. Understand the importance of feed toxins and supplements
	5. Gain knowledge on feed milling activity and feed quality control

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	2	2	3	3	2	3	1	3
CO2	2	2	3	1	2	2	1	1	2	1
CO3	3	2	2	3	3	3	2	3	3	3
CO4	1	1	2	2	2	3	3	2	3	3
CO5	2	2	3	2	1	3	2	3	2	2
W. AV	2.0	2.0	2.4	2.0	2.2	2.8	2	2.4	2.2	2.4

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	3	2
CO2	3	2	1	2	1
CO3	2	3	3	3	3
CO4	3	2	2	3	3
CO5	1	1	3	3	1
W.AV	2.2	2.2	2.4	2.8	2.0

**3- Strong, 2- Medium, 1- Low**

Semester II					
CC/DSE/NME/ SEC		Core Course	Credits	H/W	T/P
Course Code:	80124	<b>Practical in Poultry Nutrition and Feed Milling Technology</b>	<b>4</b>	<b>8</b>	<b>P</b>
<b>Objectives</b>	1. To understand the poultry nutrient and feeding of poultry 2. To teach on poultry feed ingredients and its usage 3. To Impart knowledge on nutrient requirements of poultry 4. To provide in depth knowledge on feeds and feeding of poultry 5. To create awareness on feed milling technology and feed quality control				
1.	Feed ingredients used in poultry feed ant its nutrient composition				
2.	Physical and sensory evaluation of feed ingredients				
3.	Adulterants in Feed production				
4.	Estimation of Dry Matter and Moisture				
5.	Estimation of Total Ash and Acid Insoluble Ash				
6.	Determination of crude protein, fiber and nitrogen free extract				
7.	Determination of calcium and Phosphorus				
8.	Estimation of Aflatoxin				
9.	Nutrient requirements of poultry				
10.	Least cost feed formulation				
11.	Feed mill layout and design				
12.	Feed milling equipment				
13.	Feed production methods				
14.	Storage of feed ingredients and feed				
15.	Visit to Feed Mill plant				
<b>Outcome:</b>	On successful completion of the course, the students may 1. Understand the digestion and absorption of nutrients in poultry 2. Acquired in depth knowledge on nutrient requirements of poultry 3. Understand the types feed and feeding of various poultry 4. Understand the importance of feed toxins and supplements 5. Better knowledge on feed production and feed quality control				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	2	3	3	3	2	2	3
CO2	3	2	1	1	2	3	3	2	1	3
CO3	3	2	1	3	2	3	2	1	2	2
CO4	2	2	2	2	1	3	3	2	3	3
CO5	2	2	3	2	3	3	3	3	2	2
W. AV	2.4	2.2	2.0	2.0	2.2	3.0	2.8	2.0	2	2.6

3- Strong, 2- Medium, 1- Low

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
CO1	3	3	2	2	3
CO2	3	2	1	3	3
CO3	3	2	2	3	2
CO4	3	3	3	2	3
CO5	3	1	2	2	3
W.AV	3	2.2	2	2.4	2.8

**3- Strong, 2- Medium, 1- Low**

Semester II					
CC/DSE/NME/ SEC		Allied Course	Credits	H/W	T/P
Course Code:	80125	Incubation and Hatchery Management	3	3	T
Objectives	1.To impart knowledge on hatchery construction and operations 2. To know the care and management of hatching eggs 3. To understand the Incubation Principles and Practices 4. To provide in depth knowledge on day old chick production 5. To provide in depth knowledge on hatchery management				
Unit - I	<b>Hatchery Overview:</b> Terminology – Hatchery Layout, design and construction - Methods of incubation – Selection and Care of hatching eggs - Storage of hatching eggs – Egg cool room – Fumigation of hatching eggs				
Unit - II	<b>Incubation Requirements:</b> Incubation periods of poultry species – Chicken Embryonic development –Physical requirements of incubation - Effects of temperature, humidity, gaseous environment, position and turning of eggs on hatchability of chicken				
Unit - III	<b>Incubators:</b> Incubators – Types of incubators – Single stage and multistage incubators and hatchers – Setter management – Hatcher Management – Automation in hatchery operation				
Unit - IV	<b>Hatchery Operations:</b> Hatchery operations – Setting, Candling - Transfer - Hatching - Pedigree hatching - Chicks pull out - Grading – Chick sexing - Packing and Chick dispatch – In-ovo and In-hatch vaccinations and medications				
Unit - V	<b>Performance Analysis:</b> Hatchability Assessment – Chick quality assessment – Factors affecting hatchability - break open analysis Malformation and Malposition Hatchery records - Hatchery biosecurity – Hatchery sanitation - Hatchery waste management				
<b>Reference and Text books:</b> Bell D. Donald and Weaver D. William Jr., 2007. <i>Commercial Chicken Meat and Egg Production</i> . 5 <sup>th</sup> Edition. Springer India Pvt. Ltd., Noida. Taylor W. Lewts, 2003. <i>Fertility and Hatchability of Chicken and Turkey Eggs</i> . 1 <sup>st</sup> Edition. International book Distributing Co., Lucknow, India. Sreenivasaiah., P. V., 2015. <i>Textbook of Poultry Science</i> . 1 <sup>st</sup> Edition. Write & Print Publications, New Delhi Rajini Asha R., 2011. <i>Simply....Poultry Science</i> . 1st Edition. Alfa Publications, New Delhi. Suguna Management System: <i>Standard Operating Manual – Feed Lab</i> , 2012. Suguna Foods Pvt. Ltd. Sreenivasaiah., P. V., 2006. <i>Scientific Poultry Production-A unique encyclopedia</i> . International Book Distributing Co., Lucknow, India.					
Outcome:	On successful completion of the course, the students could 1. Understand the hatchery plan, lay out and construction 2. Acquire in depth knowledge care and management of hatching eggs 3. Understand the hatchery management and its operations 4. Understand the importance of chick quality assessment 5. Have Better knowledge on the production of quality day old chicks				



**Mapping Course Outcome VS Programme Outcomes**

CO	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010
C01	3	2	3	3	2	2	3	2	3	1
C02	2	2	2	1	1	3	2	3	2	3
C03	3	3	3	3	2	3	3	2	1	2
C04	3	2	2	2	3	2	2	2	2	3
C05	3	2	3	3	2	1	3	1	2	2
W. AV	2.8	2.2	2.6	2.4	2	2.2	2.6	2	2.0	2.2

**3- Strong, 2- Medium, 1- Low**

**Mapping Course Outcome VS Programme Specific Outcomes**

CO	PS01	PS02	PS03	PS04	PS05
C01	1	2	3	3	1
C02	2	2	2	2	3
C03	3	3	3	1	2
C04	2	3	2	2	3
C05	2	1	3	2	2
W.AV	2.0	2.2	2.6	2.0	2.2

**3- Strong, 2- Medium, 1- Low**

Semester II					
CC/DSE/NME/ SEC		Allied Course	Credits	H/W	T/P
Course Code:	80126	Practical in Egg Incubation and Hatchery Management	2	4	P
<b>Objectives</b>	1.To impart knowledge on hatchery planning and construction 2. To know the care and management of hatching eggs 3. To understand the Incubation Principles and Practices 4. To provide in depth knowledge on day old chick production 5. To provide in depth knowledge on hatchability assessment				
1.	Hatchery plan, layout, design and construction				
2.	Physical requirements of incubation				
3.	Fumigation and Grading of hatching eggs				
4.	Egg Setting and methods - Egg candling				
5.	Chicks Pull out – chick grading, vaccination, sexing methods				
6.	Residue breakout analysis				
7.	Calculation of fertility and hatchability				
8.	Chick packing and transportation				
9.	Hatchery waste disposal				
10.	Hatchery sanitation				
<b>Outcome:</b>	On successful completion of the course, the students could 1. Understand the hatchery plan, layout and construction 2. Acquire knowledge on the care and management of hatching eggs 3. Understand the hatchery operation 4. Gain knowledge on chick quality assessment 5. Acquire knowledge on hatching practices				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	3	2	3	1	2	3	2	3	3
C02	1	2	1	2	2	2	2	2	2	2
C03	3	3	3	1	3	3	1	2	3	2
C04	2	3	3	3	2	3	2	2	2	2
C05	2	2	1	1	2	1	2	3	3	3
W. AV	2	2.8	2.0	2	2.0	2.2	2	2.2	2.6	2.4

3- Strong, 2- Medium, 1- Low

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	2	3	3	2	1
C02	1	2	2	2	3
C03	3	3	1	3	2
C04	3	2	3	3	3
C05	1	3	1	1	2
W.AV	2.0	2.6	2	2.2	2.2

**3- Strong, 2- Medium, 1- Low**

<b>Semester II</b>					
<b>CC/DSE/NME/ SEC/ T / OL / E</b>		<b>SEC - II</b>	<b>Credits</b>	<b>H/W</b>	<b>T/P</b>
<b>Course Code:</b>	80127	<b>Environmental Studies</b>	<b>2</b>	<b>2</b>	<b>P</b>
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To understand the multidisciplinary nature of environmental studies such as forest, water, mineral and energy and land resources.</li> <li>2. To portray the eco system bio diversity and its conservation.</li> <li>3. To impart the knowledge of environmental pollution</li> <li>4. To know the importance office ld work to study common plants, insects and birds and visit local areas to document environmental assets.</li> </ol>				
<b>Unit - I</b>	<b>The Multidisciplinary Nature of Environmental Studies:</b> Definition, Scope and importance -Need for public awareness				
<b>Unit - II</b>	<p><b>Natural Resources:</b> Renewable and non-renewable resources</p> <p>A). <b>Forest Resources:</b> Use and Over-Exploitation, Deforestation, Case Studies, Timber Extraction, Mining, Dams and Their Effect on Forests and Tribal People.</p> <p>B). <b>Water Resources:</b> Use and Over-Utilization of Surface and Ground Water, Floods, Drought, Conflicts over Water, Dams- Benefits and Problems.</p> <p>C). <b>Mineral Resources:</b> Use and Exploitation, Experimental Effects of Extracting and Using Mineral Resources, Case Studies.</p> <p>D). <b>Food Resources:</b> World Food Problems, Changes Caused by Agriculture and Overgrazing, Effects of Modern Agriculture, Fertilizer-Pesticide Problems, Water Logging, Salinity, Case Studies.</p> <p>E). <b>Energy Resources:</b> Growing Energy Needs, Renewable and Non-Renewable Energy Sources, Use of Alternate Energy Resources, Case Studies.</p> <p>F). <b>Land Resources:</b> Land as a Resource, Land Degradation, Main Induced Landsides, Soil-Erosion and Desertification.</p> <p>➤ Role of Individual in Conservation of Natural Resources</p> <p>➤ Equitable Use of Resources for Sustainable Life style</p>				
<b>Unit - III</b>	<p><b>Eco systems, Bio-Diversity and Its Conservation</b></p> <p><b>Eco systems:</b> Concept of an Ecosystem, Structure and Function of an Ecosystem, Energy Flow in The Ecosystem, Food Chains, Food Webs and Ecological Pyramids.</p> <p><b>Biodiversity and Its Conservation:</b> Introduction-Definition: Genetic, Species and Eco system Diversity, Bio-Geographical Classification of India, Value of Biodiversity: Consumptive Use, Productive Use, Social Ethical, Aesthetic and Option Values. Biodiversity at Global, National and Local Levels, India as a Mega-Diversity Nation, Hot Spots of Biodiversity, Threats to Biodiversity: Habitat Loss, Poaching of Wild life, Man-Wild life Conflicts, Endangered and Endemic Species of India, Conservation of Biodiversity :In-Situ And Ex-Situ Conservation of Biodiversity.</p>				
<b>Unit - IV</b>	<b>Environmental Pollution:</b> Causes, Effects And Control Measures of: <b>A).</b> Air Pollution, <b>B).</b> Water Pollution, <b>C).</b> Soil Pollution, <b>D).</b> Marine Pollution, <b>E).</b> Noise Pollution, <b>F).</b> Thermal Pollution, <b>G).</b> Nuclear Hazards.				
<b>Unit - V</b>	<p><b>Field Work</b></p> <p>➤ Visit to a Local Area to Document Environmental Assets–River/ Forest/ Grassland/ Hill/Mountain</p>				

