J.M.J. COLLEGE FOR WOMEN(AUTONOMOUS), TENALI

I B.SC. SYLLABUS w.e.f.2015-16

ZOOLOGY - SEMESTER I PAPER - I

ANIMAL DIVERSITY OF INVERTEBRATES - I

Marks:- 70 **Periods: 60Hours**

UNIT I **17 hours**

1.0 Introduction of Invertebrates

1.1 Phylum Protozoa:- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Elphidium,**

1.3 Phylum Porifera:- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Sycon,** Canal System In Sponges

1.4 Phylum Coelenterata :- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Aurelia** ,Polymorphism In Coelenterates: Corals And Coral Reef Formation.

UNIT II **17 hours**

2.1 Phylum Platy helminthes :- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Fasciola hepatica.- Struc**ture, reproductive system and life history

2.2 Phylum Nemathelminthes :- General Characters And Outline Classification Upto Classes With Examples.

2.3. Phylum Annelida :- General Characters And Outline Classification Upto Classes With Examples; Type Study: **Leech.,** Metamerism In Annelida.

2.4. ***Vermiculture** : Scope, Significance of Vermiculture Earthworms Sps, Processing of Vermiculture,Vermicompost,Economic Importance Of Vermicost.

UNIT- III **16 hours**

4.0 Phylum Arthropoda:- General Characters And Outline Classification Upto Classes

With Examples; Type Study: **Macrobrachium rosenbergii (Scampi).**

4.1. ***Peripatus**-Structure ,Affinities

4.2. Phylum Mollusca:- General Characters And Outline Classification Upto Classes

With Examples.

4.3. * Pearl Formation In Pelecypoda. *Torsion In Gastropoda.

UNIT-IV 10 **hours**

5.0 Phylum Echinodermata: General Characters And Outline Classification Upto Classes

With Examples; Water Vascular System Of Star Fish.

5.1 Invertebrates Larval Forms: Amphiblastula, Ephyra, Trochophora, Nauplius, Glochidium , Bipinnaria .

5.2 Hemichordata: General Characters And Outline Classification Upto Classes

With Examples; **Balanoglossus:**Structure , Affinities& Tornaria Larvae

- Modern Text Book Of Zoology Invertebrates ---- R.L. kotpal
- A Text Book of Invertebrates. Arumugam et.al.,
- Economic Zoology- Saras Publication
- Modern text book of Zoology Invertebrates -Telugu Akademy

J.M.J. COLLEGE FOR WOMEN(AUTONOMOUS), TENALI

I B.SC , I SEMESTER ZOOLOGY PAPER- I

ANIMAL DIVERSITY OF INVERTEBRATES – I

MODEL QUESTION PAPER . w.e.f.2015-16

Time:3hours Marks:70

SECTION - A 4X13=52

Answer any **Fou**r of the following. Draw diagrams wherever necessary.

1. Describe the life history of Elphidium.
2. Write an essay on polymorphism in Hydrozoan
3. Describe the life cycle of Fasciola hepatica.
4. Write the general characters and classification of Annelida. upto classes with examples
5. Describe the respiratory system of prawn
6. Explain the process of torsion in Gastropoda.
7. write an essay on water vascular system in star fish.
8. write an essay on structure & affinities of Balanoglossus

SECTION - B 4½ X 4= 18

Answer any **Fou**r questions draw diagrams wherever necessary.

1) Coral reefs
2) Sycon canal system
3) Testicular nephridium
4) Pearl Formation
5) Vermicompost
6) Prawn- cephalic appendages
7) Asteroidea.
8) Nauplius

Blue print: Choose Two Essays and Two Short Answer Questions from each unit.

J.M.J. COLLEGE FOR WOMEN(AUTONOMOUS), TENALI

I B.SC. SYLLABUS w.e.f.2015-16

ZOOLOGY SEMESTER II PAPER - II

ANIMAL DIVERSITY OF VERTEBRATES - II

Marks:- 70 **Periods: 60 Hours**

. **UNIT-I** **16hours**

1.0 General characters Of Chordata

1.1 Protochordates : Salient Features Of Urochordata And Cephalochordata

1.2 structure **of Branchiostoma** & affinities

1.3 Structure And Life- History Of **Herdmania** , Significance Of Retrogressive Metamorphosis.

1.4. General Characters Of Cyclostomes, Difference between Petromyzon & Myxine.

UNIT-II **16hours**

2.0. General Characters Of Fishes , Classification Up To Sub-Class Level With Example.

2.1. Type Study - **SCOLIODON :** Morphology , Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

2.2. * Migration In Fishes and Types Of Scales, Dipnoi fishes.

2.3. General Characters And Classification Of Amphibian Up To Order Level.

2. 4. Type Study - **RANA :** Morphology , Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

2.5. * Parental Care In Amphibians.

UNIT-III **16 hours**

3.0. General Characters And Classification Of Reptilian Up To Order Level.

3.1 Type Study – **CALOTES :** Morphology , Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

3.2. General Characters And Classification Of Aves Up To subclass Level With Examples.

3.3. Type Study-**PIGEON** (Columbia livia) : Exoskeleton, Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

3.4. Migration In Birds, Flight Adaptations in Birds.

UNIT-IV **12hours**

4.0. General Characters And Classification Of Mammalia Up To Sub-class Level With Examples.

4.1. Type Study**: RABBIT** : Morphology , Digestive System , Respiratory System , Heart , Brain and Urinogenital System .

4.2. * Dentition In Mammals.

Modern text book of zoology vertebrates ---- R.L kotpal

A Text Book of Vertebrates. Arumugam et.al.,

Economic Zoology- Saras Publication

Modern text book of zoology vertebrates - Telugu Akademy

J.M.J. COLLEGE FOR WOMEN(AUTONOMOUS), TENALI

I B.SC , II SEMESTER ZOOLOGY PAPER- II

ANIMAL DIVERSITY OF VERTEBRATES – II

MODEL QUESTION PAPER . w.e.f.2015-16

Time:3hours Marks:70

SECTION - A 4X13=52

Answer any **Fou**r of the following. Draw diagrams wherever necessary.

1. Describe the life history of Herdmania.
2. Give an account of differences between petromyzon & myxine
3. Write an essay on migration of fishes.
4. Write an essay on parental care in amphibian.
5. Describe the structure and working of heart of Calotes.
6. Give an account of flight adaptations in bird.
7. Describe the structure and functions of Rabbit brain. .
8. Write an essay on Dentition in mammals.

SECTION - B 4½ x 4= 18

Answer any **Fou**r questions draw diagrams wherever necessary.

1) Salient features of Cephalochordata
2) General characters of chordate
3) Placoid scale
4) Urodela
5) Quill feather
6) Crocodilia
7) Prototheria
8) Rabbit Nephron

Blue print: Choose Two Essays and Two Short Answer Questions from each unit.

J.M.J. COLLEGE FOR WOMEN(AUTONOMOUS), TENALI

I B.SC. SYLLABUS w.e.f.2015-16

ZOOLOGY - PRACTICAL - I

ANIMAL DIVERSITY OF INVERTEBRATES - I

3hours / week

Animal Diversity of Invertebrates

Observation of the following slides/specimens/models

Protozoa: Elphidium, paramecium, Vorticella

Porifera: Spongilla, Euspongia, Sycon, Sycon spicules

Coelenterata: Obelia colony,Medusa ,Physalia, Corallium, Gorgonia, Aurelia.

Platyhelminthes: Planaria, Cercaria , Echinococcus granulosus.

Nematehelminthes: Ascaris Male&Female ,Ancylostoma duodenale.

Annelida: Neries,Heteroneries,Aphrodite, Trochophore larva.

Arthropoda: Nauplius,Mysis,Zoea Larvae, Sacculina, Limulus, Paripatus.

Mollusca: Chiton, Pinctada ,Sepia, ,Octopus,Nautilus,Glochidium Larva.

