

## **Schedule of Teaching**

### **Department of Zoology**



Govt. College Jhandutta Distt. Bilaspur (H.P.)

Prepared by:

Dr. Kamlesh Kumari Assistant Professor Department of Zoology

# Class: B.Sc. First Year DSC IA

#### **Course: Animal Diversity (ZOOL 101 TH)**

#### Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system	First Week	July
	(CBCS), Overview of Animal Diversity and classification		
2.	General characters and classification of kingdom Protista	Second Week	
3.	Locomotory organelles and locomotion in Protozoa,	Third Week	
	General characters of phylum Porifera up to classes		
4.	Classification of phylum Porifera, Canal System in Sycon,	Fourth Week	
	General characters of phylum Cnidaria up to classes		
5.	Classification and polymorphism in phylum Cnidaria	First Week	August
6.	General characters and classification of phylum	Second Week	
	Platyhelminthes up to classes		
7.	Life history of Taenia solium, General characters of	Third Week	
	phylum Nemathelminthes		
8.	Classification of phylum Nemathelminthes up to classes,	Fourth Week	
	Life history of Ascaris lumbricoides		
9.	Parasitic adaptations of Ascaris, Characters of Annelida	First Week	September
10.	Classification and metamerism of Annelida	Second Week	
11.	General characters of phylum Arthropoda	Third Week	
12.	Classification of phylum Arthropoda up to classes,	Fourth Week	
13.	Vision in Arthropoda, Metamorphosis in Insects	First Week	October
14.	General characters and classification of phylum Mollusca	Second Week	
15.	Torsion in gastropods, Characters of Echinodermata	Third Week	
16.	Classification and water-vascular system of Echinodermata	Fourth Week	
17.	General features of Protochordata	First Week	November
18.	Phylogeny of Protochordata, General features of Agnatha	Second Week	
19.	Classification of cyclostomes up to classes	Third Week	
20.	General features and classification of pisces up to orders	Fourth Week	
21.	Osmoregulation in fishes, General features of amphibians	First Week	December
22.	Classification of amphibians, Parental care in Amphibia	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	General features and classification of reptiles up to orders,	Second Week	February
	Poisonous and non-poisonous snakes		
26.	Biting mechanism in snakes, General features,	Third Week	
	classification and flight adaptations of Aves		
27.	Classification and origin of mammals	Fourth Week	
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

DSC IB
Course: Comparative Anatomy and Developmental Biology of Vertebrates (ZOOL 102TH)
Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system	First Week	July
	(CBCS), Overview of Comparative Anatomy and		
	Developmental Biology of Vertebrates		
2.	Derivatives of integument w.r.t. glands and digital tips	Second Week	
3.	Evolution of visceral arches	Third Week	
4.	Jaw suspension in vertebrates, Digestive system	Fourth Week	
	introduction		
5.	Brief account of alimentary canal	First Week	August
6.	Digestive glands, Brief account of gills	Second Week	
7.	Brief account of lungs, air sacs and swim bladder	Third Week	
8.	Evolution and comparative anatomy of heart	Fourth Week	
9.	Evolution of aortic arches	First Week	September
10.	Origin and evolution of kidney, Structure of nephron	Second Week	
11.	Evolution of urinogenital ducts, Parts of brain	Third Week	
12.	Comparative account of brain, Photoreceptor- Eye	Fourth Week	
13.	Structure of mammalian ear, Olfactory organs	First Week	October
14.	Gustatoreceptors, Gametogenesis w.r.t. mammals	Second Week	
15.	Vitellogenesis in birds, External fertilization (amphibians)	Third Week	
16.	Internal fertilization (mammals), Blocks to polyspermy	Fourth Week	
17.	Early development of frog	First Week	November
18.	Early development of humans (structure of mature egg and	Second Week	
	its membranes)		
19.	Patterns of cleavage, Fate map, Gastrulation	Third Week	
20.	Types of morphogenetic movements	Fourth Week	
21.	Implantation of embryo in humans	First Week	December
22.	Formation of human placenta and functions	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Types of placenta on the basis of histology	Second Week	February
26.	Metamorphic events in frog life cycle	Third Week	
27.	Intercellular communication, Cell movements, Cell death	Fourth Week	
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	
Thorax	will be close test at the end of each unit. Assignments and quiz		• .1