	<ul style="list-style-type: none"> <li>➤ Visit to a Local Polluted Site-Urban/Rural/Industrial/Agricultural</li> <li>➤ Study of Common Plants, Insects, Birds</li> <li>➤ Study of Simple Eco system-Pond, River, Hill Slopes, etc.,</li> </ul>
<b>References</b> Agarwal,K.C.(2001). <i>Environmental Biology</i> . Nidi Publication Ltd. Bharucha, E. (2002). <i>The Biodiversity of India</i> (Vol. 1). Mapin Publishing Pvt Ltd, Ahamedabad, India. Brunner,C. R. (1993). <i>Hazardous waste incineration</i> .McgrawHillInc. Clark, R. B., Frid, C., & Attrill, M. (2001). <i>Marine pollution</i> (Vol. 5). Oxford: Oxford university press.Cunningham, W. P., Cooper, T. H., Gorham, E., & Hepworth, M. T. (1998). <i>Environmental encyclopedia</i> .De,A.K.(1990). <i>EnvironmentalChemistry</i> .WileyEasternLtd. Gleick,H.P.(1993). <i>WaterInCrisis,PacificInstituteForStudiesInDev,Environment&amp; Security</i> .StockholmEnv.Institute, Oxford UniversityPress. Goel, P. K., & Trivedi, R. K. (1998). <i>An introduction to air pollution</i> . Technoscience Publication, India.Hawkins,R.E. <i>EncyclopediaofIndianNaturalHistory</i> .BombayNatural HistorySociety,Bombay. Heywood, V. H., & Watson, R. T. (1995). <i>Global biodiversity assessment</i> (Vol. 1140). Cambridge: Cambridgeuniversitypress. Jadhav, H. V., & Bhosale, V. M. (2006). <i>Environmental Protection and laws</i> . Himalaya Publishing House.McKinney, M. L., & Schoch, R. M. (1996). <i>Environmental Science: Systems and Solutions</i> (St. Paul, MN).Mhaskar,A.K. <i>Matter Hazardous</i> .Techno-Science Publications. Miller,T. G.(1989). <i>Environmental Science:Working with theearth(2nd)</i> .WadsworthPublicingCo. Narain,S.,Mahapatra,R.,Das,S.,Misra,A.,Parrey,A.A.,Pandey,K.,&Banerjee,S.(2014). <i>DowntoEart h</i> .CentreforScienceand Environment. Odum, E. P., & Barrett, G. W. (1971). <i>Fundamentals of ecology</i> (Vol. 3, p. 5). Philadelphia: Saunders.Rao,M.N., &Datta,A.K.(1987). <i>Waste Water Treatment</i> .Oxford &IbhPubl, Co.Pvt.Ltd. Sharma,B.K.(2001). <i>EnvironmentalChemistry-6<sup>th</sup> Revised Edition</i> . Townsend, C.R., Begon, M., & Harper, J.L. (2008). <i>Essentials of Ecology</i> (3rd edition). Oxford: BlackwellPublishing. Trivedi,R.K.(2010). <i>HandbookofEnvironmentalLaws,Rules,Guidelines,CompliancesandStandards. Vol. I andII,EnviroMedia</i> . Wanger,K.D.(1998). <i>EnvironmentalManagement</i> .SaundersCo.Philadelphia,USA.	
<b>Outcome:</b>	<p>On successful completion of the subject, the students acquired knowledge about:</p> <ol style="list-style-type: none"> <li>1. Renewable and non-renewable resources.</li> <li>2. Species and Ecosystem Diversity, Bio-Geographical Classification of India, Value of Biodiversity:</li> <li>3. Causes, Effects and Control Measures of environmental pollution</li> <li>4. Field work knowledge of studying eco system pond, river, hill and common plants, insects and birds</li> <li>5. Documentation of environmental assets</li> </ol>

Semester III					
CC/DSE/NME/ SEC/ Tamil		Tamil	Credits	H/W	T/P
Course Code:	80131T	தமிழகவரலாறும்பண்பாடும்	3	4	T
Objectives	<ul style="list-style-type: none"> <li>தமிழகவரலாற்றை அறிந்துகொள்ளுதல்.</li> <li>தமிழரின் வாழ்வியல் தொன்மையை அறிதல்.</li> <li>தமிழரின் பண்பாட்டினை அறிந்துகொள்ளல்.</li> <li>தமிழர் மேல்நிகழ்ந்த பிறப்பண்பாட்டுத்தாக்கங்களை அறிதல்.</li> <li>தமிழ்இலக்கியம் சார்ந்த போட்டித்தேர்வுகளுக்கு ஏற்பகற்பித்தல் நடைமுறைகளை மேற்கொள்ளுதல்.</li> </ul>				
Unit - I	<b>தொல்பழங்காலவரலாறும் சங்ககாலவரலாறும்</b> 1. தொல்தமிழ்ச் 2. பழையகற்காலம் 3. புதியகற்காலம் 4. உலோகக்காலம் 5. அகழ்வாராய்ச்சியில் தமிழ்மும் தமிழரும் (கீழடிவரை) 6. திணைவாழ்வியல் (களவுவாழ்க்கை, கற்புவாழ்க்கை, உணவு, அணிகலன்கள், வாணிகம், விளையாட்டுகள்) 7. கல்வியும், கலைகளும். 8. தமிழ்வளர்த்த சங்கம். 9. சங்ககால ஆட்சிமுறை. 10. அயல்நாட்டுத்தொடர்புகள்.				
Unit - II	<b>ஆட்சியர்வரலாறு</b> 1. மூவேந்தர்வரலாறு 2. பல்லவர்வரலாறு 3. நாயக்கர்ஆட்சி 4. முகம்மதியர்ஆட்சி 5. மராட்டியர்ஆட்சி				
Unit - III	<b>ஐரோப்பியர்காலவரலாறு</b> 1. போர்த்துக்கீசியர் 2. டச்சுக்காரர்கள் 3. டேனிஸ்காரர்கள் 4. பிரெஞ்சுக்காரர்கள் 5. ஆங்கிலேயர்கள் 6. பாளையக்காரர்கள் 7. இந்திய விடுதலைப் போராட்டத்தில் தமிழ்நாடு				
Unit - IV	<b>விடுதலைக்கு பின்தமிழ்நாட்டுவரலாறு</b> 1. மொழிப்போராட்டம்				

	2. சமூகமறுமலர்ச்சி 3. தொழில்நுட்பவளர்ச்சி
<b>Unit - V</b>	<b>மொழிப்பயிற்சி</b> <ul style="list-style-type: none"> <li>• நிறுத்தக்குறிகள்</li> <li>• கலைச்சொற்கள்</li> <li>• மொழிபெயர்ப்பு</li> </ul> <b>பயிற்சி</b> : ஆங்கிலக்கலைச்சொற்களைக்கொடுத்து அவற்றைத் தமிழில் மொழிபெயர்க்கச் செய்தல்.

#### References:

- தமிழகவரலாறும் பண்பாடும் - கே.கே. பிள்ளை, உலகத்தமிழாராய்ச்சி நிறுவனம், சென்னை,
- தமிழர்நாகரிகமும் பண்பாடும் - அ. தட்சிணாமூர்த்தி, யாழ்வெளியீடு, சென்னை,
- தமிழகவரலாறும் பண்பாடும் - வே.திசெல்லம், மணிவாசகர்பதிப்பகம், சென்னை,
- ஆதிச்சநல்லூர்முதல்கீழடிவரை நுவேதாலாயிஸ், கிழக்குப்பதிப்பகம், சென்னை,
- பண்பாட்டுமானிடவியல் - பக்தவத்சலபாரதி, அடையாளப்பதிப்பகம், திருச்சி.
- தமிழாமேல்நிகழ்ந்த பண்பாட்டுப்படையெடுப்புகள், க.ப. அறவாணன், தமிழ்க்கோட்டம், சென்னை.
- தமிழகசமுதாயப்பண்பாட்டுக் கலைவரலாறு - குசேதுராமன், என்.சி.பி.எச், சென்னை,
- தமிழர்கலையும் பண்பாடும் - அ.கா. பெருமாள், என்.சி.பி.எச், சென்னை.
- ஒரு பண்பாட்டின்பயணம் சிந்துமுதல் வைகைவரை - ஆர். பாலகிருஷ்ணன், ரோஜாமுத்தையா ஆராய்ச்சிநூலகம், சென்னை.
- தமிழும் பிறப்பண்பாடும் - தெ.பொ. மீனாட்சிசுந்தரனார், நியூசெஞ்சுரிபுக்ஹவுஸ், சென்னை.
- தமிழர்வரலாறும் பண்பாடும் - நீலகண்டசாஸ்திரி, ஸ்ரீசெண்பகாபதிப்பகம், சென்னை.
- தமிழ்ச்வரலாறும் தமிழர்பண்பாடும் - மா.இராசமாணிக்கனார்.
- தமிழர்நாகரிகவரலாறு - க.ததிருநாவுக்கரசு, தொல்காப்பியர்நூலகம், சென்னை.

<b>Outcome:</b>	➤ தமிழகவரலாற்றை அறிந்து கொள்வர். ➤ தமிழரின் வாழ்வியல் தொன்மையை அறிவர். ➤ தமிழரின் பண்பாட்டுக்கூறுகளை அறிந்து கொள்வர். ➤ பிறப்பண்பாட்டுத்தாக்கம் மற்றும் அணுகுமுறைகளை அறிவர். ➤ மொழிப்பயிற்சிக்குத் தேவையான இலக்கணங்களைக் கற்பர்.
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Semester III					
Tamil / OL		Hindi	Credits	H/W	T/P
Course Code:	80131H	पत्रलेखनऔरपारिभाषिकशब्दावली	3	4	T
Objectives	<ol style="list-style-type: none"> <li>1. निजीपत्रलिखना</li> <li>2. सामाजिकपत्रलिखना</li> <li>3. व्यावसायिकपत्रलिखना</li> <li>4. कार्यालयीपत्राचारकाज्ञानदेना</li> <li>5. तकनीकीशब्दावलीजानना</li> </ol>				
Unit - I	निजीपत्रलेखन : * निजीपत्र-अर्थऔरभेद * पिताजी/माताजीकेनामपर * मित्र, भाईकेनामपर * पारिभाषिकशब्दावली- प्रशासनिक				
Unit - II	सामाजिकपत्रलेखन : * सामाजिकपत्रअर्थऔरभेद * आवेदनपत्र – नौकरी, छुट्टी*डाकअधिकारीकेनामपर *नगरपालिकाकेनामपर * पारिभाषिकशब्दावली				
Unit – III	व्यावसायिकपत्रलेखन : * व्यावसायिकपत्रअर्थऔरभेद * प्रकाशककेनामपर * पूछ-ताछ * शिकायती * क्षतिपूर्तिआदिविषयोंपर * शब्दावलीपदनामवमंत्रालयों				
Unit - IV	कार्यालयीपत्राचार : * सामान्यपरिचय * सरकारीपत्र * अर्थ-सरकारीपत्र * ज्ञापन, परिपत्र * अनुस्मारक * अधिसूचना * आवेदनपत्र * पारिभाषिकशब्दावली				
Unit - V	प्रतियोगीपरीक्षापरआधारितपत्राचारसेसंबंधितप्रशिक्षणकार्य : प्रारूपबनानेकाप्रशिक्षणदेना * टिप्पणीलिखनेकाप्रशिक्षणदेना * विभिन्नप्रतियोगीपरीक्षाओंकेबारेमेंसूचनाप्रदानदेना				
References	आलेखनऔरटिप्पणी – प्रो. विराज * आलेखन – किचलू				
Outcome:	<ol style="list-style-type: none"> <li>1. पत्रलेखनकाज्ञानप्रदानकरना</li> <li>2. कार्यालयपत्राचारकेनियमसमझाना</li> <li>3. राजभाषाहिन्दीकीजानकारीदेना</li> <li>4. आलेखनऔरटिप्पणीलिखनेकाअभ्यास</li> <li>5. पदनाम, अनुभागकेनामऔरतत्संबंधीशब्दावली</li> </ol>				



Semester III					
E		English	Credits	H/W	T/P
Course Code:	80132	General English - III	3	4	T
Objectives	1. To make them active listeners 2. To enhance the interpersonal relationship skills 3. To embolden them to cope with stress 4. To master grammar skills 5. To help them to use English effectively in a business environment				
Unit - I	<b>Active Listening</b> <b>Short Story</b> 1.1 In a Grove – Akutagawa Ryunosuke Translated from Japanese by Takashi Kojima 1.2 The Gift of the Magi – O’ Henry <b>Prose</b> 1.3 Listening – Robin Sharma 1.4 Nobel Prize Acceptance Speech – Wangari Maathai				
Unit - II	<b>Interpersonal Relationships</b> <b>Prose</b> 2.1 Telephone Conversation – Wole Soyinka 2.2 Of Friendship – Francis Bacon  <b>Song on (Motivational/ Narrative)</b> 2.3 Ulysses – Alfred Lord Tennyson 2.4 And Still I Rise – Maya Angelou				
Unit - III	<b>Coping With Stress</b> <b>Poem</b> 3.1 Leisure – W.H. Davies 3.2 Anxiety Monster – RhonaMcFerran <b>Readers Theatre</b> 3.3 The Forty Fortunes: A Tale of Iran 3.4 Where there is a Will – Mahesh Dattani				
Unit - IV	<b>Grammar</b> 4.1 Phrasal Verbs & Idioms 4.2 Modals and Auxiliaries 4.3 Verb Phrases – Gerund, Participle, Infinitive				
Unit - V	<b>Composition/ Writing Skills</b> 5.1 Official Correspondence – Leave Letter , Letter of Application, Permission Letter 5.2 Drafting Invitations 5.3 Brochures for Programmes and Events				
<b>References</b> <b>Text Books (Latest Editions)</b> Wangar iMaathai – Nobel Lecture. Nobel Prize Outreach AB 2023. Jul 2023. Mahesh Dattani, Where there is a Will. Penguin, 2013. Martin Hewings, Advanced English Grammar, Cambridge University Press, 2000 Essential English Grammar by Raymond Murphy					