Echinodermata: Ophiothrix, Echinus,,Cucumaria, Antedon, Asterias, Bipinnaria larva.

Hemichordata : Balanoglossus, Tornaria larva.

Demonstration of dissection/dissected / Virtual Dissections:

Leech : Digestive system, Reproductive system.

Prawn : Digestive system, Nervous System

Prawn : Appendages ,

Pila: Digestive System, Mounting of Radula.

- **Compulsory one species to be adopted for demonstration only by the faculty.**

I B.Sc ZOOLOGY PRACTICAL -I

ANIMAL DIVERSITY OF INVERTEBRATES

MODEL QUESTION PAPER . w.e.f.2015-16

SEMESTER I

Scheme of Valuation

Max.marks-50 **Time: 3 hours**

I.Major Dissection: Observe the unlabelled Model/ Chart/Projection . Identify the system and draw a neat labeled diagram. 8 marks

Identification - 1Mark

Diagram - 4 Marks.

Labeling - 3 Marks.

II.Minor Dissection: Observe the unlabelled Model/ Chart/Projection . Identify and draw a neat labeled diagram. A&B 2x3=6marks

Identification - 1Mark

Diagram - 1Marks.

Labeling - 1 Marks.

III. Identify, Classify, and Draw labeled Diagram and Write notes on 7x3=21 marks

A, B, C, D, E F,&G

½ Mark –Identification

½ Mark – Classification

1 Mark - Diagram

1 Mark- Description

TOTAL=35M

Practical Record -10M

Grand Total = 50

Regular Assessment- 5 M

Internal 15 M

External 35 M

J.M.J. COLLEGE FOR WOMEN(AUTONOMOUS), TENALI

I B.SC. SYLLABUS w.e.f.2015-16

ZOOLOGY - PRACTICAL - II

ANIMAL DIVERSITY OF VERTEBRATES - II

3hours / week

Animal Diversity of Invertebrates

Observation of the following slides/specimens/models

Protochordata: Herdmania,Amphioxus,

Cyclostomata: Petromyzon,Myxine.

Pisces: Pristis, Torpedo. Hippocampus, Exocoetus , Eheneis, Auguilla

Scales of fishes, Protopterus (Dipnoi fish).

Amphibia: Ichthyophis, Salamandra,Siren, Axolotal larva, Hyla, Rachophous.

Reptelia: Draco, Chaemeleon ,Russels viper, Naja , Krait, Enhydrina, ,Trionyx,

Aves: ,Psittacula ,Bubo, Pigeon, peacock ,
Study of different types of feathers:Quill,Contour,filoplume,down.

Mammalia: Ornithorthynchus, Hedgehog, Pteropus, Funambulus,

Osteology: Appenducular skeletons of varanus, pigeon and Rabbit--- Fore limbs, Hind limbs and Girdles

Demonstration of dissection/dissected / Virtual Dissections:

Major dissection

1. Shark: V& VII, IX &X Cranial Nerves
2. Calotes: Arterial system

Minor dissection

3. Digestive system of fish(Channa).
4. Frog: Digestive system.
5. Rat: Urinogenital system.

J.M.J. COLLEGE FOR WOMEN (autonomous)

I B.Sc ZOOLOGY PRACTICAL -II

ANIMAL DIVERSITY OF VERTEBRATES

MODEL QUESTION PAPER . w.e.f.2015-16

SEMESTER II

Scheme of Valuation

Max.marks-50 **Time: 3 hours**

I.Major Dissection: Observe the unlabelled Model/ Chart/Projection . Identify the system and draw a neat labeled diagram. 8 marks

Identification - 1Mark

Diagram - 4 Marks.

Labeling - 3 Marks.

II.Minor Dissection: Observe the unlabelled Model/ Chart/Projection . Identify and draw a neat labeled diagram. 6marks

Identification - 1Mark

Diagram - 1Marks.

Labeling - 1 Marks.

III. Identify, Classify, and Draw labeled Diagram and Write notes on 7x3=21 marks

A, B, C, D, E F,&G (5 from vertebrates & 2 from osteology)

½ Mark –Identification

½ Mark – Classification

1 Mark - Diagram

1 Mark- Description

TOTAL=35M

Practical Record -10M

Grand Total = 50

Regular Assessment- 5 M

Internal 15 M

External 35 M

J.M.J. COLLEGE FOR WOMEN (autonomous)

DEPARTMENT OF ZOOLOGY

CERTIFICATE COURSE - SYLLABUS

MEDICAL LABORATORY ASSISTANT TRAINING PROGRAM (MLT)

1. **Introduction** (brief information about the following)
   - Dos and don'ts
   - Safety with chemicals
   - First aid
   - Introduction of laboratory instruments
   - Microscope

2. Bio-chemistry

a) **Urine:**

- **Urinary system**, urine formation, urine collection, urine preservation
- **Physical examination**(colour, odor, transparency, appearance, volume, specific gravity, reaction)
- **Chemical examination**(Albumin, sugar, bile salts, bile pigments, urobilinogen, pregnancy test)
- **Microscopic examination (pus cells(RBC), casts, crystals, vegetative** forms, spermatozoa)

b) **Blood:**

- Introduction(composition of blood)
- Collection of blood sample
- Anti coagulants
- Separation of serum and plasma
- Blood cell count
  - i) Total white blood corpuscles count (TWBC)
  - ii) Total red blood corpuscles count (TRBC)
  - iii) Total platelets count
  - iv) Absolute Eosinophils count
  - v) Differential Leucocytes count
  - vi) Reticulocytes count
  - vii) Haemoglobin estimation
  - viii) Erythrocytes sedimentation rate
- Bleeding time
- Coagulation time
- Anaemia
- Leukemia
- Blood grouping and Rh typing and blood cross matching
- Estimation of blood sugar
- Glucose tolerance test (GTT)
- Estimation of serum cholesterol
- Estimation of serum bilirubin
- Estimation of blood urea

- Estimation of serum creatinin
- Estimation of total proteins
- Estimation of serum albumin

J.M.J COLLEGE FOR WOMEN,(AUTONOMOUS)TENALI

II.B.Sc Zoology Syllabus

III SEMESTER-Paper III w.e.f. 2013-14

ANIMAL DIVERSITY-II 60hrs (4 hrs/week)

UNIT –I

1.0. Protochordata to fishes

1.1.Protochordates: Salient features of Urochordata andcephalochordata
Structure and life-history of Herdmania,Significance of Retrogressive metamorphosis 6 hours

1.2. General characters of Chordates 1 hour

1.3. General characters of Cyclostomes 1 hour

1.4. General characters of fishes,classification up to sub-class level with examples 2 hours

1.5. Type study – Scoliodon:External Characters,Digestive system,Respiratory system,Heart,Brain&Urinogenital system 9 hours

1.6.. Migration in fishes and types of scales

UNIT- II

2.0. Amphibia-Reptilia

2.1. General Characters and classification of Amphibia up to order level. 1 hour

2.2. Type study-Rana:External characters,Digestive system,Respiratory system,Heart,Brain&Urinogenital system 8 hours

2.3. Parental care in Amphibians 1 hour

2.4.General characters and classification of Reptilia up to order level. 3 hours

2.4.Type study –calotes:External characters,Digestive system,
Respiratory System,Heart,Brain and Urinogenital system 8 hours

UNIT-III

3.0.Aves-Mammalia

3.1. General characters and classification of Aves up to super order level with examples 3 hours

3.2. Type study-Pigeon(columbia livia):Fearthers,Digestive system,Respiratory System, Heart, Brain and Urinogenital system 8 hours

3.3. Migration in Birds 2 hours.

3.4. Flight adaptation in Birds 2 hours

3.5. General characters and Classificationof Mammalia upto Sub class level with examples 3hours

3.6. Dentition in mammals 2hours

REFERENCE BOOKS

1) Chordate Zoology-E.L.jordan&P.S.Verma ,S.Chand publications-VI Edition-1987.
2) Cell Biology,Genetics,Evolution&Ecology by P.S.Verma and V.K.Agawall,S.Chand publications-1983.
3) Chordata-by Mohan P.Arora,Himalaya Publishing House Pvt.Ltd.
4) Text book of Zoology-Vertebrates,by Parker and Haswell-1972-VII Edition E.L.B.S & McMillan Company.