# Class: B.Sc. Second Year DSC IC

### $\ \, \textbf{Course: Physiology and Biochemistry (ZOOL~201~TH)} \\$

Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system	First Week	July
	(CBCS), Overview of Physiology and Biochemistry		
2.	Structure of a neuron, Resting membrane potential, Graded	Second Week	
	potential		
3.	Origin of Action potential and its propagation in	Third Week	
	myelinated and non-myelinated nerve fibres		
4.	Ultrastructure of skeletal muscle	Fourth Week	
5.	Molecular and chemical basis of muscle contraction	First Week	August
6.	Physiology of digestion in the alimentary canal	Second Week	
7.	Absorption of carbohydrates, proteins, lipids	Third Week	
8.	Pulmonary ventilation, Respiratory volumes and capacities	Fourth Week	
9.	Transport of Oxygen and carbon dioxide in blood	First Week	September
10.	Structure of nephron, Mechanism of urine formation	Second Week	
11.	Counter-current mechanism, Composition of blood	Third Week	
12.	Hemostasis, Structure of Heart, Origin of the cardiac	Fourth Week	
	impulse		
13.	Conduction of the cardiac impulse, Cardiac cycle	First Week	October
14.	Physiology of male reproduction	Second Week	
15.	Physiology of female reproduction	Third Week	
16.	Structure and function of pituitary and thyroid gland	Fourth Week	
17.	Structure and function of Parathyroid gland and pancreas	First Week	November
18.	Structure and function of adrenal gland, Carbohydrate	Second Week	
	Metabolism - Glycolysis		
19.	Krebs Cycle, Pentose phosphate pathway	Third Week	
20.	Gluconeogenesis, Glycogen metabolism	Fourth Week	
21.	Electron transport chain, Lipid metabolism- β oxidation of palmitic acid	First Week	December
22.	Protein metabolism- Transamination, Deamination	Second Week	•
23.	MTT	Third Week	
24.	MTT	Fourth Week	-
25.	Urea Cycle, Enzymes introduction and properties	Second Week	February
26.	Mechanism of enzyme action, Enzyme inhibition	Third Week	Toordary
27.	Regulation of enzyme activity	Fourth Week	1
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	2,100,011
30.	Practicals	Third Week	1
31.	Practicals	Fourth Week	-
51.	1 racticals	1 Julii WCCK	

# DSC ID Course: Genetics and Evolutionary Biology (ZOOL 202 TH) Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system	First Week	July
	(CBCS), Overview of Genetics and Evolutionary Biology		
2.	Mendel's work on transmission of traits, Genetic Variation	Second Week	
3.	Molecular basis of Genetic Information, Principles of	Third Week	
	Inheritance		
4.	Chromosome theory of inheritance, Incomplete dominance	Fourth Week	
	and co-dominance, Multiple alleles, Lethal alleles		
5.	Epistasis, Pleiotropy, Sex linked inheritance	First Week	August
6.	Extra-chromosomal inheritance, Linkage	Second Week	
7.	Crossing over, Recombination frequency	Third Week	
8.	Interference and coincidence	Fourth Week	
9.	Chromosomal Mutations: Deletion, Duplication	First Week	September
10.	Inversion, Translocation	Second Week	
11.	Aneuploidy, Polyploidy	Third Week	
12.	Gene mutations: Induced versus Spontaneous mutations	Fourth Week	
13.	Chromosomal mechanisms, Dosage compensation	First Week	October
14.	History of Life- Major events	Second Week	
15.	Evolutionary Theory- Lamarckism	Third Week	
16.	Darwinism, Neo-Darwinism	Fourth Week	
17.	Types of fossils, Incompleteness of fossil record	First Week	November
18.	Dating of fossils, Phylogeny of horse	Second Week	
19.	Organic variations, Isolating mechanisms	Third Week	
20.	Natural selection- Industrial melanism	Fourth Week	
21.	Types of natural selection, Artificial selection	First Week	December
22.	Biological species concept (Advantages and Limitations)	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Modes of speciation (Allopatric, Sympatric)	Second Week	February
26.	Macro-evolutionary Principles (Darwin's Finches), Mass	Third Week	
	extinction		
27.	Five major extinctions, Role of extinction in evolution	Fourth Week	
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