**Web Resources**

WangariMaathai – Nobel Lecture. Nobel Prize Outreach AB 2023. Mon. 17 Jul 2023. <https://www.nobelprize.org/prizes/peace/2004/maathai/lecture/>

Telephone Conversation - Wole Soyinka

[https://www.k-state.edu/english/westmank/spring\\_00/SOYINKA.html](https://www.k-state.edu/english/westmank/spring_00/SOYINKA.html)

Anxiety Monster- RhonaMcFerran-

[www.poetrysoup.com](http://www.poetrysoup.com)

**Outcome:**

On completion of this course, students will;

1. Listen actively
2. Develop interpersonal relationship skills
3. Acquire self-confidence to cope with stress
4. Master grammar skills
5. Carry out business communication effectively

Semester III					
CC		Core Course	Credits	H/W	T/P
Course Code:	80133	Principles of Poultry Breeding	3	3	T
Objectives	1. To impart knowledge on fundamentals of poultry breeding 2. To teach on various economic traits of broilers and layers 3. To impart knowledge on various methods used in poultry breeding 4. To develop skill on Artificial Insemination in chicken 5. To impart knowledge on development of commercial strains of poultry				
Unit - I	<b>Classification of Poultry:</b> Common Terminology - Genetic classification of poultry - Origin and breed characteristics of poultry - Basic genetics - Chromosome number in different species of poultry - Qualitative traits - Auto sexing - Economic traits of commercial layers and broilers				
Unit - II	<b>Inheritance:</b> Inheritance of characters - Principles in controlling inheritance - Dominance and recessiveness - Homozygous and heterozygous individuals - Mendelian inheritance - The law of segregation and recombination - The law of independent assortment - Sex-linked inheritance - Distinguishing sex at hatching time - Hybridization				
Unit - III	<b>Methods of Breeding:</b> Heredity and environment basis of selection - Individual Selection- Family Selection - Pedigree selection - Progeny testing - Methods of mating - Flock, Pen, Pair mating - Random mating- Out breeding - Crossbreeding - Inbreeding				
Unit - IV	<b>Selection Methods:</b> Methods of selection on phenotypic values - Tandem method - Independent culling levels - Selection index - Ideal breeding programme - Selection of birds for breeding - Selection of egg type lines - Selection of meat type lines				
Unit - V	<b>Breeding for Meat and Egg:</b> Pure lines stocks - Great Grandparent stock, Grandparent stock, parent breeders - Commercial hybrids - Objectives of poultry breeding for meat and egg production - Artificial insemination				
<b>Reference and Text books:</b> Jadhav N. V., and Siddique M. F., 2007. <i>Handbook of Poultry Production and Management</i> . 2 <sup>nd</sup> Edition. Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi. Hutt F. B, 2003. <i>Genetics of the Fowl: The classic guide to poultry breeding and chicken genetics</i> . 1 <sup>st</sup> Edition. Norton Creek Press, New York. Sreenivasiah., P. V., 2015. <i>Textbook of Poultry Science</i> . 1st Edition. Write & Print Publications, New Delhi Jull A. Morley, 2008. <i>Poultry Husbandry</i> . 2 <sup>nd</sup> Edition. J. V. Publishing House, Jodhpur, Rajasthan. Jull A. Morley, 2007. <i>Successful Poultry Management</i> . 2nd Edition. Biotech Books, New Delhi. Hurd M. Louis, 2003. <i>Modern Poultry Farming</i> . 1st Edition. International Book Distributing Company, Lucknow					
Outcome:	On Successful completion of the course may 1. Enrich the knowledge on fundamentals of poultry breeding 2. Understand the various systems of chicken breeding 3. Improve the knowledge on various selection methods followed in Poultry breeding 4. Develop skill on Artificial Insemination in chicken 5. Understand the technology on the development of strains of chicken for commercial exploitation				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	3	3	3	2	2	2	3	2	2
C02	2	2	3	3	2	1	2	2	3	3
C03	3	2	3	3	1	3	2	1	2	2
C04	2	2	2	3	3	3	2	3	3	2
C05	2	2	2	2	3	3	2	2	2	1
W. AV	2.2	2.2	2.6	2.8	2.2	2.4	2	2	2.4	2.0

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	3	3	3	2	3
C02	3	3	1	2	3
C03	3	3	3	3	1
C04	2	3	2	1	2
C05	2	2	3	2	2
W.AV	2.6	2.8	2.4	2	2.2

**3- Strong, 2- Medium, 1- Low**

Semester III					
CC		Core Course	Credits	H/W	T/P
Course Code:	80134	Breeder Chicken Management	3	3	T
Objectives	1. To understand the chicken breeder industry 2. To know the broiler breeder maintenance and its performance 3. To Impart knowledge on breeder housing and feeding 4. To provide in depth knowledge on breeder male management 5. To teach on the collection and care of hatching eggs				
Unit - I	<b>Breeding Industry:</b> Breeder Terminology - Size and structure of breeding industry - Breeder chicken integration - Pure line - GGP - GP Parent - Commercial Broilers and layers - Commercial strains of broilers and layers - Production standards				
Unit - II	<b>Brooding and Growing Management:</b> Bio security - Shed preparation - Brooding arrangements - Brooding of chicks - Beak trimming - Stocking density - Crop score - Lighting management of chicks - Growing of Male and Female breeders - Grading - Uniformity - Feeding and watering management - Identification of Sexing Error and culling - Sex separate rearing - Selection of males - Vaccination and medication schedule for breeder chicks and growers -Transfer to layer house				
Unit - III	<b>Breeder Laying Management:</b> Housing requirement of broiler breeder - Broiler breeder management in different housing system - Management of Nest box - Litter management - Lighting management - Pre-laying - Pre-peak - Peak and Post-peak management - Feeding and watering management- Vaccination and medication schedules for breeders - Breeder male management - Spiking of males - Male Female Ratio- Feeding of males - Flock depletion				
Unit - IV	<b>Artificial Insemination:</b> Fertility - Factors affecting fertility - Artificial insemination - Care of hatching eggs- Collection, Selection, Sanitation, Fumigation and storage of hatching eggs - Egg cool room, Packing and dispatch of hatching eggs - Seasonal management of breeder flocks - Summer, Winter and Monsoon management.				
Unit - V	<b>Records Keeping:</b> Importance of record keeping - Records in breeder production and management - Performance parameter monitoring - HHE - HD% - HHHE - Hatchability% - Livability - Feed efficiency - Flock costing, Fertility, Cost of production of hatching eggs, day old chicks				
<b>Reference and Text books:</b> Youn Michael, 2013. <i>Encyclopedia of Broiler Breeder Production: Production, Feeding and Management Techniques</i> . Vol. 1, 2 & 3. Anmol Publications Pvt. Ltd., New Delhi. Leeson. S., and Summers J. D., 2001. <i>Broiler Breeder Production</i> . 1 <sup>st</sup> Edition. International Book Distributing Company, Lucknow Sreenivasaiah., P. V., 2015. <i>Textbook of Poultry Science</i> . 1st Edition. Write & Print Publications, New Delhi Bell D. Donald and Weaver D. William Jr., 2007. <i>Commercial Chicken Meat and Egg Production</i> . 5th Edition. Springer India Pvt. Ltd., Noida. Rajini Asha R., 2011. <i>Simply Poultry Science</i> . 1st Edition. Alfa Publications, New Delhi Taylor W. Lewts, 2003. <i>Fertility and Hatchability of Chicken and Turkey Eggs</i> . 1 <sup>st</sup> Edition. International book Distributing Co., Lucknow, India.					
Outcome:	On successful completion of the course, the students could				

	1. Understand the existing broiler breeding policies and performance 2. Acquire in depth knowledge on grading and feeding of breeder chicks 3. Understand the cock management for better fertility 4. Understand the importance of artificial insemination and method 5. Better knowledge on hatching egg production
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### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	3	3	2	3	2	3	2	2	3	2
C02	2	3	3	2	3	3	2	3	2	2
C03	3	2	2	2	3	2	3	3	2	3
C04	3	3	3	3	2	3	3	3	1	2
C05	3	3	3	2	3	3	3	3	3	2
W. AV	2.8	2.8	2.6	2.4	2.6	2.8	2.6	2.8	2.2	2.2

**3 – Strong, 2 – Medium, 1 – Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PO1	PO2	PO3	PO4	PO5
CO1	2	3	2	2	3
CO2	2	3	3	3	1
CO3	3	2	2	2	2
CO4	3	2	3	3	3
CO5	3	3	2	2	1
W. AV	2.6	2.6	2.4	2.4	2.0

**3 – Strong, 2 – Medium, 1 – Low**

Semester III					
CC		Core Course	Credits	H/W	T/P
Course Code:	80135	Practical in Principles of Poultry Breeding and Breeder Chicken Management	3	6	P
<b>Objectives</b>	1. To understand the breed characteristics of chicken 2. To teach on sexing of day old chicks 3. To Impart knowledge on breeding for egg and meat 4. To provide in depth knowledge broiler breeder management 5. To create awareness on collection and care of hatching eggs				
1.	Breeds and breed characteristics of chicken				
2.	Sex linked inheritance – Sexing of day old chicks				
3.	Ideal breeding programme – selection of egg type lines				
4.	Ideal breeding programme – selection of meat type lines				
5.	Artificial Insemination				
6.	Stocking density- floor, feeder and drinker space requirements of breeders				
7.	Brooding arrangements and Brooding equipment				
8.	Grading and CV% calculation				
9.	Judging of good and poor layer				
10.	Selection of cock for breeding				
11	Hatching egg Collection, Selection and Care				
12.	Performance Assessment of broiler breeders				
<b>Outcome:</b>	On successful completion of the course, the students may 1. Understand the breed characteristics of chicken 2. Acquired knowledge on sexing of day old chicks 3. Have an in depth knowledge on breeding policies vogue in chicken production 4. Understand the broiler breeder manage mental practices 5. Awareness on collection and care of hatching eggs				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	3	2	2	3	2	3	2	2	3	2
C02	2	3	3	2	3	3	1	3	2	2
C03	2	2	2	2	3	2	3	3	2	2
C04	3	3	3	3	2	3	3	3	1	2
C05	3	3	2	2	3	3	3	3	3	2
W. AV	2.6	2.6	2.4	2.4	2.6	2.8	2.4	2.8	2.2	2.0

**3 – Strong, 2 – Medium, 1 - Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PO1	PO2	PO3	PO4	PO5
CO1	3	2	1	2	3
CO2	3	1	2	3	2
CO3	2	3	3	3	2
CO4	3	3	3	3	1
CO5	3	3	3	3	3
W. AV	2.8	2.4	2.4	2.8	2.2

**3 – Strong, 2 – Medium, 1 - Low**



### Semester III

ALLIED		Climatology and Poultry Production	Credits	H/W	T/P
Course Code:	80136		3	3	T
Objectives	1. To understand the importance of Climatology and its influence on poultry Production 2. To create awareness on the climatic components 3. To have an in depth knowledge on seasonal influence on poultry 4. To provide in depth knowledge on disaster problems 5. To understand the development of heat resistant chicken				
Unit - I	<b>Classification of Climate :</b> Introduction - Climate Definition – Classification – Climatic regions – Climate Assessment - Ecosystem - Natural resources and its managements				
Unit - II	<b>Components of Climate :</b> Climatic differentiation for avian production - Micro and Macro climate – Temperature - Temperature zones - Air-composition - Speed and Movement - Relative humidity and Light - Climatic factors affecting poultry production in housed conditions				
Unit - III	<b>Effect of Season on Poultry:</b> Seasonal management of birds - Summer - Winter and Monsoon - Measuring and assessing temperature - Introduction of natural heat resistant breeds/ varieties/ strains to suit different climate regions of India – Agro-meteorology and weather forecasting for poultry				
Unit - IV	<b>Seasonal Management:</b> Alleviating measure during extreme climatic conditions – Housing management - Feeding management - Water management- Medication procedures - Climatic adaptation measures and disaster management.				
Unit - V	<b>Pollution and Disaster Management:</b> Environmental pollution - Air pollution - Water pollution - Solid waste pollution - Noise pollution - Soil pollution - Radioactive pollution - Control of environmental pollution - Natural Disasters - Meaning, types and effect - Floods - Drought - Cyclone - Earthquakes - Landslides - Avalanches - Volcanic eruptions - Heat and cold Waves - Man-made disasters - Nuclear disasters - Biological disasters				
<b>Reference and Text books:</b> Pravinkumar, 2021. <i>Fundamentals of Ecology and environment</i> , 2 <sup>nd</sup> Edition. Pathfinders publications Erach Bharucha, 2015. <i>Text book of Environmental studies for Undergraduate courses</i> .Alfa Publications, New Delhi Subrat Roy, 2021. <i>Environmental Science</i> , 1 <sup>st</sup> Edition, ISBN 978939505400 Cunningham, Mary Cunningham, 2017. <i>Principles of Environmental Science</i> , 4 <sup>th</sup> Edition, Mc GrawHulEducatinal publications S P Singh, JS Singh, 2017. <i>Ecology. Environmental Science and Conservation</i> . S.Chand CGIU & Company, New Delhi Rajesh Dhankhar, <i>Environmental studies</i> , 2020, Daya publishig house, Delhi. Dr. Radha, 2015. <i>Environmental studies</i> , Prasanna publishers and distributors.					
Outcome:	On successful completion of the course, the students could 1. Understand the importance climatology 2. Acquire knowledge on types of pollution affecting the environment				