J.M.J. COLLEGE FOR WOMEN (autonomous)

II B.Sc., Zoology Syllabus

IV SEMESTER – PAPER IV .w.e .f -2013-14

EMBRYOLOGY & ANIMAL ECOLOGY

60hrs. (4hrs/week)

Unit-I

1.0. Embryology

1.1 Spermatogenesis, Oogenesis and Fertilization. 3hrs
1.2. Types of eggs 3hrs
1.3. Types of cleavages 4hrs
1.4. Foetal membranes and their significance 3hrs
1.5. Placenta: Types and Functions 4hrs
1.6. Regeneration with reference to Turbellarians and Lizards 4hrs
1.7. Parthenogenesis in Insects 4hrs

Unit-II

2.0. Ecology.

2.1. Biogeochemical cycles or nutrients cycles- Nitrogen Carbon, and –Phosphorous 6hrs
2.2. Community- Defnition, Structure, Stratification, Periodicity, Ecotone& Edge effect and Ecological Niche 6 hrs
2.3. Community Interactions-Brief account on Competition, Predation,Antibiosis, Mutalism, Commensalism and parasitism parasitic adaptations 8hrs

UNIT-III

3.1 Ecological Succession : Primary & Secondary, Seral Stages, Climax Community with examples. 6 hrs
3.2 Population Ecology: Density , Birth Rate,Death Rate, Growth, Age Pyramids, Dispersions and Control of Animal populations. 6 hrs
3.3. Growth of human population and its control in India
3.4. Biological rhythms. 3hrs

REFERENCE BOOKS:

1. AText book of Ebriology- N.Arumugam-Saras Publications
2. Chordate Embriology by P.S. Verma and V.K.Agarwal,S.Chand and Company.
3. Developmental Biology – Veera Bala Rastogi & M.S.Jaya Raj-Kedranath Ramnath Publications, I Edition 2007.
4. Embriology- Mohan P. .Arora-Himalayan Publications.
5. Eliments of Ecology-Odum
6. Environmental Biology by H.R.Singh., S.Chand Publications
7. Ecology- M.P.Arora-Himalayan Publications.
8. Environmental Biology-P.D.Sharma.
9. Environmental Ecology-P.R.Trivedi and Gurdeep Raj.
10. Ecology-Principales and Applications-J.L.Champman and M.J.Rsis.
11. Animal Ecology and Distribution of Animals –Veera Bala Rastogi & M.S.Jaya Raj VIII Edition.Kedarnath Ramnath Publication.
12. Animal Physiology and Ecology –P.S.Verma, V.K.Agarwall & B.S.Tyagi,S.Chand and company Ltd -1983.
13. Environmental studies –R.Raja Gopalan, Oxford University press. II Edition.
14. Environmental Studies-Dr.J.P.Sharma,Laxmi publications Pvt.Ltd.New Edition.

J.M.J. COLLEGE FOR WOMEN (autonomous)

ZOOLOGY PAPER III w.e.f-2013-14

II B.Sc III SEMESTER- MODEL QUESTION PAPER

ANIMAL DIVERSITY- I I

Max.marks-70

Time: 3 hours

Note:Answer all questions & Draw neat labeled diagrams wherever necessary.

I. Answer any three of the following. 3x12=36

1. What is Retrogressive metamorphosis Explain with reference to the Life history of Herdmania.
2. Describe the Structure and functions of shark brain.
3. Write an essay on Parental Care in Amphibians.
4. Explain the flight Adaptation in Birds
5. Give an Account of Dentition in Mammals.
6.Describe the structure and working of calotes heart.

II. Write shot notes on any four of the following 4x5=20

1. General Characters of Cyclostomes.
2.Scales in Fishes
3.Urodela.
4.Crocodilia
5. Feathers in Birds.
6.Prototheria.

III. Write briefly on any seven of the following (Need not draw any diagram) 7x2=14

1. Notochord
2. Branchial Aperturer and Atrial aperture
3. Holobranch & Demibranch
4.Anamniotes
5. S.A.Node and A.V.Node
6. Anterior Choroid Plexes & Posterir choroid plexus.
7. Ductus caroticaus and Ductus botali
8.Caecilians
9.Syrinx
10.Pouched mammals
11.Ratitae.
12. Eutheria

Note: *Choose two essay questions, two short answer questions and four two marks questions from each unit .

J.M.J. COLLEGE FOR WOMEN (autonomous)

ZOOLOGY PAPER IV.e.f-2013-14

II B.Sc IV SEMESTER- MODEL QUESTION PAPER

Embryology and Animal Ecology

Max.marks-70

Time: 3 hours

Note:Answer all questions & Draw neat labeled diagrams wherever necessary.

I. Answer any three of the following. **3x12=36**

1. Explain the process of fertilization.
2. Give an account of Foetal membranes and their significance.
3.Write an essay on Mutualism with suitable examples
4.Explain various types of parasites and parasitic adaptations
5. Describe the Biological rythms with suitable examples.
6. What is Ecoloical Succession? Explain the process of Ecological Succession in a pond.

II. Write shot notes on any four of the following **4x5=20**

1. Spiral Cleavages
2. Types of eggs
3.Community structure
4. Nitrogen cycle.
5.Population density
6.Consequenses of human population growth

III. Write briefly on any seven of the following (Need not draw any diagram) **7x2=14**

1. Holoblasic & Meroblastic cleavages.
2. Somatopleur & Splanchnopleur
3. Zonary and Discoidal placenta
4. Regeneration.
5.Primary carnivores
6. Coal
7. Ecotone & Edge effect.
8. Predation
9. Natality & Mortality.
10.Sigmoid curve
11.Tubectomy
12. Immigration

Note: * Choose two essay questions, two short answer questions and four two marks questions from each unit .

J.M. J.COLLEGE FOR WOMEN, TENALI (AUTONOMOUS)
II B. SC- ZOOLOGY SYLLABUS-PRACTICAL-II w. e. f. 2014-15

ANIMAL DIVERSITY-II EMBRYOLOGY, OSTEOLOGY &ECOLOGY

Time: 90hrs

3 Hrs/week

Observation of the following slides/specimens/models:

1. Protochordata: Herdmania,Amphioxus,Amphioxus T.S through pharynx.

2. cyclostomata: petromyzon and Myxine.

3. Pisces: Pristis,Torpedo, Hippocampus,Exocoetus,Echeneis,Anguilla,Scales of Fishes.

4. Amphibia: Ichthyophis, Salamandra,siren,Axolotal larva,Hyla,Alytes.

5. Reptilia: Draco,Chamaeleon,Uromastix,Russels viper, Naja, Krait, Enhydrina, Trionyx, Gavialis

6. Aves: Picus,Psittacula,Edynamis,Bubo,Alcedo.

7. Mammalia: Ornithorhynchus,Tachyglossus,Hedghog,pteropus

Dissection Diagrams:

1. Shark: V&VII cranial nerves, IX and X Cranial nerves,

2. Frog: Digestive system, Arterial system,

3. Calotes: Arterial system, Urinogenital system

4. Pegion: Digestive system, Urinogenital system

Osteology: Appendicular skeleton of calotes, pigeon,& rabbit.

Embryology:

Observation of the following Slides/Models.
1. T.S of Testis and ovary (Rat/Rabbit/Human)
2. Different stages of cleavages (2-cell, 4-cell and 8-cell), Morula.
3. Blastula and Gastrula of frog.