#### SEC I

#### **Course: Medical Diagnostics (ZOOL 203 TH)**

Lectures per week: 2

Topic	Week	Month
Introduction about Syllabus, Choice based credit system (CBCS), Overview of Medical diagnostics	First Week	July
	Second Week	
<u>~</u>	Third Week	
Diagnostics methods used for analysis of blood- Blood	Fourth Week	
*	First Week	August
Differential leucocyte count using Leishman's stain	Second Week	
Platelet count using Haemocytometer	Third Week	
<u> </u>	Fourth Week	
Packed cell volume	First Week	September
Diagnostic methods used for urine analysis- Physical characteristics	Second Week	1
Abnormal constituents of urine	Third Week	
Causes, types, symptoms of Diabetes (Type I and Type II)	Fourth Week	
Complications, diagnosis and prevention of Diabetes (Type	First Week	October
Causes, types, symptoms of Hypertension (Primary and	Second Week	
Complications, diagnosis and prevention of Hypertension (Primary and secondary)	Third Week	
Testing of blood glucose using Glucometer/Kit	Fourth Week	
Causes, types, symptoms, diagnosis of Tuberculosis	First Week	November
Prevention of Tuberculosis, Causes, types, symptoms of	Second Week	
Diagnosis and prevention of Hepatitis	Third Week	
	Fourth Week	
Detection of tumours and metastasis	First Week	December
	Second Week	
MTT	Third Week	
MTT		
	Second Week	February
CT Scan	Third Week	1
	Fourth Week	1
Revision	First Week	March
	Second Week	1
	Third Week	1
Revision	Fourth Week	1
	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Medical diagnostics Introduction to medical diagnostics Importance of medical diagnostics Diagnostics methods used for analysis of blood- Blood composition Preparation of blood smear Differential leucocyte count using Leishman's stain Platelet count using Haemocytometer Erythrocyte sedimentary rate (E.S.R) Packed cell volume Diagnostic methods used for urine analysis- Physical characteristics Abnormal constituents of urine Causes, types, symptoms of Diabetes (Type I and Type II) Complications, diagnosis and prevention of Diabetes (Type I and Type II) Causes, types, symptoms of Hypertension (Primary and secondary) Complications, diagnosis and prevention of Hypertension (Primary and secondary) Testing of blood glucose using Glucometer/Kit Causes, types, symptoms, diagnosis of Tuberculosis Prevention of Tuberculosis, Causes, types, symptoms of Hepatitis Diagnosis and prevention of Hepatitis Types of tumours (Benign/Malignant) Detection of tumours and metastasis Medical imaging: X-Ray of Bone fracture MTT MTT PET, MRI CT Scan Previous years question papers solving Revision Revision	Introduction about Syllabus, Choice based credit system (CBCS), Overview of Medical diagnostics Introduction to medical diagnostics Second Week Importance of medical diagnostics Diagnostics methods used for analysis of blood- Blood composition Preparation of blood smear First Week Differential leucocyte count using Leishman's stain Platelet count using Haemocytometer First Week Erythrocyte sedimentary rate (E.S.R) Packed cell volume First Week Diagnostic methods used for urine analysis- Physical characteristics Abnormal constituents of urine Causes, types, symptoms of Diabetes (Type I and Type II) Causes, types, symptoms of Diabetes (Type I and Type II) Causes, types, symptoms of Hypertension (Primary and secondary) Complications, diagnosis and prevention of Hypertension (Primary and secondary) Testing of blood glucose using Glucometer/Kit Causes, types, symptoms, diagnosis of Tuberculosis First Week Prevention of Tuberculosis, Causes, types, symptoms of Hepatitis Diagnosis and prevention of Hepatitis Third Week Types of tumours (Benign/Malignant) Fourth Week MTT Fourth Week MTT Fourth Week MTT Fourth Week PET, MRI Second Week Revision First Week Revision Third Week First Week