	3. Understand the impact of global warming on the earth 4. Acquire knowledge on micro environment on poultry production 5. Gain knowledge on disaster management
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### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	3	3	3	2	1	3	1	1	1
C02	1	1	3	1	2	2	1	2	2	1
C03	3	2	2	2	2	3	2	2	2	3
C04	2	2	2	3	2	2	1	3	2	3
C05	2	2	2	3	2	3	3	2	3	3
W. AV	2.0	2.0	2.4	2.4	2.0	2.2	2.0	2.0	2.0	2.2

**3 – Strong, 2 – Medium, 1 - Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PO1	PO2	PO3	PO4	PO5
C01	2	3	2	2	3
C02	1	2	3	3	1
C03	3	2	2	2	2
C04	3	2	2	3	3
C05	3	3	2	2	1
W. AV	2.4	2.4	2.2	2.4	2.0

**3 – Strong, 2 – Medium, 1 - Low**

Semester III					
ALLIED		Practical in Climatology and Poultry Production	Credits	H/W	T/P
Course Code:	80137		2	3	P
Objectives	1.To understand the overview of climatology 2. To acquire knowledge on measurement of climatic components 3. To understand the environmental pollutions 4. To provide in depth knowledge thermal influence of poultry 5. To provide in depth knowledge on disaster management				
1.	Comfort zone of poultry production				
2.	Measurement of microenvironment				
3.	Lighting programme for commercial broilers, layers and breeders				
4.	Summer management of poultry				
5.	Litter Management in winter and monsoon				
6.	Thermal resistant breeds of chicken				
7.	Visit to Agro meteorology station				
8.	Weather forecasting system				
9.	Water quality assessment				
10.	Disaster management implications				
Outcome:	On successful completion of the course, the students could 1. Understand the broiler industry status of our country 2. Acquired in depth knowledge broiler farm bio security and shed preparation 3. Understand the production management of broilers 4. Understand the importance and methods of broiler performance assessment 5. Better knowledge on the broiler production and marketing				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	2	3	2	2	3	2	2	3	3
C02	1	2	3	1	2	1	3	2	3	3
C03	2	2	3	2	2	3	3	1	2	2
C04	3	1	3	3	2	1	2	3	1	3
C05	3	3	3	2	3	2	2	2	3	2
W. AV	2.2	2	3.0	2	2.2	2.0	2.4	2.0	2.4	2.6

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	2	2	3	2	2
C02	1	2	3	1	2
C03	2	2	3	2	2
C04	3	1	3	3	2
C05	3	3	3	2	3
W.AV	2.2	2	3.0	2	2.2

**3- Strong, 2- Medium, 1- Low**

Semester III					
SEC		Entrepreneurship	Credits	H/W	T/P
Course Code:	80138		2	2	P
Objectives	<div><div>1.</div><div>To enable the students to understand the concept of Entrepreneurship and to learn the professional behaviour about Entrepreneurship.</div><div>2.</div><div>To identify significant changes and trends which create new business opportunities?</div><div>3.</div><div>To analyse the institutional arrangement for potential business opportunities.</div><div>4.</div><div>To provide conceptual exposure on converting ideas to an women entrepreneurship</div></div>				
Unit - I	Entrepreneur-Meaning-Importance-Definition-Types-Functions-Qualities of an Entrepreneur-Entrepreneurship as a career.				
Unit - II	Business Promotion- Product selection - Form of ownership-Plant location-land, building, water and power, raw material, machinery, power and other infrastructural facilities- Licensing, registration and local byelaws.				
Unit - III	Institutional arrangements for entrepreneurship development-DIC,SIDCO,NSIC,SISI -Institutional finance to entrepreneurs-TIIC,SIDBI,Commercial banks-Incentives to small scale industries.				
Unit - IV	Project report -Meaning and importance-Project report-Format of are port (as per requirements of financial institutions)-Project appraisal-Market feasibility-Technical feasibility- Financial feasibility and economic feasibility-Breakeven analysis.				
Unit - V	Entrepreneurship development in India-Women entrepreneurship in India-Sickness in small scale industries and their remedial measures.				
References					
Entrepreneurship and Management of Small business - Centre for Entrepreneurship Development, Madurai Joseph Paul, N. Ajit kumar and T.Mampilly. Entrepreneurship development. Himalayan Publishing House. Khan, M.A. Entrepreneurship Development Programmes in India. Kanishka Publishing House, Delhi Saravanel, P. (1997). Entrepreneurial Development. Ess Pee kay Publishing House, Chennai. Vasant Desai. Dynamics of Entrepreneur Development and Management. Himalayan Publishing House.					
Outcome:	<div>After studied, the student will be able to</div> <div><div>1.</div><div>To understand the significance of entrepreneurship and entrepreneur qualities.</div><div>2.</div><div>To know about the developing ideas and techniques of business.</div><div>3.</div><div>To understand about the procedures of startup.</div><div>4.</div><div>To identify the institutional support provided to entrepreneurs.</div><div>5.</div><div>To analyse the women entrepreneurship development</div></div>				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	3	3	2	3	2	2	3	3	2	2
C02	2	2	2	1	3	2	3	3	3	2
C03	1	3	3	3	3	1	2	2	3	3
C04	2	3	2	1	2	3	1	3	2	2
C05	2	2	3	2	2	2	3	2	3	3
W. AV	2.0	2.6	2.4	2.0	2.4	2.0	2.4	2.6	2.6	2.4

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	2	3	2	3	2
C02	2	2	3	2	2
C03	2	1	2	3	3
C04	2	2	3	3	2
C05	2	2	1	2	3
W.AV	2.0	2.0	2.2	2.6	2.4

**3- Strong, 2- Medium, 1- Low**

Semester IV					
T/ OL		தமிழும்அறிவியலும்	Credits	H/W	T/P
Course Code:	80141T		3	4	T
Objectiv es	<ul style="list-style-type: none"><li>தாய்மொழிவழியாகஅறிவியல்பற்றியசிந்தனைகளைவளர்த்தல்,</li><li>அறிவியல்கலைச்சொல்லாக்கம்பற்றிப்பயிற்றுவித்தல்.</li><li>மாணவர்களுக்குஅறிவியல்பார்வையைஏற்படுத்துதல்.</li><li>தமிழில்அறிவியல்படைப்பிலக்கியங்களைஉருவாக்கத்தூண்டுதல்.</li><li>தமிழ்இலக்கியம்சார்ந்தபோட்டித்தேர்வுகளுக்குஏற்பகற்பித்தல்நடைமுறைகளைமேற்கொள்ளுதல்.</li></ul>				
Unit - I	<b>தமிழரின்அறிவியல்சிந்தனைகள்</b> <ul style="list-style-type: none"><li>அறிவியலும்மனிதவாழ்வும்.</li><li>ஐந்திணைப்பகுப்பும்குழலியலும்.</li><li>தொழில்நுட்பமேலாண்மை.</li><li>நீர்நிலமேலாண்மை</li></ul>				
Unit - II	<b>பழந்தமிழ்இலக்கியங்களில்அறிவியல்சிந்தனைகள்</b> <ol style="list-style-type: none"><li>நிலவியல்.</li><li>உலோகவியல்</li><li>வாளவியல்</li><li>உயிரியல்</li><li>உளவியல்</li></ol>				
Unit - III	<b>இடைக்காலஇலக்கியங்களில்அறிவியல்சிந்தனைகள்</b> <ol style="list-style-type: none"><li>காப்பியங்களில்அறிவியல்</li><li>சிறுநிலக்கியங்களில்அறிவியல்</li><li>உரைநூல்களில்அறிவியல்</li></ol>				
Unit - IV	<b>இணையத்தமிழ்</b> <ol style="list-style-type: none"><li>இணையத்தமிழ்பயன்பாடுஅறிமுகம்</li><li>இணையத்தமிழ்க்கல்விக்கழகம்</li><li>இணையநூலகம்</li><li>செயற்கைநுண்ணறிவியல்</li><li>தமிழ்நாட்டுஅறிவியல்ஆளுமைகள்</li></ol>				
Unit - V	<b>கடிதம்எழுதுதலும்கட்டுரைஎழுதுதலும்</b> உறவுமுறைக்கடிதப்பயிற்சி. <ol style="list-style-type: none"><li>அலுவலகக்கடிதப்பயிற்சி</li><li>விண்ணப்பப்படிவம்எழுதும்பயிற்சி</li><li>தன்விவரப்படிவம்எழுதும்பயிற்சி</li><li>கருத்துவிளக்கக்கட்டுரைகள்எழுதும்பயிற்சி</li><li>பத்திரிகைகளுக்குக்கட்டுரைஎழுதும்பயிற்சி</li></ol>				
<b>References:</b> <ol style="list-style-type: none"><li>அறிவியல்தமிழ்இன்றையநிலை - இராதாசெல்லப்பன், உலகத்தமிழாராய்ச்சிநிறுவனம், சென்னை,</li><li>மணவைமுஸ்தபா, தமிழில்அறிவியல்படைப்பிலக்கியம், மணவைபப்ளிகேஷன், சென்னை.</li></ol>					

- 3.கலைச்சொல்லாக்கம் - மங்கை, சங்கராசபுரம், சென்னை.
- 4.தமிழர்வேளாண்மைமரபுகள் - இல),செ.கந்தசாமி
- 5.சங்கஇலக்கியத்தில்வேளாண்சமுதாயம், பெ.மாதையன், நியூசெஞ்சுரிபுக்ஹவுஸ்.
- 6.தமிழில்அறிவியல்இதழ்கள்சாமுவேல்ரா.பார்வேந்தன்ஃபிஷ்கிறீன்பதிப்பகம், கோவை.7.அறிவியல்தமிழ் - பதிப்பாசிரியர்இராதாசெல்லப்பன்,பாரதிதாசன்பல்கலைக்கழகம், திருச்சிராப்பள்ளி,
- 8.இணையத்தமிழ்வரலாறு, மு.பொள்ளவைக்கோ, பாரதிதாசன்பல்கலைக்கழகம்.
- 9.இணையத்தமிழ், சந்திரிகாசுப்பிரமணியம் - சந்திரோதயம்பதிப்பகம்.
- 10.இணையமும்இனியதமிழும் - துரை, மணியரசன், இசைபதிப்பகம்.
- 11.கணினித்தமிழ், இல. சுந்தரம் - விகடன்பிரசுரம்.
- 12.மாண்புமிகுமண், பாமயன், வம்சிபுக்ஸ்.
- 13.தமிழ்இலக்கியத்தில்அறிவியல்சிந்தனைகள்வானதிபதிப்பகம், சென்னை.