Ecology:
1. Determination of P^H in a given sample of water.
2. Estimation of dissolved oxygen in the given sample of water.
3. Estimation of Salinity (Chloride) of water in the given samples.
4. Estimation of alkalinity water as Carbonates, Bicarbonates in the given sample.

J.M. J.COLLEGE FOR WOMEN, TENALI (AUTONOMOUS)
II B. Sc-SCHEME OF VALUATION

ZOOLOGY SYLLABUS- PRACTICAL-II w. e. f. 2014-15

ANIMAL DIVERSITY-II EMBRYOLOGY, OSTEOLOGY &ECOLOGY

Time: 3hrs

3 Hrs/week

1. Observe the unlabelled Model/ Chart/Projection. Identify the system and draw a neat labeled diagram of A&B 6x2=12 marks

Identification- 1Mark
Diagram - 3 Marks.
Labeling - 2 Marks.

2. Identify, Classify, Draw labeled Diagram, and Write notes on 5x2=10

A, B, C, D, &E -3 From Animal diversity-II ,1 from Osteology,1 from Embryology

½ Mark –Identification

½ Mark – Classification& Diagram

1 Mark –Description

3. Determinate the P^h in the given sample of water 1x3 = 3

4. Estimation of Dissolved Oxygen/Alkalinity/Salinity in the given Sample. 5+3+2=10

TOTAL=35M

Practical Record -10M

Regular Assessment- 5 M } **Internal Marks 15**

Internal 15 M

External 35 M

JMJ COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

III B. Sc ZOOLOGY - SYLLABUS, V - SEMESTER

ANIMAL PHYSIOLOGY ……. PAPER-V- w.e.f. 2014-15

UNIT-1 **45 HOURS**

(3hrs/week)

1.1. Physiology of digestion: **6hrs**

Types of digestion: – extra and intracellular, Digestion of carbohydrate, proteins, lipids and cellulose, Digestion. Absorption , and assimilation of digested food materials. gastrointestinal hormones-control of digestion.

1.2. Physiology **of Respiration** **7hrs**

Types of respiration-external and internal respiration, Structure of mammalian lungs and gaseous exchange, Transport of oxygen-formation of oxyhaemoglobin and affinity of hemoglobin for oxygen, o2 dissociation curve. Transport of $co_{2:}$ - chloride shift, Bohr effect.

1.2. Physiology of Circulation **5hrs**

Open and closed circulation, Structure of mammalian heart and its working mechanism,

Heart beat, & cardiac cycle. Myogenic heart, and neurogenic heart.

UNIT-II

2.1Physiology of excretion 7hrs

Definition of excretion, Forms of nitrogenous waste material and their formation, Classification of animals on the basis of excretory products, Gross organization of mammalian excretory system and Structure of kidney. Structure and function of Nephron - Counter current mechanism.

2.2. Physiology of muscle contraction 4hrs

Ultra structure of skeletal muscle ; sliding filament mechanism of muscle contraction. Chemical changes during muscle contraction-role of calcium, ATP utilization and its replenishment.

2.3. Physiology of Nerve Impulse 6hrs

Structure of nerve cell; Nature of nerve impulse:resting potential and action potential. Properties of nerve impulse-Threshold value, refractory period, All or None Response, Structure of synapse, mechanism of synaptic transmission-electrical and chemical transmissions.

UNIT-III

3.1. Physiology of Endocrine System 7hrs

Pituitary gland and its hormones; Hormones of pineal gland, thyroid gland, parathyroid, thymus, adrenal and pancreas; Endocrine control of mammalian reproduction-Male and female hormones; Hormonal control of menstrual cycle in humans.

3.2. Physiology of Homeostasis: 3hrs

Concept of Homeostasis, and its basic working mechanism . Mechanism of Homeostasis-Water and ionic regulation by fresh water and marine animals; temperature regulation in man.

Reference books:

1. Physiology-K.A Goel & Sastry.
2. Animal physiology-N. Arumrugam-Saras Publications-1983
3. Animal physiology-P. S. Varma and V.K.Agarwal-1987-S. Chand and company Ltd
4. A text book of Telugu Academy-2001

5. Animal Physiology-Dr. B. S. Tomar & Dr. Neera Singh-Kedar- Nath Ram Nath-Edition-2007.
6. General and comparative physiology-Hoar W.S
7. Animal physiology- H. C. Nigam
8. Comparative animal physiology-Prosser C.L & Brown F.A
9. Animal physiology-V.B. Rastogi- Kedar Nath Ram Nath

J. M. J. COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

III B. Sc ZOOLOGY --- V-SEMESTER –MODEL QUESTION PAPER

ANIMAL PHYSIOLOGY ……. PAPER-V- w.e.f.2014-15

Time: 3hrs
Max.Marks:70

ANSWER ALL QUESTIONS.
DRAW NEAT LABELLED DIAGRAM WHEREVER NECESSARY

I. Answer any THREE of the following. 3x12M

1. Explain the digestion of carbohydrates, proteins& lipids in mammals.
2. Give an account of the mechanism of transportation of respiratory gases through blood.
3. Describe the structure of mammalian nephron. Explain the physiology of urine formation.
4. Describe the structure of neuron. Explain the conduction of nerve impulse.
5. Write an essay on the hormonal control of reproduction in mammals.
6. Write about the pituitary gland and its hormones.

II. Write short notes on any four of the following. 4X5=20M

1. Homeostasis
2. Thyroid gland.
3. Ammonotelic animals
4. Structure of skeletal muscle

5. Gastro intestinal hormones.
6. Cardiac cycle.

III. Write briefly on any Seven of the following :(Need not draw any diagram)
7x2=14M

1. Uricotelic animals
2. Myogenic heart
3. Action Potential
4. Synapse.
5. Pineal gland
6. Absorption
7. Chordae tendiance
8. Addison's disease
9. Sarcomere
10. Insulin
11. Bohr effect
12Homeothermic animals

Note: * Choose two essay questions, two short answer questions and four two marks questions from each unit.

JMJ COLLEGE FOR WOMEN (Autonomous), Tenali

APPLIED ZOOLOGY – FISHERIES AND AQUACULTURE

III.B.Sc. V Semester - Paper - VI – Syllabus. w.e.f 2014 – 15

UNIT I

45 hours

(3hours / Week)

1.1. Capture fisheries – Resources, Statistics	2 hour
1.2. Culture fishery resources- Freshwater, Brackish water and Marine habitats	3hours
1.3. Types of fisheries: Fin fish fisheries and Shell fish fisheries	3hours
1.4 .Culture fisheries: Freshwater, Brackish water and Mariculture -Types	5hours
1.5 .Fishing gear and fishing craft	4hours

UNIT II

2.1. Preservation and processing – Freezing, solar drying, Canning, salting, Smoking.	4hours
2.2. Aquaculture systems: Polyculture, Integrated culture	4 hours
2.3. Induced breeding in Major Carps	3hours
2.4. Fish Hatchery design and Management-Chinese system and Jar system.	4hours

UNIT III

3.1. Fish Pond Management: Nursery ponds, rearing and Stocking ponds	5hours
3.2. Shrimp culture.	3hours

3.3. Shrimp Hatchery Management, Seed transport

3.4. Common diseases and control; Fish: Fin or tail rot diseases, 5hours

Spring viremia of carp, Branchiomycosis , Ichthyophthiriasis, Gas bubble disease

Shrimp: YHV, Vibriosis, Larval mycosis, Cotton shrimp disease& scurvy

Reference Books:

1. 'Text book of Brackishwater Fish and Shrimp Farming' – Susheela Jose and K.Jayasree Vadhyar, Kalyani Publishers, New Delhi, 2000.
2. 'Fisheries and Aquaculture' – Dr. Ravishankar Pisca., Lahari Publications, Hyderabad,1999.
3. 'A Text book of fish biology and Indian fisheries' – Dr. Rahul P. Parihar, Central Publishing House, Allahabad, 1999.
4. 'Aquaculture in India' – C.Gnaneswar and C.Sudhakar, Sri Sai Agriculture Consultants, Bhimavaram, 1997.
5. 'Fresh water fish culture', V.R.P.Sinha and V.Ramachandran, ICAR,1985.
6. 'Hand book on Shrimp farming' - , MPEDA, Kochi.
7. 'Matyasastram', - Telugu Akademi, 2000.
8. 'Fish and fisheries of India'- V.G. Jhingran, Hindustan publishing company.,1985
9. Aquaculture productivity - V.R.P. Sinha and H.C. Siaslara Oxford IBH, 1991.