#### SEC-II

#### **Course: Apiculture (ZOOL 204 TH)**

#### Lectures per week: 2

Introduction about Syllabus, Choice based credit system (CBCS), Overview of Apiculture	S.No.	Topic	Week	Month
2.       History of Honey bees       Second Week         3.       Classification of Honey bees       Third Week         4.       Biology of Honey Bees- Morphology of Worker bee       Fourth Week         5.       Life cycle of Honey bee       First Week         6.       Social organization of bee colony       Second Week         7.       Rearing of Bees- Artificial Bee rearing (Apiary)       Third Week         8.       Beehives – Newton and Langstroth beehive       Fourth Week         9.       Bee pasturage       First Week         10.       Selection of Bee species for apiculture       Second Week         11.       Bee keeping equipments       Third Week         12.       Methods of extraction of Honey (Indigenous and Modern)       Fourth Week         13.       Bee diseases       First Week         14.       Bee enemies       Second Week         15.       Control and preventive measures of Bee diseases       Third Week         16.       Control and preventive measures of Bee enemies       Fourth Week         17.       Bee economy- Products of Apiculture industry- Honey and its uses       First Week         18.       Bees wax and its uses       Second Week         20.       Royal jelly and its uses       Fourth Week	1.	Introduction about Syllabus, Choice based credit system	First Week	July
3.       Classification of Honey bees       Third Week         4.       Biology of Honey Bees- Morphology of Worker bee       Fourth Week         5.       Life cycle of Honey bee       First Week         6.       Social organization of bee colony       Second Week         7.       Rearing of Bees- Artificial Bee rearing (Apiary)       Third Week         8.       Beehives - Newton and Langstroth beehive       Fourth Week         9.       Bee pasturage       First Week         10.       Selection of Bee species for apiculture       Second Week         11.       Bee keeping equipments       Third Week         12.       Methods of extraction of Honey (Indigenous and Modern)       Fourth Week         13.       Bee diseases       First Week         14.       Bee enemies       Second Week         15.       Control and preventive measures of Bee diseases       Third Week         16.       Control and preventive measures of Bee enemies       Fourth Week         17.       Bee economy- Products of Apiculture industry- Honey and its uses       First Week         18.       Bees wax and its uses       Second Week         19.       Propolis and its uses       Fourth Week         20.       Royal jelly and its uses       Fourth Week <td></td> <td>(CBCS), Overview of Apiculture</td> <td></td> <td></td>		(CBCS), Overview of Apiculture		
4. Biology of Honey Bees- Morphology of Worker bee 5. Life cycle of Honey bee 6. Social organization of bee colony 7. Rearing of Bees- Artificial Bee rearing (Apiary) 8. Beehives – Newton and Langstroth beehive 9. Bee pasturage 10. Selection of Bee species for apiculture 11. Bee keeping equipments 12. Methods of extraction of Honey (Indigenous and Modern) 13. Bee diseases 14. Bee enemies 15. Control and preventive measures of Bee diseases 16. Control and preventive measures of Bee enemies 17. Bee economy- Products of Apiculture industry- Honey and its uses 18. Bees wax and its uses 19. Propolis and its uses 19. Propolis and its uses 19. Propolis and its uses 20. Royal jelly and its uses 21. Bee pollen and its uses 22. Entrepreneurship in Apiculture- Recent efforts 23. MTT 24. MTT 25. Bee Keeping Industry- Introduction 26. Modern methods in employing artificial beehives for cross pollination in horticultural gardens 27. Previous years question papers solving 28. Revision 30. Revision 30. Revision 4 August Augu		History of Honey bees	Second Week	