<b>Outcome:</b>	<ul style="list-style-type: none"> <li>• தாய்மொழிவழியாகஅறிவியல்பற்றிச்சிந்திக்கும்திறன்பெற்றிருப்பர்.</li> <li>• அறிவியல்கலைச்சொல்லாக்கம்பற்றியவிதிகள், நுணுக்கங்களைத்தெரிந்திருப்பர்.</li> <li>• அறிவியல்தமிழ்வளர்ச்சியில்மொழிபெயர்ப்பின்பங்குகுறித்துஅறிந்திருப்பர்.</li> <li>• மொழியறிவோடுசித்தனைத்திறனைப்பெறுவர்.</li> <li>• மொழிப்பயிற்சிக்குத்தேவையானஇலக்கணங்களைக்கற்பர்.</li> </ul>
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Semester IV					
Tamil / OL /		Hindi	Credits	H/W	T/P
Course Code:	80141H	हिन्दीभाषाऔरकंप्यूटर	3	4	T
Objectives	<ol style="list-style-type: none"> <li>1. कंप्यूटरकेबारेमेंहिन्दीमेंजानकारीदेना</li> <li>2. प्रौद्योगिकहिन्दीकाविकाससमझना</li> <li>3. ई-लर्निंगकेपहलुओंपरप्रकाशडालना</li> <li>4. तकनीकीसंसाधनोंकाइस्तेमालकरतेहुएहिन्दीकाप्रयोग</li> </ol>				
Unit - I	कंप्यूटरऔरहिन्दी : * कंप्यूटरकापरिक्वयऔरविकास * कंप्यूटरमेंहिन्दीकेविविधफ़ॉण्ट				
Unit - II	प्रौद्योगिकऔरहिन्दी : * यूनिकोड * देवनागरीलिपि * हिन्दीकीविभिन्नवेबसाइट				
Unit - III	कंप्यूटरकेमाध्यमसेहिन्दीशिक्षणऔरई-लर्निंग : * विभिन्नई-लर्निंसंसाधन * सरकारीऔरगैरसरकारीसंस्थाओंमेंप्रयुक्तहिन्दीभाषा				
Unit - IV	विविधपक्ष : * इंटरनेटपरहिन्दीपत्र-पत्रिकाएँ * हिन्दीएस.एम.एस. * हिन्दीटंकण * हिन्दीकेविभिन्नकी-बोर्ड				
Unit - V	प्रतियोगीपरीक्षापरआधारितकंप्यूटरसंबन्ध : *हिन्दीमेंपवरपाइंटबनाना *हिन्दीमेंगूगलडाक्यूमेंटतैयारकरना * हिन्दीमेंगूगलफ़ॉर्मतैयारकरना * विभिन्नपरीक्षाओंकेबारेमेंसूचनाप्रदानदेना।				
References	<ol style="list-style-type: none"> <li>1. सोशलनेटवर्किंग : नएसमयकासंवाद - संपा. संजयद्विवेदी</li> <li>2. जनसंचारऔरमासकल्चर - जगदीश्वरचतुर्वेदी</li> <li>3. मीडिया : भूमंडलीकरणऔरसमाज - संपा. संजयद्विवेदी</li> <li>4. नएजमानेकीपत्रकारिता- सौरभशुक्ला</li> <li>5. पत्रकारितासेमीडियातक - मनोजकुमार</li> </ol>				
Outcome:	<ol style="list-style-type: none"> <li>1. हिन्दीमेंकंप्यूटरशब्दावलीकाज्ञानप्राप्तकरना।</li> <li>2. देवनागरीलिपिऔरयूनिकोडकाअंतरजाननाऔरकंप्यूटरमेंप्रयोगकरना</li> <li>3. विभिन्नसंस्थानोंमेंप्रयुक्तहिन्दीकीजानकारीदेना।</li> <li>4. ई-पत्र-पत्रिकाओंकोआसानीसेपढलेना।</li> <li>5. प्रतियोगीपरीक्षाओंकेबारेमेंसमझना।</li> </ol>				

Semester IV					
E		English	Credits	H/W	T/P
Course Code:	80142	General English - IV	3	4	T
Objectives	1. To help learners imbibe goal-setting attitude. 2. To enable them to understand the value of integrity. 3. To help them deal with emotions. 4. To teach the learners to frame sentences using tenses. 5. To enhance reporting skills.				
Unit - I	<b>Goal Setting (UNICEF)</b> <b>Life Story</b> 1.1 From Chinese Cinderella – Adeline Yen Mah 1.2 Why I Write - George Orwell <b>Short Essay</b> 1.3 On Personal Mastery – Robin Sharma 1.4 On the Love of Life – William Hazlitt				
Unit - II	<b>Integrity</b> <b>Short Story</b> 2.1 The Taxi Driver – K.S. Duggal 2.2 Kabuliwala - Rabindranath Tagore 2.3 A Retrieved Reformation – O Henry <b>Extract from a play</b> 2.4 The Quality of Mercy (Trial Scene from the Merchant of Venice - Shakespeare)				
Unit - III	<b>Coping With Emotions</b> <b>Poem</b> 3.1 Pride – Dahlia Ravikovitch 3.2 Phenomenal Woman – Maya Angelou <b>Reader's Theatre</b> 3.3 The Giant's Wife A Tall Tale of Ireland – William Carleton 3.4 The Princess and the God : A Tale of Ancient India				
Unit - IV	<b>Language Competency Sentences</b> 4.1 Simple Sentences 4.2 Compound Sentences 4.3 Complex Sentences <b>Direct and Indirect Speech</b>				
Unit - V	<b>Report Writing</b> 5.1 Narrative Report 5.2 Newspaper Report <b>Drafting Speeches</b> <b>5.3 Welcome Address</b> 5.4 Vote of Thanks				
<b>References</b> <b>Text Books (Latest Editions)</b> Oxford Practice Grammar , John Eastwood, Oxford University Press Cambridge Grammar of English , Ronald Carter and Michael McCarthy George Orwell Essays, Penguin Classics <b>Web Resources</b> <a href="http://www.gradesaver.com/George-orwell-essays/study/summary">http://www.gradesaver.com/George-orwell-essays/study/summary</a>					

O' Henry. A Retrieved Reformation.

[https://americanenglish.state.gov/files/ae/resource\\_files/a-retrieved-reformation.pdf](https://americanenglish.state.gov/files/ae/resource_files/a-retrieved-reformation.pdf)

Maya Angelou. Phenomenal Woman.

<https://www.poetryfoundation.org/poems/48985/phenomenal-woman>

The Quality of Mercy, <https://poemanalysis.com>

<https://www.oxfordscholarlyeditions.com/display/10.1093/actrade/9780199235742.book.1/actrade-9780199235742-div1-106-William-Hazlitt>

**1/actrade-9780199235742-div1-106- William Hazlitt**

**Outcome:**

On completion of this course, students will

1. Determine their goals
2. Identify the value of integrity.
3. Deal with emotions.
4. Frame grammatically correct sentences
5. Write cohesive reports.

Semester IV						
CC/DSE/NME/ SEC		Core Course		Credits	H/W	T/P
Course Code:	80143	Commercial Broiler Chicken Production Management		4	4	T
Objectives	1. To understand the overview of broiler industry 2. To know the care and management of broiler chicks 3. To understand the feeding management of broilers 4. To provide in depth knowledge broiler production performance 5. To provide in depth knowledge on broiler marketing					
Unit - I	<b>Broiler Industry:</b> Terminology in broiler production - Overview of broiler industry - Per capita consumption - System of commercial broiler rearing - All in-all out and multiple batch system - Broiler integration - Commercial strains of broiler - Broiler farm plan, Layout and construction					
Unit - II	<b>Broiler Chicken Management:</b> Broiler Farm Bio security - Preparation of house to receive day old chicks – Curtain arrangement - Brooder arrangement - Shed ready - Chick receiving- Brooding – Brooding equipment - Chick comfort - Crop score assessment – Equipment in broiler rearing - Feeding management – Watering management – Curtain management - Litter management – Lighting management – Body weight monitoring - Medication and vaccination of broilers					
Unit - III	<b>Broiler Feeding:</b> Nutrient requirements of broilers – Types of broiler feed - Feeding management – Physical form of feed – Mash, Crumble, Pellet. - Water management – Water Quality and Sanitation – Pipeline and Tank Cleaning- Feeder and Drinker maintenance - Seasonal management of broilers - Summer, Winter and Monsoon management					
Unit - IV	<b>Performance Assessment:</b> Performance monitoring – Weekly growth rate - Feed conversion Ratio(FCR) and Livability - European Efficiency Factor(EEF) - Production Cost - Converted Feed Conversion Ratio (CFCR) - Day gain – Mean age – Record maintenance in broiler production					
Unit - V	<b>Marketing:</b> Birds Lifting - Lifting Efficiency - Customer complaints handling - Broiler marketing – Types of broiler marketing – Marketing channel - Different Ways (Wet Marketing and Processed Chicken) of marketing of broiler – Role of government and NGOs, BCC, NMPPB on broiler marketing - Transport of broiler - Customer Relationship Management – Challenges and suggestions in broiler marketing					
<b>Reference and Text books:</b> Narahari D., and Kumararaj R., 2008. <i>Handbook of applied Broiler Production</i> . 1 <sup>st</sup> Edition. Poultry Punch Publication (I) Pvt. Ltd, New Delhi. Charles Burr, T., and Stuart O. Homer, 2011. <i>Commercial Poultry Farming</i> . 1 <sup>st</sup> Edition. Biotech Books, New Delhi. Jadhav N. V., and Siddique M. F., 2007. <i>Handbook of Poultry Production and Management</i> . 2 <sup>nd</sup> Edition. Jaypee Brothers Medical Publishers Pvt. Ltd, New Delhi. Bell D. Donald and Weaver D. William Jr., 2007. <i>Commercial Chicken Meat and Egg Production</i> . 5 <sup>th</sup> Edition. Springer India Pvt. Ltd, Noida. Sreenivasaiah.,P. V., 2015. <i>Textbook of Poultry Science</i> . 1 <sup>st</sup> Edition. Write & Print Publications, New Delhi						

Suguna Management System: *Standard Operating Manual – Broiler, 2012*. Suguna Foods Pvt. Ltd.

<b>Outcome:</b>	<p>On successful completion of the course, the students could</p> <ol style="list-style-type: none"> <li>1. Understand the broiler industry status of our country</li> <li>2. Acquire in depth knowledge broiler farm bio security and shed preparation</li> <li>3. Understand the production management of broilers</li> <li>4. Gain knowledge on the importance of broiler production performance</li> <li>5. Gain knowledge on the broiler production and marketing</li> </ol>
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### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	3	2	3	1	3	3	2
CO2	3	2	3	2	2	2	2	2	3	3
CO3	1	3	3	3	3	3	2	3	3	2
CO4	2	3	3	3	2	2	3	3	3	3
CO5	3	2	3	2	3	3	3	3	2	3
W. AV	2.2	2.6	3.0	2.6	2.4	2.6	2.2	2.8	2.8	2.6

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	3	2
CO2	3	2	3	2	2
CO3	1	3	3	3	3
CO4	2	3	3	3	2
CO5	3	2	3	2	3
W.AV	2.2	2.6	3.0	2.6	2.4

**3- Strong, 2- Medium, 1- Low**

Semester IV					
CC/DSE/NME/ SEC		Core Course	Credits	H/W	T/P
Course Code:	80144	Poultry Diseases, Flock Health and Bio security	4	4	T
Objectives	1. To provide in depth knowledge on flock health and farm biosecurity 2. To understand the control measures of bacterial and viral diseases of poultry 3. To have an in depth knowledge on parasitic diseases preventive measures 4. To provide in depth knowledge poultry disease diagnostic methods 5. To understand the vaccines and vaccination in poultry production				
Unit - I	<b>Viral Diseases:</b> Introduction – Important terminology - Classification of poultry diseases - Viral Diseases – Etiology – Signs and lesions - Morbidity and Mortality - Diagnosis - Differential diagnosis - Treatment - Prevention and Control – Ranikhet Disease - Mareks’ Disease - Avian Influenza - Infectious Bursal Disease - Infectious Bronchitis and Infectious Laryngo Tracheitis and Fowl Pox				
Unit - II	<b>Bacterial Diseases:</b> Bacterial Diseases – Etiology - Transmission - Signs and lesions - Morbidity and Mortality - Diagnosis - Treatment - Prevention and control - Colibacillosis - Mycoplasmosis - Salmonellosis - Fowl cholera and Infectious Coryza				
Unit - III	<b>Parasitic and Mycotic Diseases:</b> Parasitic diseases – Ecto and Endo parasites - Protozoan infection – Coccidiosis - Fungal diseases - Aspergillosis - Mycotoxicosis – Aflatoxicosis and Ochratoxicosis - Nutritional deficiency disease and Metabolic diseases of poultry				
Unit - IV	<b>Flock Health:</b> Bio security – Farm fencing - General farm hygiene - Fly and rodent control- Sanitation procedures – Quarantine - Isolation - Shed cleaning and disinfection procedures - Water sanitation – Sanitizers - Disinfection - Types of disinfectants - Precaution and handling – Fumigation				
Unit - V	<b>Medication and Vaccination:</b> Medication – Types of administration of medicines – General principles and practices of feed and water medication - Types and Methods of vaccination - Pre and post vaccination care - Vaccination schedule for breeder, layer and broilers				
<b>Reference and Text books:</b> Susan E. Aiello and Michael a. Moses, 2014. <i>Merck Veterinary Manual</i> . 11 <sup>th</sup> Edition. Merck Vet Manual. Saif, Y. M., <i>et al.</i> , 2013. <i>Diseases of Poultry</i> . 12 <sup>th</sup> Edition. Blackwell Publishing, USA. Bell D. Donald and Weaver D. William Jr., 2007. <i>Commercial Chicken Meat and Egg Production</i> . 5 <sup>th</sup> Edition. Springer India Pvt. Ltd., Noida. Vegad J. L., 2004. <i>Poultry Diseases: a guide for farmers and poultry professionals</i> . 2 <sup>nd</sup> Edition. International Book Distributing Co., Lucknow, UP. Sreenivasaiah, P. V., 2015. <i>Textbook of Poultry Science</i> . 1st Edition. Write & Print Publications, New Delhi Thyagarajan. D., 2011. <i>Diseases of Poultry</i> . 1 <sup>st</sup> Edition. Satish Serial Publishing House, New Delhi, India. Narahari D., and Kumararaj R., 2008. <i>Handbook of applied Broiler Production</i> . 1st Edition. Poultry Punch Publication (I) Pvt. Ltd., New Delhi.					
Outcome:	On successful completion of the course, the students could 1. Acquire knowledge on the poultry diseases and bio security measures 2. Acquired in depth knowledge poultry disease diagnosis				