J. M. J. COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

III B. Sc – ZOOLOGY MODEL QUESTION PAPER

V-SEMESTER ..... PAPER-VI- w.e.f.2014-15

AQUACULTURE

Time: 3hrs

Max.Marks:70

ANSWER ALL QUESTIONS.

DRAW NEAT LABELLED DIAGRAM WHEREVER NECESSARY

I. Answer any THREE of the following 3x12=36M

1. Give an account of culture fishery resources in India
2. Write an essay on fishing gear.
3. Give an account of Preservation and processing of fishes.
4. Describe the process of Induced breeding in major carps.
5. Write an essay on nursery pond management of Fish.
6. Write an essay on Shrimp culture.

II. Write short notes on any FOUR of the following. 4x5=20M

1. Shell fish fisheries
2. Capture fisheries resources.
3. Polyculture
4. Chinese fish hatchery
5. Larval Mycosis and Ichthyophthiriasis
6. Shrimp seed transport

III. Write briefly on any SEVEN of the following. 7x2=14M

1. Catamaran boat.
2. Raft culture
3. Fin fisheries
4. Extensive culture
5. Integrated culture
6. Jar hatchery
7. canning
8. Causes for fish spoilage
9. Moulting.
10. Scurvy of Shrimp.
11. Stocking pond.
12. Weed Control.

Note: * Choose two essay questions, two short answer questions and four two marks questions from each unit.

J.M.J.COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

III B. Sc ZOOLOGY-SYLLABUS, VI SEMESTER

GENETICS & ORGANIC EVOLUTION PAPER VII w. e.f.2014 – 15

45 HOURS

(3hrs/week)

UNIT-1

Genetics

1.1. Gene interactions-Incomplete dominance, codominance **2hrs**

1.2. Epistasis((12:3:1) supplementary genes (9:3:4) complimentary genes(9:7) Duplicate genes(15:1) Lethal genes(2:1& 9:3) **5hrs**

1.3. Identification of D.N.A as genetic material- Griffith's- experiment and Hershey-chase experiment. **4hrs**

1.4. Modern concept of gene-Definition, fine structure of the gene ; One Gene-One Enzyme Concept and One Gene –One polypeptide Concept **2hrs**

UNIT-II

2.1. Gene regulation as exemplified by Lac - Operon. **2hrs**

2.2. D.N.A finger printing, gene mapping, and gene therapy. **4hrs**

2.3. Human karyotyping, barr bodies, Lyon hypothesis and Amniocentesis**. 3hrs**

2.4. Chromosomal; disorders-Autosomal and Allosomal **3hrs**

UNIT-III

Organic Evolution.

3.1. Genetic basis of evolution **2hrs**

3.2. Gene pool and gene frequency **2hrs**

3.3.Hardy-Weinberg's Law **2hrs**

3.4. Natural selection **2hrs**

3.5. Genetic drift **2hrs**

3.6. Mutation **3hrs**

3.7. Isolation **3hrs**
2.2. Speciation - Allopatry & Sympatry. **4hrs**

Reference books.

1. Genetics-V.B. Rastogi - Kedar Nath Ram Nath-Ediition-2007.
2. Genetics & Evolution-P.S. Varma & V.K.Agarwal-1983-S. Chand and company Ltd
3. Organic evolution-V.B. Rastogi -Kedar Nath Ram Nath- Edition - 2007.
4. Organic evolution-N. Arumugam-Saras publications.
5. The text book of Telugu Academy.
6. Principles of Genetics-Sinnot E .W & Dobzhansky.
7. Organic Evolution-R.S. Lull-Light & Life Publishers.
8. Organic Evolution-M. P. Arora & Chandrakanta.
9. Genetics Vol-I-C. B. Power, Himalaya Publishing House Pvt. Ltd.

J. M. J. COLLEGE FOR WOMEN (AUTONOMOUS) TENALI
III B. Sc VI-SEMESTER – MODEL QUESTION PAPER
ZOOLOGY…… PAPER-VII- w.e.f.2014-15
GENETICS & ORGANIC EVOLUTION

Time: 3hrs
Max.Marks:70

ANSWER ALL QUESTIONS.

DRAW NEAT LABELLED DIAGRAM WHEREVER NECESSARY

I. Answer any Three of the following 3x12=36M

1. Explain the D.N.A as genetic material with the example of Griffith's experiment.
2. Write an essay on gene concept.
3. Describe the autosomal disorders in Man.
4. Mention different types of Isolation with suitable examples.
5. Write an essay on Natural Selection.
6. Explain the process of D.N.A finger printing.

II. Write short notes on any FOUR of the following 4x5=20M

1. Epistasis
2. Operon concept
3. Gene therapy
4. Hardy-Weinberg's Law
5. Gene frequency
6. Complimentary genes.

III. Write briefly on Any seven of the following 7x2=14M

1. Incomplete dominance.
2. Lethal genes.
3. Barr body
4. Amniocentesis.
5. Gene mapping

6. Genetic drift.
7. Gene mutation.
8. Sympatric speciation
9. Klinefelter`s Syndrome.
10. Gene pool
11.Duplicate genes
12.sickle cell anaemia

Note: * Choose two essay questions, two short answer questions and four two marks questions from each unit.

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JMJ COLLEGE FOR WOMEN (Autonomous), Tenali

III .B. Sc APPLIED ZOOLOGY-CLINICAL SCIENCE AND ANIMAL BIOTECHNOLOGY

VI Semester - Paper - VIII - Syllabus -w.e.f 2014 - 15

UNIT I - CLNICAL SCIENCE 45 hours (3hours/ week)

1.1. Hematology: **7 hours**

1.1.1. Blood composition and functions

1.1.2. Blood groups and transfusion problems

1.1.3. Blood diseases – Anemia, Leukemia, Leucocytosis, and Leucopenia

1.2. Cancer: **4 hours**

1.2.1. What is Cancer? Causative factors & suspected symptoms

1.2.2. Characteristics of carcinogenic cells & Types of Cancer.

1.2.3. Biopsy and autopsy – clinical importance

1.3. Diabetes: **4 hours**

1.3.1. Diagnostic features & complications of Diabetes

1.3.2. Risk factors & Types of Diabetes.

1.3.3.Hyperglycemia, Hypoglycemia & GTT

UNIT –II IMMUNOLGY

2.1. Types of Immunity: Innate and Acquired **2 hours**

2.2. Cells involved in Immunity **2 hours**

2.3. Organs involved in Immunity **2 hours**

2.4. Immunoglobulins-classes- IgG,IgA,IgM, IgD and Ig E, Basic structure and role in Immunity.**2 hours**

2.5. Cholesterol and its significance in cardiovascular problems. **4 Hours**
(HDL, LDL &Triglycerides**)**

UNIT- III ANIMAL BIOTECHNOLOGY:

3.1. Animal Biotechnology: Scope of Biotechnology, Cloning vectors - Characteristics of vectors, Plasmids. 4 **hours**

3.2. Gene Cloning – Enzymatic cleavage of DNA, Restriction enzymes (Endonucleases) and Ligation. 6 **hours**

3.3. Transgenesis and Production of transgenic animals (Fish and Goat). 4 **hours**

3.4. Application of Stem Cell technology in cell based therapy. 4 **hours**

Reference Books

- 'Elements of Biotechnology' - P.K.Gupta - - Rastogi Publications-1999

- 'Biotechnology' V.Kumarasan. Saras Publications-2001
- Biotechnology – Keshav Trehan -Wiely. Eastern Limited- Bangalore-1991
- A Text book of Biotechnology – R.C.Dubey – S. chand Company Ltd-1993.
- Genetics & Genetic Engineering - Saras Publications – 1998.
- Parasitology –K.D. Chatterjee- Eighth Edition- Re. Print-1991.
- Clinical Pathology - Telugu Academy - 2005

JMJ COLLEGE FOR WOMEN (Autonomous), Tenali
III .B. Sc APPLIED ZOOLOGY
CLINICAL SCIENCE AND ANIMAL BIOTECHNOLOGY
VI Semester - Paper - VIII – MODEL QUESTION-PAPER
w. e. f 2014 - 15

Time: 3hrs
Max.Marks:70

ANSWER ALL QUESTIONS.

DRAW NEAT LABELLED DIAGRAM WHEREVER NECESSARY

I. Answer any THREE of the following. 3x12=36M

1. Write an essay on composition of blood
2. Give an account of characteristic features and types of Diabetes.
3. Describe the cells involved in immunity.
4. Explain the types of immunity.
5. Describe the role of restriction enzymes and ligation involved in r DNA technology.
6. Explain the production of transgenic animals in fish.

II. Write short notes on any FOUR of the following. 4x5=20M

1. Blood groups.
2. Anemia
3. Lymphoid organs.
4. Triglycerides.
5. Transgenic animals of Goat.
6. Vectors.

III. Write briefly on any SEVEN of the following. 7x2=14M

1. Leucopenia.
2. Biopsy.
3. Hypoglycemia.
4. Blood groups
5. HDL
6. Cloning.
7. Embryonic stem cells.
8. Scope of biotechnology
9. IgE
10. Plasmid
11. Antigen
12. LDL

Note: * Choose two essay questions, two short answer questions and four two marks questions from each unit

J.M.J.COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

III B. Sc PRACTICAL SYLLABUS

ZOOLOGY-PRACTICAL-III w.e.f.2010-11

PHYSIOLOGY, GENETICS & EVOLUTION

Max. Marks=35

(3hrs/week)

I. Animal Physiology

1. Identification of carbohydrates, proteins, & Lipids.

2. Demonstration of o_2 consumption in an aquatic animal (fish or crab)

3. Quantitative analysis of excretory products

4. Demonstration of salivary amylase

II. Genetics.

1. A.B. O. Blood group identification.

2. Problems based on Blood grouping.

3. Karyotyping of Human chromosomes. (Human karyotype figure on paper should be cut into different sets of chromosomes and students are asked to arrange them in an order & comment on the ideogram.)

4. Identification of Genetic Syndromes given on charts.

J.M.J.COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

III B. Sc PRACTICAL -EXAM

ZOOLOGY-PRACTICAL-III w.e.f.2010-11

PHYSIOLOGY, GENETICS & EVOLUTION

MODELQUESTIONPAPER - SCHEME OF VALUATION

Time: 3hrs

Max.Marks=35

I. Identify the Nutrients in the given sample A & B 2x5=10M

Procedure adopted ..... 4 M

Result ..... 1 M

II. Identify the excretory products in the given sample A & B

2x5=10M

Procedure adopted 4M

Result 1M

III. Identification of A.B.O blood group/Problems on blood grouping. 10 M

Procedures ----- 5 M
Observation ---- 3 M
Result ----- 2 M

IV. Identify & Comment on A& B 2x2½=5M

Identification 1M

Comment 1½M

Total =35

V. Record	**10M**		
VI.Regular assessment	**5**	**Internal**	**15M**

J.M.J.COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

III B. Sc PRACTICAL SYLLABUS

ZOOLOGY-PRACTICAL-IV w.e.f.2010-11

AQUACULTURE, CLINICAL SCIENCE & BIOTECHNOLOGY

I. Aquaculture.

a Identification of important Fresh water and marine edible fishes. (Minimum 10)

b. Identification of Important edible crustaceans.(Minimum 05)

c Fish gear.

Field work is compulsory. Field trip to local fisheries/ Aquaculture unit is to be conducted and certified field notebook should be Submitted at the time of practical examination.

II. Clinical science.

1.0. Identification of the following Protozoan parasites

a. *Entamaeba histolytica*
b. *Giardia intestinalis*
c. *Balantidium coli*
d. *Trypanosoma gambiense*
e. *Plasmodium - Sporozoite / Merozoite***.**

2.0 Identification of the following Helminth parasites.

a. *Enterobius vermicularis.*
b. *Dracunculus medinensis.*
c. *Ancylostoma duodenale-Male/Female*
d. *Schistosoma haematobium.*

3.0. Blood cell counting – RBC and WBC

4.0. Estimation of Hemoglobin (Sahli's Method)

III. Animal Biotechnology.

a. Identification of vectors (Charts or Photographs)
b. Identification of genetic disorders (Charts or Photographs)
c. Identification of transgenic animals (Charts or Photographs**)**

J.M.J.COLLEGE FOR WOMEN (AUTONOMOUS)TENALI
III B. Sc PRACTICAL -EXAM
ZOOLOGY-PRACTICAL-IV w.e.f.2010-11
AQUACULTURE, CLINICAL SCIENCE & Biotechnology
MODEL QUESTION PAPER & SCHEME OF VALUATION
Time: 3hrs

Max. Marks=35

I. Estimate the percentage/Grams of the hemoglobin in the given sample of blood **6+4=10M**

Procedure ---- 6M

Result ---- 4M

II. Identify, Draw labeled diagram & write notes on

A, B, C, D, E **5x3=15M**

Identification….. 1M

Labelled diagram ….. ½M

Comment ….. 1½ M

5 from Aquaculture

III. Identify, Draw labeled diagram & write notes on **4x2½=10M**

A, B, C, D

Identification ….. 1M

Labelled diagram ….. ½M

Comment ….. 1 M

2 from clinical science and 2 from biotechnology

External=35

IV. Record **……** 5 M

Field Note book **……** 5 M } **Internal** **15M**

Internal assessment …… 5 M

J.M.J. COLLEGE FOR WOMEN (autonomous)
I.B.Sc. I SEMESTER-SYLLABUSPAPER-1 w.e.f. **2013-14**
ANIMAL DIVERSITY-1

BLUE PRINT **M**ax: marks-70

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1	2	2	4	8

Protozoa,Porifera , Cnidaria				
UNIT-2 Platyhelminthes, Nemathelminthes, Annelida, Arthopoda	2	2	4	8
UNIT-3 Mollusua, Echinodermata,Hemichordata	2	2	4	8
Total	6	6	12	24

J.M.J. COLLEGE FOR WOMEN (autonomous)
I.B.Sc. II SEMESTER-SYLLABUS
ZOOLOGY PAPER-II w.e.f. **2013-14**
CELL BIOLOGY & BIOMOLECULES

BLUE PRINT Max.marks-70

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1 Animal cell, plasma membrane, ER,Golgi body, Ribosomes, Lysosomes and Mitochondria	2	2	4	8
UNIT-2 Nucleus,Nucleolus,Chromosomes, Giant chromosomes Cell divisionCell cycle	2	2	4	8
UNIT-3 BIOMOLECULES OF THE CELL **Carbohydrates, Proteins,Lipids,Nucleic acids**	2	2	4	8
Total	6	6	12	24

J.M.J COLLEGE FOR WOMEN,(AUTONOMOUS)TENALI
II.B.Sc Zoology Syllabus
III SEMESTER-Paper III w.e.f. **2013-14**
ANIMAL DIVERSITY-II