	3. Understand the impact of fungal and nutritional deficiency diseases 4. Gain knowledge on disease preventive measures 5. Gain knowledge on poultry vaccination procedures
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### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	3	2	3	3	2	2	3	2	3	1
C02	2	2	2	1	1	3	2	3	2	3
C03	3	3	3	3	2	3	3	2	1	2
C04	3	2	2	2	3	2	2	2	2	3
C05	3	2	3	3	2	1	3	1	2	2
W. AV	2.8	2.2	2.6	2.4	2	2.2	2.6	2	2.0	2.2

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	3	1	3	3	2
C02	2	2	2	3	3
C03	3	2	3	3	2
C04	2	3	3	3	3
C05	3	3	3	2	3
W.AV	2.6	2.2	2.8	2.8	2.6

**3- Strong, 2- Medium, 1- Low**

Semester IV					
CC/DSE/NME/ SEC		Core Course	Credits	H/W	T/P
Course Code:	80145	<b>Practical in Broiler Management and Poultry Diseases</b>	<b>3</b>	<b>5</b>	<b>P</b>
<b>Objectives</b>	1. To understand the diseases of poultry and its control measures 2. To know the poultry farm biosecurity measures 3. To Impart knowledge on vaccination of poultry 4. To provide in depth knowledge on broiler housing and equipment 5. To understand the commercial broiler production				
1.	Design, layout and construction of broiler farming				
2.	Brooding equipment and brooding arrangements for broiler chicks				
3.	Litter materials, quality and its management				
4.	Performance Assessment of commercial broilers				
5.	Post-mortem examination of chicken				
6.	Vaccination and medication methods and procedures				
7.	Visit to broiler farm				
8.	Biosecurity and personal safety measures				
9.	Water sanitation methods and drinker maintenance				
10.	Carcass disposal methods				
<b>Outcome:</b>	On successful completion of the course, the students could 1. Understand the poultry diseases and its control measures 2. Acquire in depth knowledge on poultry farm bio security measures 3. Understand the commercial broiler production 4. Understand the importance of vaccination and medication 5. Better knowledge on broiler farm performance assessment				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	3	3	2	3	2	1	2	3
CO2	3	3	3	2	3	2	3	2	3	3
CO3	1	1	3	2	2	3	2	2	2	3
CO4	3	2	3	3	2	2	3	2	3	3
CO5	3	2	3	2	3	2	3	3	2	3
W. AV	2.4	2.0	3.0	2.4	2.4	2.4	2.6	2	2.4	3.0

**3- Strong, 2- Medium, 1- Low**



### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	3	2	1	2	2
C02	3	3	3	3	3
C03	2	2	2	3	2
C04	3	3	3	3	3
C05	3	3	2	3	3
W.AV	2.8	2.6	2.2	2.8	2.6

**3- Strong, 2- Medium, 1- Low**

Semester IV					
CC/DSE/NME/ SEC		Allied Course	Credits	H/W	T/P
Course Code:	80146	Poultry Processing and Waste Management	3	3	T
Objectives	1.To understand the overview of chicken egg and meat processing 2. To know about the quality characteristics of table eggs 3. To understand the egg processing technology 4. To provide in depth knowledge broiler meat processing and quality control 5.To provide in depth knowledge on poultry waste management				
Unit - I	<b>Egg Quality:</b> Chicken Egg – formation and structure – Nutritional and Functional characteristics of eggs - Internal and external quality of eggs - Preservation of table eggs- Grading of table eggs				
Unit - II	<b>Egg Processing:</b> Egg processing – Importance of egg processing – Plan, layout and design of egg processing plant – Principles involved in Egg powder production – Stages in egg Powder preparation –Egg desugrization - Pasteurization - Types of egg powder - Quality Control measures – Packaging of egg powder				
Unit - III	<b>Poultry Meat Processing:</b> Introduction to poultry meat processing – Plan, layout and design of poultry processing plant – Equipment used in poultry processing plant – Transporting of broilers – Methods of slaughter – Ante-mortem Inspection- Steps Involved in chicken Processing – Dressing percentage - Carcass Grading – Cut-up-parts – Chilling - Freezing and Packaging of poultry meat				
Unit - IV	<b>Quality Control of Poultry Products:</b> Meat spoilage and Quality deterioration – Packaging of meat – Materials used in packaging of meat – Modern trends in packaging of poultry meat – Quality preservation and transportation of Poultry meat - HACCP concept on slaughter management - Codex regulation for food products safety - Regulations for import and export of poultry products				
Unit - V	<b>Waste Management:</b> Introduction – Types of waste from poultry industry and their utility - Design and layout of rendering plant - Liquid waste management and effluent treatment plant - Hatchery waste management - Composition of poultry manure – Recycling of poultry manure - Bio gas generation – Bio gas plant - Composting and Power generation - Dead bird disposal and Bio-hazards of Poultry waste				
<b>Reference and Text books:</b> Mountney J. George and Parkhurst R. Carmen, 2001. <i>Poultry Products Technology</i> . 1 <sup>st</sup> Edition. The Harwoth Press Inc., USA. Narahari D., and Kumararaj R., 2008. <i>Handbook of Applied Broiler Production</i> . 1 <sup>st</sup> Edition. Poultry Punch Publication (I) Pvt. Ltd, New Delhi, India. NIIR Board of Consultants & Engineers. <i>Preservation of Meat and Poultry Products</i> . 1 <sup>st</sup> Edition. Asia Pacific Business Press Inc., New Delhi. Bell D. Donald and Weaver D. William Jr., 2007. <i>Commercial Chicken Meat and Egg Production</i> . 5 <sup>th</sup> Edition. Springer India Pvt. Ltd, Noida. Mahendra Kumar, <i>Waste disposal systems in slaughterhouse suitable for developing countries, 2011</i> ,Dya publishing house, Delhi.					

Alan R Sams Ph.D, *Poultry Meat Processing*, Washington Crc Press  
 Dr. Thulasi, Dr. V.Appa Rao, Dr. T. Santhil Kumar, *Hygienic Meat Handling System*, 2008, Directorate Of Extension Education, Chennai.  
 George J Mountney Ph.D, Carmen R Parkhurst Ph.D, *Poultry Products Technology* 3<sup>rd</sup> Edition (2001), Viva Books Pvt. Ltd, New Delhi  
 Mahendra Kumar, *Waste disposal systems in slaughterhouse suitable for developing countries*, 2011, Daya publishing house , Delhi

<b>Outcome:</b>	On successful completion of the course, the students could 1. Understand the broiler and table egg processing 2. Acquire in depth knowledge on grading and quality characteristics of Table eggs 3. Understand the broiler meat processing technology 4. Understand the importance of broiler meat quality control 5. Gain knowledge on the poultry farm waste management
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### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	3	2	3	3	3	3	3	2
CO2	3	2	2	2	2	3	3	3	2	3
CO3	3	2	2	2	2	3	3	3	3	3
CO4	3	1	1	2	2	3	3	3	2	3
CO5	3	3	2	2	1	3	3	3	3	3
W. AV	2.8	2	2.0	2.0	2.0	3.0	3.0	3.0	2.6	2.8

3- Strong, 2- Medium, 1- Low

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	2	1	2	3
CO2	3	3	3	2	3
CO3	2	3	2	2	2
CO4	2	3	3	1	2
CO5	2	3	1	3	1
W.AV	2.0	2.8	2.0	2.0	2.2

3- Strong, 2- Medium, 1- Low

Semester IV					
CC/DSE/NME/ SEC		Allied Course	Credits	H/W	T/P
Course Code:	80147	Practical in Poultry Processing and Waste Management	2	4	P
<b>Objectives</b>	1.To understand the overview of egg and meat processing 2. To know about the quality characteristics of table eggs 3. To understand the egg processing technology 4. To provide in depth knowledge broiler meat processing and quality control 5. To provide in depth knowledge on poultry waste management				
1.	External and internal quality assessment of chicken egg				
2.	Grading of table eggs				
3.	Ante mortem inspection of broilers				
4.	Processing of broiler chicken				
5.	Visit to egg processing plant				
6.	Visit to poultry processing plat				
7.	Visit to rendering plant				
8.	Poultry farm waste management				
9.	Visit to hatchery unit				
10.	Visit to bio gas production unit				
<b>Outcome:</b>	On successful completion of the course, the students could 1. Understand the broiler and table egg processing 2. Acquire in depth knowledge table egg grading and quality 3. Understand the broiler meat processing technology 4. Understand the importance of broiler meat quality control 5. Gain knowledge on the poultry farm waste management				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	2	2	2	3	3	2	1
CO2	2	2	3	1	1	1	3	2	2	2
CO3	2	2	3	3	3	3	3	3	3	2
CO4	2	2	3	3	2	3	2	3	2	2
CO5	2	1	3	3	2	2	3	3	1	3
W. AV	2.0	2.0	3.0	2.4	2.0	2.2	2.8	2.8	2.0	2

3- Strong, 2- Medium, 1- Low

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	2	2	3	3	2
C02	3	2	3	3	3
C03	3	1	2	2	3
C04	2	3	1	3	2
C05	2	2	3	2	3
W.AV	2.4	2.0	2.4	2.6	2.6

**3- Strong, 2- Medium, 1- Low**

### Semester V

CC/DSE/NME/ SEC		Core Course	Credits	H/W	T/P
Course Code:	80151	Commercial Layer Chicken Production Management	4	4	T
Objectives	1. To understand the chicken layer industry 2. To know the layer commercial layer management 3. To Impart knowledge on layer housing system and its management 4. To provide in depth knowledge on identification of good and poor layer 5. To teach on the performance assessment on commercial layer Production				
Unit - I	<b>Egg Industry:</b> Terminology in layer production – Layer production status- Recent developments in layer industry - Role of National Egg Coordination Committee (NECC) - Economic traits in layers - Commercial strains of layers - Layer production - Housing system - Deep litter, Cage and Raised Platform Cage housing				
Unit - II	<b>Brooding and Growing Management:</b> Layer Farm Biosecurity - Preparation of house to receive chicks - Brooding arrangements – Brooding of chicks – Brooding equipment – Feeding and watering management – Litter management – Lighting management – Vaccinations and Medications - Cage rearing of chicks and growers – Nest box – Body weight and growth curve – Stocking density – Debeaking – Management of weak birds - Dipping and deworming				
Unit - III	<b>Laying Management:</b> Management of layers – Lighting management – Pre peak, peak, post peak management of layers – Feeding and watering management – Water sanitation - Package of practices in Cage management - Culling – Good and poor layers - Litter Management – Moulting - Medication and vaccination of layers				
Unit - IV	<b>Egg Production:</b> Egg production – Egg production curve - Collection of eggs – Storage and transport of eggs – Egg Marketing channels - Seasonal Management of layers – Summer, Winter and Monsoon management				
Unit - V	<b>Performance Assessment:</b> Performance monitoring – HDEP, HHEP – Feed Efficiency - Net feed efficiency index - Performance efficiency index - Egg, Feed price ratio-Production cost of an egg - Record maintenance - Importance of record keeping - Registers to be maintained - Visual control systems (VCS)				
<b>Reference and Text books:</b> Charles Burr, T., and Stuart O. Homer, 2011. <i>Commercial Poultry Farming</i> . 1 <sup>st</sup> Edition. Biotech Books, New Delhi. Jadhav N. V., and Siddique M. F., 2007. <i>Handbook of Poultry Production</i> Sreenivasaiah., P. V., 2015. <i>Textbook of Poultry Science</i> . 1st Edition. Write & Print Publications, New Delhi Bell D. Donald and Weaver D. William Jr., 2007. <i>Commercial Chicken Meat and Egg Production</i> . 5th Edition. Springer India Pvt. Ltd., Noida. Rajini Asha R., 2011. <i>Simply Poultry Science</i> . 1st Edition. Alfa Publications, New Delhi Jull A. Morley, 2008. <i>Poultry Husbandry</i> . 2 <sup>nd</sup> Edition. J. V. Publishing House, Jodhpur Jull A. Morley, 2007. <i>Successful Poultry Management</i> . 2nd Edition. Biotech Books, New Delhi. Hurd M. Louis, 2003. <i>Modern Poultry Farming</i> . 1st Edition. International Book Distributing					

Company, Luck now

<b>Outcome:</b>	<p>On successful completion of the course, the students could</p> <ol style="list-style-type: none"> <li>1. Understand the existing layer industry</li> <li>2. Acquire in depth knowledge on commercial layer housing management</li> <li>3. Understand the commercial layer production and table egg production</li> <li>4. Understand the importance of collection and storage of table eggs</li> <li>5. Gain knowledge on layer farm performance assessment</li> </ol>
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### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	3	2	3	3	2	1	2	2
CO2	2	2	3	2	2	3	3	3	3	3
CO3	3	2	3	2	3	2	2	2	3	2
CO4	3	2	3	3	3	3	3	3	3	3
CO5	3	3	3	2	3	3	3	2	3	3
W. AV	2.6	2.2	3.0	2.2	2.8	2.8	2.6	2.2	2.8	2.6