BLUE PRINT Max.marks-70

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1	2	2	4	8

Protochordata to Pisces				
UNIT-2 Amphibia to Reptilia	2	2	4	8
UNIT-3 Aves to Mammalia	2	2	4	8
Total	6	6	12	24

J.M.J. COLLEGE FOR WOMEN (autonomous)
II B.Sc., Zoology Syllabus
IV SEMESTER – PAPER IV .w.e.f -2013-14
EMBRYOLOGY & ECOLOGY

BLUE PRINT Max.marks-70

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1 **Embryology**	2	2	4	12
UNIT-2 **Ecology**	2	2	4	12
UNIT-3 **Ecology**	2	2	4	12
Total	6	6	12	24

J.M.J. COLLEGE FOR WOMEN (autonomous)
I.B.Sc. I SEMESTER-SYLLABUSPAPER-1 w.e.f. **2013-14**
ANIMAL DIVERSITY-1

BLUE PRINT **M**ax: marks-70

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1 Protozoa,Porifera , Cnidaria	2	2	4	8
UNIT-2 Platyhelminthes, Nemathelminthes, Annelida, Arthopoda	2	2	4	8

UNIT-3 Mollusua, Echinodermata,Hemichordata	2	2	4	8
Total	6	6	12	24

J.M.J. COLLEGE FOR WOMEN (autonomous)
I.B.Sc. II SEMESTER-SYLLABUS
ZOOLOGY PAPER-II w.e.f. **2013-14**
CELL BIOLOGY & BIOMOLECULES

BLUE PRINT Max.marks-70

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1 Animal cell, plasma membrane, ER,Golgi body, Ribosomes, Lysosomes and Mitochondria	2	2	4	8
UNIT-2 Nucleus,Nucleolus,Chromosomes, Giant chromosomes Cell divisionCell cycle	2	2	4	8
UNIT-3 BIOMOLECULES OF THE CELL **Carbohydrates, Proteins,Lipids,Nucleic acids**	2	2	4	8
Total	6	6	12	24

J.M.J COLLEGE FOR WOMEN,(AUTONOMOUS)TENALI
II.B.Sc Zoology Syllabus
III SEMESTER-Paper III w.e.f. **2013-14**
ANIMAL DIVERSITY-II

BLUE PRINT Max.marks-70

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1 Protochordata to Pisces	2	2	4	8
UNIT-2 Amphibia to Reptilia	2	2	4	8

UNIT-3 Aves to Mammalia	2	2	4	8
Total	6	6	12	24

J.M.J. COLLEGE FOR WOMEN (autonomous)
II B.Sc., Zoology Syllabus
IV SEMESTER – PAPER IV .w.e.f -2013-14
EMBRYOLOGY & ECOLOGY

BLUE PRINT Max.marks-70

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1 **Embryology**	2	2	4	12
UNIT-2 **Ecology**	2	2	4	12
UNIT-3 **Ecology**	2	2	4	12
Total	6	6	12	24

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS), TENALI
III B.Sc ZOOLOGY V SEMESTER PAPER VI E2
POULTRY SCIENCE –SYLLABUS, w.e.f. 2015-16
45 hours 3 hours/week

UNIT -I

1.1 Introduction:

1.1.1. Meaning-Importance of Poultry farming 1 hr
1.1.2. Characteristics of poultry Birds 1hr
1.1.3 .Economics of Poultry production 1hr

1.2. Study of structure of Poultry

1.2.1. External structure 1hr
1.2.2. Digestive system 1hr
1.2.3. Reproductive system 1hr
1.2.4 .Formation and structure of an egg 2hr

1.3. Breeds and breeding of Chicken

1.3.1 Standard classes 1hr
1.3.2 Breeds and varieties of Chicken 1hr

1.3.3 Inheritance of qualitative and quantitative characters 3hr
1.3.4 Selection methods 1hr
1.3.5Systems of Breeding 1hr
1.3.6Methods of mating including artificial Insemination 1hr

UNIT-II

2.1 Poultry nutrition and feeding

2.1.1. Principles of poultry feeding 1hr
2.1.2. Nutrients – their nature and function 3hr
2.1.3. Poultry feeds and composition 2hr
2.1.4. Methods of feeding in Poultry 1hr

2.2. Poultry diseases and their prevention

2.2.1Classification of poultry diseases (viral, Bacterial, Fungal, Protozoal, Prasitic and Miscellaneous) 6hr
2.2.2. Mode of transmission 1hr
2.2.3. General methods of prevention 1hr
2.2.4. Vaccination 1hr

2.3 Hatching of eggs

2.3.1. Selection and Care and handling of good hatching eggs 1hr
2.3.2. Egg testing and Methods of hatching eggs 1hr
2.3.4. Brooding and Rearing of Chickens 1hr

UNIT-III

3.1. Housing Equipment of Poultry

3.1.1. Important principles of poultry housing 1hr
3.1.2. Poultry houses 1hr
3.1.3. Systems of poultry farming 1hr

3.2. Management of poultry farms

3.2.1. Management of chicks 1hr
3.2.2. Management of growers 1hr
3.2.3. Management of layers 1hr
3.2.4. Management of broilers 1hr

3.3. Poulry Products

3.3.1. Eggs and Meat –their quality and Nutritive value 1hr
3.3.3. Storing preservation 1hr
3.3.4. Packing and transport 1hr

Reference books:

Poultry production by Sunil Kumar Das 1994
CBS Publishers and Distributors, Shahdara, Delhi-110022

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS), TENALI
III B.Sc ZOOLOGY VI SEMESTER PAPER VIII E2
COMMUNICABLE DISEASES AND MANAGEMENT SYLLABUS w.e.f 2015-16
45 hours 3hours/week

UNIT-I

1.1. Air Borne Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 12hrs

1.1.1. Influenza
1.1.2. Measles
1.1.3. Mumps
1.1.4. Small Pox
1.1.5. Tuberculosis
1.1.6. Diphtheria
1.1.7 .Meningitis
1.1.8. Whooping Cough

1.2. Food, Water and Air Borne Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 11 hrs

1.2.1. Polio
1.2.2. Cholera
1.2.3. Botulism
1.2.4. Typhoid

1.2.5. Amoebiasis
1.2.6. Tetanus
1.2.7. Anthrax
1.2.8 .Enterobiasis
1.2.9 .Ancylostomiasis

UNIT-II

2.1. Insect Borne Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of
10hrs

2.1.1. Yellow Fever
2.1.2 .Dengue Fever
2.1.3. Malaria
2.1.4. Filariasis
2.1.5. Sleeping Sickness
2.1.6. Kala azar
2.1.7. Oriental sores
2.1.8. Chikungunya

UNIT-III

3.1. Sexually Transmitted Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 5hrs

3.1.1. Gonorrhea
3.1.2. Chancroid
3.1.3. Vaginitis
3.1.4 .Syphilis

3.2. Direct Contact Diseases: Brief structure of pathogen, Symptoms, Treatment and Control measures of 7hrs

3.2.1. Viral hepatitis
3.2.2. Rabies
3.2.3 .Cold Sores
3.2.4 .AIDS

References:

1. M.J.pelezar and R.D.Reid,Microbiology-McGraw Hill Publ.
2. Larry McKane and Judy Kandel, Microbiology-McGraw Hill Publ.New York
3. R.C.Dubey and D.K.Maheswari.A Text book of Microbiology-S.Cand&co.Ltd New Delhi
4. Mani.A, A.M.Selvaraj,L.Narayanan,N.Arumugam.Microbiology-Saras Publ.Nagercoil
5. Shukla.G.S. and V.B.Upadhyay.Economic Zoology.Rastogi Publ.Meerut
6. N.Arumugam Immunology-Saras Publ.Nagercoil

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS), TENALI
III B.Sc. ZOOLOGY V SEMESTER PAPER VI E2
POULTRY SCIENCE –Model question paper, w.e.f. 2015-16

Note: Answer all questions. Draw neat labelled diagram wherever necessary

I. Answer any **three** of the following 3x12=36

1. Describe the digestive system of fowl
2. Describe the laws of Segregation and Independent assortment of characters in poultry breeding
3. Explain about the poultry feed mixture and their composition
4. Give an account of Viral diseases in poultry
5. Describe the different types of sheds in the poultry farm and add a note on the general construction work of the shed
6. Write an essay on chicks management in poultry farming

II. Write short notes on any **Four** of the following 4x5=20

1. Structure of an egg
2. Quill feather
3. American class
4. Ectoparasites
5. Methods of hatching eggs
6. Inheritance of combs in fowls

III. Write briefly on any **Seven** of the following 7x2=14

1. Down feather
2. Culling
3. Fat soluble vitamins

4. Infectious Coryza
5. Feeders
6. Deep litter system
7. Aspergillosis
8. Artificial brooding
9. Debeaking
10. Heat stroke
11. Blastodisc
12. Broilers

Note: * Choose two essay questions, two short answer questions and four two marks questions from each unit

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS), TENALI
III B.Sc. ZOOLOGY VI SEMESTER PAPER VIII E2

COMMUNICABLE DISEASES AND MANAGEMENT AND IMMUNOLOGY

MODEL QUESTION PAPER, w.e.f 2015-16

Note: Answer all questions. Draw neat labeled diagram wherever necessary

I. Answer any **three** of the following 3x12=36

1 .Describe the symptoms, treatment and control measures of Tuberculosis and Meningitis.
2. Write about the symptoms, treatment and preventive measures of Amoebiasis and Anthrax.
3. Explain the structure, symptoms, and treatment and prophylactic measures of Filariasis.
4. Write an essay on structure, symptoms, treatment and control measures of AIDS.
5. Describe the symptoms, treatment and control measures of Gonorrhea and Syphilis.
6. Describe the structure, symptoms, treatment and control measures of Malaria.

II.Write short notes on any **Four** of the following 4x5=20

1. Influenza
2. Dengue fever
3 .Sleeping sickness
4. Vaginitis
5. Enterobiasis
6. Viral hepatitis

III.Write briefly on any **Seven** of the following 7x2=14

1. Chikungunya
2. Oriental sores
3 .Kala azar
4. Rabies
5. Yellow fever
6. Measles
7. Tetanus

8. Botulism
9. Polio
10. Small pox
11. Cold sores
12. Chancroid

Note: * Choose two essay questions, two short answer questions and four two marks questions from each unit

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

III B.Sc ZOOLOGY PRACTICAL-IV E2 SYLLABUS w.e.f. 2015-16

POULTRY SCIENCE & COMMUNICABLE DISEASES AND MANAGEMENT

I.POULTRY

1. Dissection Diagrams: Fowl- Digestive system, Reproductive system, Brain and Skull

2. Exoskeleton: Quill feather, Contour feather, Filoplume &Down feather

3. Endoskeleton: Pectoral girdle, Pelvic girdle and Vertebrae

4. Ectoparasites and Endoparasites (slides)

5. Chick Embryology: 18hours.24 hours, 33hours and48 hours chick embryos (wm)

7. Poultry Equipment

II.COMMUNICABLE DISEASES AND MANAGEMENT

1. Identification of the following pathogens

a. Salmonella typhi, Entamoeba histolytica, Enterobius vermicularis, Ancylostoma duodenale, Plasmodium vivax, Trypanosoma gambiense &Leishmania donovani (slides/ photographs)

b. Measles, Mumps, Small pox, Diphtheria, Yellow fever, Dengue fever, Filariasis, Gonorrhea, Vaginitis and Syphilis (photographs)

Field work is compulsory. Field trip to local Poultry farm unit is to be conducted and certified field notebook should be submitted at the time of practical examination.

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS), TENALI

III B.Sc ZOOLOGY PRACTICAL-IV E2 w.e.f.2015-16

Elective paper –II poultry Science& communicable diseases and management

Model question paper- Scheme of Valuation

Time: 3hrs
Max.marks:50

I. 1. Observe the unlabelled Model/ Chart/Projection. Identify the system and draw a neat labeled diagram of A&B 7½x2=15 marks

Identification- 1Mark
Diagram - 3½Marks.
Labeling - 3 Marks.

(OR)

If the Fowl Skull is given, 10 marks for description of the Skull and 5 marks for labelled diagram of Dorsal/Ventral view of the skull 10+5=15

II. Identify, draw labelled diagram and write notes on 6x2=12
A,B,C,D,E&F
1 from Exoskeleton, 1 from Endoskeleton, 1 from Ectoparasites, 1 from Endoparasites, 1 from Embryology &1 from Poultry equipment

.

III. Identify, draw labelled diagram and write notes on 4x2=8
A, B, C,&D
4 from Communicable diseases and Management

TOTAL=35M

Practical Record 5M+Field Note Book5M =10M
Regular Assessment- 5 M
Internal 15 M
External 35 M

Internal Marks 15

JMJ COLLEGE FOR WOMEN (AUTONOMOUS), TENALI
III B. Sc ZOOLOGY - SYLLABUS, V - SEMESTER
ANIMAL PHYSIOLOGY ……. PAPER-V- w.e.f. 2014-15

BLUE PRINT **45HOURS**

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Questions
UNIT-1- Physiology of digestion , Respiration& Circulation	2	2	4	8
UNIT-2- Physiology of Excretion, muscle contraction & Nerve impulse,	2	2	4	8
Unit-3- Endocrine system, Homeostasis	2	2	4	8
Total	6	6	12	24

JMJ COLLEGE FOR WOMEN (Autonomous), Tenali

APPLIED ZOOLOGY – FISHERIES AND AQUACULTURE

III.B. Sc. V Semester – Paper – VI – Syllabus W.e.f 2014 – 15

BLUE PRINT **45 hours**

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Marks
UNIT-1	2	2	4	8
UNIT-2	2	2	4	8
Unit-3	2	2	4	8
Total	6	6	12	24

J.M.J.COLLEGE FOR WOMEN (AUTONOMOUS) TENALI

III B. Sc ZOOLOGY-SYLLABUS, VI SEMESTER

GENETICS & ORGANIC EVOLUTION ……. PAPER VII

w. e.f.2014 - 15

BLUE PRINT

45HOURS

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Marks
UNIT-1-Genetics	2	2	4	8
UNIT-2- Genetics	2	2	4	8
Unit-3- organic evolution	2	2	4	8
Total	6	6	12	24

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III .B. Sc APPLIED ZOOLOGY-Clinical Science and Animal Biotechnology

VI Semester - Paper - VIII - Syllabus -w.e.f 2014 - 15

BLUE PRINT

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Marks
UNIT-1- Clinical Science	2	2	4	8
UNIT-2-Immunology	2	2	4	8
Unit-3-Animal Biotechnology	2	2	4	8
Total	6	6	12	24

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS), TENALI
III B.Sc. ZOOLOGY V SEMESTER PAPER VI
ELECTIVE PAPER –II POULTRY –SYLLABUS, w.e.f.2015-16
45hours

BLUE PRINT

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Marks
UNIT-1	2	2	4	8
UNIT-2	2	2	4	8
UNIT-3	2	2	4	8
Total	6	6	12	24

J.M.J COLLEGE FOR WOMEN (AUTONOMOUS), TENALI
III B.Sc. ZOOLOGY VI SEMESTER PAPER VIII
ELECTIVE PAPER –II COMMUNICABLE DISEASES AND MANAGEMENT
SYLLABUS w.e.f. 2015-16
45 hours

BLUE PRINT

Name of the Unit	Long Answer Questions	Short Answer Questions	Very Short Answer Questions	Total Marks
UNIT-1	2	2	4	8
UNIT-2	2	2	4	8
UNIT-3	2	2	4	8
Total	6	6	12	24