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	2	2
CO2	1	2	2	2	3
CO3	3	3	2	3	2
CO4	3	2	3	3	3
CO5	2	3	2	2	2
W.AV	2.2	2.6	2.4	2.4	2.4

**3- Strong, 2- Medium, 1- Low**

Semester V					
CC/DSE/NME/ SEC		Core Course	Credits	H/W	T/P
Course Code:	80152	Poultry Production Economics and Marketing	4	4	T
Objectives	1. To Understand the economics of poultry production 2. To know about the scope of financial assistance in poultry sector 3. To have an in depth knowledge on the preparation of bankable projects 4. To provide in depth knowledge on poultry marketing strategies 5. To understand the poultry insurance policy				
Unit - I	<b>Poultry Economics:</b> Commonly used terminology - <b>Micro economics – Macroeconomics</b> - Financial management - Production standards and goals in chicken production – Starting a poultry enterprise – Requirements of Financial Assistance – Cost of production of table egg, hatching egg, day-old chick, compounded feed and broilers				
Unit - II	<b>Poultry Integration:</b> Definition of integration – Concepts of integration - Types of integration – Advantages and Constraints of integration methods - Organization set up for broiler integration and layer integration – Breeder farm integration - Market integration - Role of integrator in poultry egg and meat production - Integration and rural development				
Unit - III	<b>Broiler Marketing:</b> Scope of poultry products marketing in India – Strategies of poultry marketing - Organizational structure of broilers and poultry meat marketing – BROMARK, BCC, NMPPB - Broiler live bird marketing methods – Broiler contract farming – Farmer and trader relationship management – Broiler marketing challenges and opportunities				
Unit - IV	<b>Egg Marketing:</b> EGG marketing systems - Organizational structure of egg marketing – NECC, ACIL, NAFED - Egg marketing channels – Role of traders - Challenges and opportunities on egg marketing				
Unit - V	<b>Poultry Insurance:</b> Poultry insurance – Comprehensive cover for poultry farms – Formula for determining the valuation chart for broiler and layers – Rates of premium- Procedure for claim settlement				
<b>Reference and Text books:</b> Narahari, D. <i>Poultry Projects and Economics</i> . 2005. Pixie publications (I) PVT Ltd. Mac O’ North and Bell, D. 1990. <i>Commercial chicken Production Manual</i> . 4 <sup>th</sup> Edition. Avi Pub.Co. Inc., Westport, Connecticut Bell D. Donald and Weaver D. William Jr., 2007. <i>Commercial Chicken Meat and Egg Production</i> . 5th Edition. Springer India Pvt. Ltd., Noida. Rajini Asha R., 2011. <i>Simply Poultry Science</i> . 1st Edition. Alfa Publications, New Delhi. Pranav Kumar, Amandeep Singh, <i>Handbook For Poultry Entrepreneurs, 2018</i> , Biotech Books.					
Outcome:	On successful completion of the course, the students could 1. Understand the economics of poultry production 2. Acquire in depth knowledge on the preparation of bankable projects 3. Understand the poultry marketing strategies 4. Understand the importance poultry insurance for sustainable growth 5. Gain knowledge on the financial assistance for the poultry sector				



### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	3	3	2	2	3	2	2	3	1
C02	3	3	2	1	3	2	2	3	3	2
C03	2	3	3	3	1	2	3	3	3	2
C04	3	3	2	3	2	2	3	3	3	2
C05	2	2	3	2	2	3	3	3	3	3
W. AV	2.4	2.8	2.6	2.2	2.0	2.4	2.6	2.8	3.0	2

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	2	2	3	2	3
C02	1	1	3	2	2
C03	3	2	3	2	3
C04	3	2	3	3	3
C05	3	3	3	2	3
W.AV	2.4	2	3.0	2.2	2.8

**3- Strong, 2- Medium, 1- Low**

Semester V					
CC/DSE/NME		Core Course	Credits	H/W	T/P
Course Code:	80153	Poultry Products Technology and Value Addition	4	4	T
Objectives	1. To create awareness on importance of value addition of egg and meat 2. To understand Nutritive Value of chicken egg and meat 3. To have an in depth knowledge on quality enhancement of chicken egg 4. To provide in depth knowledge products preparation from poultry meat and egg 5. To understand the quality control and prevailing laws on food products				
Unit - I	<b>Egg Quality:</b> Principle of poultry products development - Nutritive value of eggs – Internal and External Quality of eggs – Functional Property of eggs – Industrial uses of eggs – Pre ovi-positional value addition of eggs – Designer egg production – Organic Egg production				
Unit - II	<b>Egg Products:</b> Conversion of shell egg to egg products – Importance –Hard cooked eggs – Pickled eggs – Scotch eggs – Egg Salads – Fried Eggs – Scrambled Eggs – Egg roll ups – Egg drinks – Egg Snack food - Packaging of egg products				
Unit - III	<b>Poultry Meat Quality:</b> Nutritive value of chicken meat – Factors influencing Poultry meat quality- Preservation of poultry meat – Proximate composition of chicken meat – Water holding capacity – pH Value of meat – Texture profile of meat – Sensory evaluation of poultry meat				
Unit - IV	<b>Poultry Meat Products:</b> Tenderization of poultry meat –Importance of further Processing of poultry meat – Deboning – Cut-up-parts - Preparation of Ready to cook / eat poultry products - Marinating - Canned poultry meat products – Cured and smoked poultry products – Restructured meat products - Retort processing - Enrobed poultry meat products – Preservation, Packaging and Transport of poultry meat products				
Unit - V	<b>Quality Assurance:</b> Microbial safety of poultry egg and meat products – Food safety and standards Act 2006 – Licensing and registration of food business - BIS standards – Code of practices - Guidelines and standards specified in Codex Alimentarius with respect to poultry meat, egg and their products - Role of WTO, ISO, WHO and FAO, FSSAI and APEDA with emphasis to poultry meat, egg and their products – Quality and safety management system				
<b>Reference and Text books:</b> Mountney GJ. <i>Poultry Products Technology</i> . 2 <sup>nd</sup> ED. AVI Publications Kerry J, Kerry J & Ledward D. 2015. <i>Meat processing - Improving Quality</i> . Woodhead Publishing Ltd,UK. Romanoff AL & Romanoff AJ. 1999. <i>Avian Egg</i> . John Wiley & Sons publications StadelmanWL& Cotterill OJ. 2002. <i>Egg Science and Technology</i> . 4 <sup>th</sup> ED. CBS publications Alan R Samas Ph.D, <i>Poultry Meat Processing</i> , Washington CRC press. George J Mountney Ph.D, Carmen R Parkhurst Ph.D, <i>Poultry Products Technology</i> 3 <sup>rd</sup> Edition (2001), Viva Books Pvt. Ltd, New Delhi Gracey JF. 1999. <i>Thornton's Meat Hygiene</i> . 10 <sup>th</sup> Ed. WB. Saunders. Niir Board of Consultants and Engineers, <i>Preservation of Meat pnd Poultry Products</i> , Asia Pacific Business Press Inc. Kamala Nagar, Delhi.					

Dr. K Sundaresan, Dr. K Vanukopalan, Dr. K Subramanian, Dr. A Shyam Babu, *Meat and Meat Products*, Madras Veterinary College, Chennai.

Ashim Kumar Biswas, Prabhat Kumar Mandal, *Poultry, Egg and Fish Processing Technology (2014)*, Stadium Press (India) Pvt. Ltd, Darya Ganj, New Delhi.

<b>Outcome:</b>	On successful completion of the course, the students could
	1. Understand the importance of value addition of chicken egg and meat
	2. Acquire in depth knowledge on quality improvement of eggs
	3. Understand the egg products preparation and quality control
	4. Understand the importance and nutritive value of poultry meat
	5. Gain knowledge on the poultry egg and meat products quality control

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	2	2	2	3	3	3
CO2	1	2	1	2	2	2	1	3	3	2
CO3	2	1	2	1	1	2	1	3	3	2
CO4	2	3	3	3	3	2	3	3	3	2
CO5	3	3	2	3	3	3	3	3	3	3
W. AV	2.2	2.4	2.2	2.2	2.2	2.2	2.0	3.0	3.0	2.4

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	3	3
CO2	2	2	3	3	2
CO3	3	2	2	2	2
CO4	3	3	3	3	2
CO5	3	3	3	2	3
W.AV	2.8	2.4	2.6	2.6	2.4

**3- Strong, 2- Medium, 1- Low**

Semester V					
CC/DSE/NME / SEC		Core Course	Credits	H/W	T/P
Course Code:	80154	Diversified Poultry Production	4	4	T
Objectives	1. To create awareness on importance of diversified poultry production 2. To understand on the management of ducks and geese 3. To provide knowledge on turkey, quail and guinea fowl production 4. To provide in depth knowledge on emu and ostrich management 5. To understand the pet birds managerial procedures				
Unit - I	<b>Management of Ducks and Quails:</b> <b>Ducks:</b> Breeds of ducks - Incubation- Systems of rearing - Housing - Brooder management – Management of egg and meat type ducks - Feeding requirements and management – Vaccination and medication procedures <b>Japanese quail</b> – Breed / Variety characteristics - Housing system - Incubation - Brooder management – System of rearing - Feeding requirements and management – Management of egg and meat type quails				
Unit - II	<b>Management of Turkey and Guinea Fowl:</b> <b>Turkey:</b> Breeds of turkey - Incubation – Housing system - Brooder management- System of rearing - Feeding requirements and management- Production parameters – Turkey Egg and meat production systems - <b>Guinea fowl:</b> Breeds / Varieties – Housing system - Incubation - Brooder management - System of rearing and feeding requirements – Egg and meat production				
Unit - III	<b>Emu and Ostrich Management:</b> <b>Emu:</b> Housing - Brooding and Rearing management – Fold brooders – Emu paediatrics – Emu nutrition and breeder management – Nutrient requirements - Feeding systems – Sex identification – <b>Ostrich:</b> Housing and rearing systems - Hatching - Brooding - Ostrich paediatrics and rearing management – Nutrient requirements - system of feeding - Sex identification – Sex separate rearing – Products from Ostrich				
Unit - IV	<b>Management of Pet Birds:</b> <b>Love birds:</b> House design - Aviary – Perches – Breeding – Hand rearing-Choice of feed - Parrots - House design - Aviary – Perches – Breeding – hand rearing- Choice of feed. <b>Pigeon:</b> House design - Breeding – hand rearing - Choice of feed - Squab production - Crop milk				
Unit - V	<b>Disease Management and Biosecurity:</b> Diseases of ducks and its control measures - Diseases of turkey and its control measures - Diseases of quail and its control measures - Diseases of guinea fowl and its control measures – Diseases of Emu and Ostrich – Diseases of pet birds.				
<b>Reference and Text books:</b> Thyagarajan, D. Ashok, A. Rajmanohar, G and Murugan, M. 2013. <i>Emerging Opportunities in Alternative Poultry Farming Systems</i> . Satish Serial Publishing House, Delhi Einsminger, M.E. 1992. <i>Poultry Science</i> . International Book Distributing Company					
Outcome:	On successful completion of the course, the students could 1. Understand the importance diversified poultry production 2. Acquire in depth knowledge on duck egg and meat production 3. Understand the Japanese quail Management 4. Understand the importance of turkey and guinea fowl management 5. Gain knowledge on the commercial production of pet bird				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	3	1	2	2	2	2	2	2	3	3
C02	2	2	3	1	1	2	1	2	2	1
C03	3	2	3	2	3	1	3	2	3	2
C04	3	3	3	3	2	3	3	2	2	2
C05	3	3	3	3	2	3	3	2	2	3
W. AV	2.8	2.2	2.8	2.2	2.0	2.2	2.4	2	2.4	2.2

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
C01	2	2	3	2	3
C02	3	3	3	2	3
C03	2	3	2	2	2
C04	3	3	3	2	2
C05	2	3	2	3	1
W.AV	2.4	2.8	2.6	2.2	2.2

**3- Strong, 2- Medium, 1- Low**

Semester V					
CC/DSE/NME/ SEC		Core Course	Credits	H/W	T/P
Course Code:	80155	<b>Practical in Commercial Layer Management and Poultry Economics and Marketing</b>	<b>4</b>	<b>6</b>	<b>P</b>
<b>Objectives</b>	1. To understand the commercial layer maintenance 2. To know the judging of good and poor 3. To Impart knowledge on vaccination of layer breeders 4. To provide in depth knowledge on economics of poultry production 5. To understand the commercial broiler and table egg marketing channel				
1.	Plan, Layout and Design of commercial layer farm				
2.	Stocking density – floor, feeder and drinker space requirements of commercial layers				
3.	Performance standards of commercial layers				
4.	Brooding arrangements and Brooding equipment				
5.	Debeaking and deworming				
6.	Judging of good and poor layers				
7.	Vaccination of commercial layers				
8.	Record keeping in layer farm				
9.	Project preparation for commercial layers and broilers				
10.	Project preparation for breeder farm				
11.	Cost of production of broiler chicken				
12.	Cost of production of table eggs				
13.	Cost of production of hatching eggs and day old chicks				
14.	Egg marketing Channel				
15.	Broiler chicken marketing channel				
16.	Visit to integrated broiler farm				
17.	Visit to commercial layer farm				
<b>Outcome:</b>	On successful completion of the course, the students could 1. Understand the layer management and its performance 2. Acquired in depth knowledge on vaccination of layers 3. Understand the economics of poultry production 4. Understand the importance of marketing channel on egg and broilers 5. Better knowledge on layer farm economics and cost of production				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	2	3	2	2	2	2	2	3	2
C02	1	2	3	2	2	2	3	2	3	2
C03	2	3	3	2	2	2	2	2	3	2
C04	3	2	3	3	2	2	2	3	3	2
C05	3	3	3	3	3	2	3	3	3	2
W. AV	2.2	2.4	3.0	2.4	2.2	2.0	2.4	2.4	3.0	2.0

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
C01	2	2	2	3	2
C02	3	1	2	3	2
C03	2	2	1	3	2
C04	2	3	3	3	2
C05	3	3	3	3	2
W.AV	2.4	2.2	2.2	3.0	2.0

**3- Strong, 2- Medium, 1- Low**

Semester V						
CC/DSE/NME/ SEC		Core Course		Credits	H/W	T/P
Course Code:	80156	Practical in Poultry Products Technology and Diversified Poultry Production		4	6	P
Objectives	1.To understand the overview of egg and meat products technology 2. To know about the quality characteristics of table eggs and chicken meat 3. To understand the egg and meat products quality control 4. To provide in depth knowledge importance of diversified poultry production 1. To provide in depth knowledge on diversified poultry disease control Measures					
1.	Nutritive value of eggs					
2.	Grading of eggs					
3.	Functional property of eggs					
4.	Egg Products preparation					
5.	Visit to egg processing plant					
6.	Nutritive value of chicken meat					
7.	Sensory evaluation of chicken meat					
8.	Further processing of chicken meat – Cut Up Parts, Deboning, Marination					
9.	Chicken products preparation					
10.	Duck Housing requirements					
11.	Turkey housing requirement					
12.	Japanese quail housing requirement					
13.	Emu and Ostrich management procedures					
14.	Requirements of aviary					
15.	Visit to Duck, Turkey and Japanese quail farms					
16.	Visit to Emu and Ostrich farms					
17.	Visit to Pet bids aviary					
18.	Vaccination schedule for diversified poultry					
Outcome:	On successful completion of the course, the students could 1. Understand the importance of value addition of egg and meat 2. Acquire in depth knowledge on quality characteristics of chicken egg and meat 3. Understand the poultry products preparation and quality control 4. Understand the importance of diversified poultry production and Management 5. Gain knowledge on the diversified poultry disease control measures					



### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	3	3	3	2	2	1	3	2	2
C02	2	2	2	3	2	3	2	2	3	2
C03	2	2	2	3	2	2	2	1	2	2
C04	3	2	2	2	3	2	3	2	2	2
C05	2	2	1	2	3	2	3	3	2	3
W. AV	2.2	2.2	2.0	2.6	2.4	2.2	2.2	2.2	2.2	2.2

**3- Strong, 2- Medium, 1- Low**

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
C01	2	2	2	3	2
C02	2	3	2	3	2
C03	2	2	1	3	2
C04	3	2	3	3	2
C05	2	3	3	3	2
W.AV	2.2	2.4	2.2	3.0	2.0

**3- Strong, 2- Medium, 1- Low**

Semester VI					
CC/DSE/NME/ SEC		DSE	Credits	H/W	T/P
Course Code:	80161	Internship	24	30	I
Objectives	<div><div>1. To understand the poultry industry as whole</div><div>2. To provide experience in integrated broiler production and management</div><div>3. To acquire in depth knowledge in breeder farm management</div><div>4. To impart hands on training on the day old chick production and hatchery management</div><div>5. To understand the poultry disease diagnosis and control measures</div><div>6. To have an in depth knowledge on feed production technology</div></div>				
Directions	<div><div>❖ The VI semester students will be divided into groups.</div><div>❖ Each group will undergo hands on training in each of the following units in cyclic manner</div><div>❖ At the end they have to submit a detailed report of their Internship training programme by a committee constituted by University / Head of the Institute.</div><div>❖ Marks will be awarded based on the students presentation</div></div>				
	Name of unit		No. of days		
1.	Commercial Broiler units		25		
2.	Breeder units		25		
3.	Hatchery unit		25		
4.	Poultry Disease Diagnostic Laboratory		15		
5.	Feed mill unit		10		
6.	Poultry Processing unit		5		
Outcome:	<div><div>1. Understand the activities involved in poultry sector</div><div>2. Acquire knowledge on integrated broiler production, management and marketing</div><div>3. Acquire in depth knowledge in breeder farm management and hatching egg production</div><div>4. Hands on experience on day old chick production and hatchery management</div><div>5. Acquire knowledge in poultry disease diagnosis and control measures</div><div>6. Expertise in poultry feed production and feed mill technology</div></div>				

### Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	3	2	2	3	3	2	2
CO2	2	3	2	3	2	3	2	2	3	2
CO3	3	2	2	3	2	3	2	3	3	2
CO4	3	3	2	2	3	2	3	2	3	3
CO5	3	2	3	2	3	2	3	3	3	3
W. AV	2.6	2.6	2.4	2.6	2.4	2.4	2.6	2.6	2.8	2.4

3- Strong, 2- Medium, 1- Low

### Mapping Course Outcome VS Programme Specific Outcomes

CO	PS01	PS02	PS03	PS04	PS05
C01	2	2	2	3	2
C02	2	3	2	3	3
C03	2	2	3	3	3
C04	3	2	3	3	3
C05	3	3	3	3	2
W.AV	2.4	2.4	2.6	3.0	2.6

**3- Strong, 2- Medium, 1- Low**

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## **UG Programme**

### **Passing minimum**

- A candidate shall be declared to have passed in each course if he/she secures not less than 40% marks in the End Semester Examinations and 40% marks in the Internal Assessment and not less than 40% in the aggregate, taking Continuous assessment and End Semester Examinations marks together.
- The passing minimum for CIA shall be 40% out of 25 marks (i.e.10 marks) in Theory/ Practical Examinations.
- The passing minimum for University Examinations shall be 40% out of 75 marks (i.e. 30 marks) for Theory /Practical papers.
- The candidates not obtain 40% in the Internal Assessment are permitted to improve their Internal Assessment marks in the subsequent semesters (2 chances will be given) by writing the CIA tests or by submitting assignments.
- Candidates, who have secured the pass marks in the End-Semester Examination and in the CIA but failed to secure the aggregate minimum pass mark (E.S.E + C I.A), are permitted to improve their Internal Assessment mark in the following semester and/or in University examinations.
- A candidate shall be declared to have passed in the Dissertation/Project report/Internship report if he/she gets not less than 40% marks in the Internal Assessment and End Semester Examinations and not less than 40% in the aggregate, taking Continuous assessment and End Semester Examinations marks together.
- A candidate who gets less than 40% in the Dissertation / Internship/ Project Report must resubmit the thesis. Such candidates need to take again the Viva-Voce on the resubmitted report/thesis.

### **18.2 Grading of the Courses**

The following table gives the marks, Grade points, Letter Grades, and classifications meant to indicate the overall academic performance of the candidate.

Conversion of Marks to Grade Points and Letter Grade (Performance in Course / Paper)

<b>RANGE OF MARKS</b>	<b>GRADE POINTS</b>	<b>LETTER GRADE</b>	<b>DESCRIPTION</b>
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- 100	<b>9.0 – 10.0</b>	<b>O</b>	<b>Outstanding</b>
- 89	<b>8.0 – 8.9</b>	<b>D+</b>	<b>Excellent</b>
- 79	<b>7.5 – 7.9</b>	<b>D</b>	<b>Distinction</b>
- 74	<b>7.0 – 7.4</b>	<b>A+</b>	<b>Very Good</b>
- 69	<b>6.0 – 6.9</b>	<b>A</b>	<b>Good</b>
- 59	<b>5.0 – 5.9</b>	<b>B</b>	<b>Average</b>
- 49	<b>4.0 – 4.9</b>	<b>C</b>	<b>Satisfactory</b>
- 39	<b>0.0</b>	<b>U</b>	<b>Re-appear</b>
SENT	<b>0.0</b>	<b>AAA</b>	<b>SENT</b>

- Successful candidates passing the examinations and earning a GPA between 9.0 and 10.0 and marks from 90 – 100 shall be declared to have Outstanding (O).
- Successful candidates passing the examinations and earning GPA between 8.0 and 8.9 and marks from 80 - 89 shall be declared to have Excellent (D+).
- Successful candidates passing the examinations and earning GPA between 7.5 – 7.9 and marks from 75 - 79 shall be declared to have Distinction (D).
- Successful candidates passing the examinations and earning GPA between 7.0 – 7.4 and marks from 70 - 74 shall be declared to have Very Good (A+).
- Successful candidates passing the examinations and earning GPA between 6.0 – 6.9 and marks from 60 - 69 shall be declared to have Good (A).
- Successful candidates passing the examinations and earning GPA between 5.0 – 5.9 and marks from 50 - 59 shall be declared to have Average (B).
- Successful candidates passing the examinations and earning GPA between 4.0 – 4.9 and marks from 40 - 49 shall be declared to have Satisfactory (C).
- Candidates earning GPA between 0.0 and marks from 00 - 39 shall be declared to have Re-appear (U).
- Absence from an examination shall not be taken as an attempt.

From the second semester onwards the total performance within a semester and continuous performance starting from the first semester are indicated respectively by Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA).

These two are calculated by the following formulae

$$\text{GRADE POINT AVERAGE (GPA)} = \frac{\sum C_i G_i}{\sum C_i}$$

$$\text{GPA} = \frac{\text{Sum of the multiplication of grade points by the credits of the courses}}{\text{Total credits}}$$

Sum of the credits of the courses in a Semester

### 18.3 Classification of the final result

The final result of the candidate shall be based only on the CGPA earned by the candidate.

- a) Successful candidates passing the examinations and earning CGPA between 9.5 and 10.0 shall be given Letter Grade (O+) and those who earned CGPA between 9.0 and 9.4 shall be given Letter Grade (O) and declared to have First Class –Exemplary\*.
- b) Successful candidates passing the examinations and earning CGPA between 7.5 and 7.9 shall be given Letter Grade (D), those who earned CGPA between 8.0 and 8.4 shall be given Letter Grade (D+) and those who earned CGPA between 8.5 and 8.9 shall be given Letter Grade (D++) and declared to have First Class with Distinction\*.
- c) Successful candidates passing the examinations and earning CGPA between 6.0 and 6.4 shall be given Letter Grade (A), those who earned CGPA between 6.5 and 6.9 shall be given Letter Grade (A+), and those who earned CGPA between 7.0 and 7.4 shall be given Letter Grade (A++) and declared to have First Class.
- d) Successful candidates passing the examinations and earning CGPA between 5.0 and 5.4 shall be given Letter Grade (B) and those who earned CGPA between 5.5 and 5.9 shall be given Letter Grade (B+) and declared to have passed in the Second Class.
- e) Successful candidates passing the examinations and earning CGPA between 4.0 and 4.4 shall be given Letter Grade (C) and those who earned CGPA between 4.5 and 4.9 shall be given Letter Grade (C+) and declared to have passed in the Third Class.
- f) Absence from an examination shall not be taken as an attempt.

#### Final Result

CGPA	Grade	Classification of Final Result
9.5 – 10.0 9.0 and above but below 9.5	O+ O	First Class – Exemplary*
8.5 and above but below 9.0 8.0 and above but below 8.5 7.5 and above but below 8.0	D++ D+ D	First Class with Distinction*
7.0 and above but below 7.5 6.5 and above but below 7.0 6.0 and above but below 6.5	A++ A+ A	First Class

5.5 and above but below 6.0 5.0 and above but below 5.5	<b>B+</b> <b>B</b>	Second Class
4.5 and above but below 5.0 4.0 and above but below 4.5	<b>C+</b> <b>C</b>	Third Class
0.0 and above but below 4.0	<b>U</b>	Re-appear

$$\text{CUMULATIVE GRADE POINT AVERAGE (CGPA)} = \frac{\sum_n \sum_i C_{ni} \cdot G_{ni}}{\sum_n \sum_i C_{ni}}$$

$$\text{CGPA} = \frac{\text{Sum of the multiplication of grade points by the credits of the entire programme}}{\text{Sum of the credits of the course for the entire Programme}}$$

Where 'Ci' is the Credit earned for Course i in any semester; 'Gi' is the Grade Point obtained by the student for Course i and 'n' refers to the semester in which such courses were credited.

**CGPA** (Cumulative Grade Point Average) = Average Grade Point of all the Courses passed starting from the first semester to the current semester.

Note: \* The candidates who have passed in the first appearance and within the prescribed Semesters of the UG Programme (Major, Allied, and Elective courses alone) are eligible for this classification.