5. Life cycle of Honey bee 6. Social organization of bee colony 7. Rearing of Bees- Artificial Bee rearing (Apiary) 8. Beehives – Newton and Langstroth beehive 9. Bee pasturage 10. Selection of Bee species for apiculture 11. Bee keeping equipments 12. Methods of extraction of Honey (Indigenous and Modern) 13. Bee diseases 14. Bee enemies 15. Control and preventive measures of Bee diseases 16. Control and preventive measures of Bee enemies 17. Bee economy- Products of Apiculture industry- Honey and its uses 18. Bees wax and its uses 18. Bees wax and its uses 19. Propolis and its uses 18. Bee pollen and its uses 19. Propolis and its use	3.	Classification of Honey bees	Third Week	
6. Social organization of bee colony 7. Rearing of Bees- Artificial Bee rearing (Apiary) 8. Beehives – Newton and Langstroth beehive 9. Bee pasturage 10. Selection of Bee species for apiculture 11. Bee keeping equipments 12. Methods of extraction of Honey (Indigenous and Modern) 13. Bee diseases 14. Bee enemies 15. Control and preventive measures of Bee diseases 16. Control and preventive measures of Bee enemies 17. Bee economy- Products of Apiculture industry- Honey and its uses 18. Bees wax and its uses 19. Propolis and its uses 10. Royal jelly and its uses 20. Royal jelly and its uses 21. Bee pollen and its uses 22. Entrepreneurship in Apiculture- Recent efforts 23. MTT 24. MTT 25. Bee Keeping Industry- Introduction 26. Modern methods in employing artificial beehives for cross pollination in horticultural gardens 27. Previous years question papers solving 28. Revision 30. Revision 30. Revision 30. Revision 30. Second Week 30. Third Week 4. Fourth Week 5. Second Week 5. Second Week 6. Fourth Week 7. Third Week 8. Beehives – Newton and Langstroth beehive Second Week 9. Fourth Week 9. Second Week 9. March 9. Previous years question papers solving 9. Revision 9. Third Week 9. Second Week 9. Second Week 9. March 9. Second Week 15. Control and preventive measures of Bee diseases 16. Control and preventive measures of Bee diseases 17. Third Week 18. Second Week 19. Propolis and its uses 19. Provious years question papers solving 10. Fourth Week 19. Provious years question papers solving 10. Fourth Week 10. Second Week 10. Second Week 10. Second Week 11. Second Week 12. Match 12. Second Week 13. Second Week 14. Second Week 15. Second Week 15. Second Week 16. Control and Modern 17. Third Week 18. Second Week 19. Provious years question papers solving 19. Fourth Week 19. February 10. Fourth Week 10. Second Week 10. Secon		Biology of Honey Bees- Morphology of Worker bee	Fourth Week	
7.       Rearing of Bees- Artificial Bee rearing (Apiary)       Third Week         8.       Beehives – Newton and Langstroth beehive       Fourth Week         9.       Bee pasturage       First Week         10.       Selection of Bee species for apiculture       Second Week         11.       Bee keeping equipments       Third Week         12.       Methods of extraction of Honey (Indigenous and Modern)       Fourth Week         13.       Bee diseases       First Week         14.       Bee enemies       Second Week         15.       Control and preventive measures of Bee diseases       Third Week         16.       Control and preventive measures of Bee enemies       Fourth Week         17.       Bee economy- Products of Apiculture industry- Honey and its uses       First Week         18.       Bees wax and its uses       Second Week         19.       Propolis and its uses       Fourth Week         20.       Royal jelly and its uses       Fourth Week         21.       Bee pollen and its uses       First Week         22.       Entrepreneurship in Apiculture- Recent efforts       Second Week         23.       MTT       Third Week         24.       MTT       Fourth Week         25.       Bee Keeping	5.	Life cycle of Honey bee	First Week	August
8. Beehives – Newton and Langstroth beehive Fourth Week 9. Bee pasturage First Week 10. Selection of Bee species for apiculture Second Week 11. Bee keeping equipments Third Week 12. Methods of extraction of Honey (Indigenous and Modern) Fourth Week 13. Bee diseases First Week 14. Bee enemies Second Week 15. Control and preventive measures of Bee diseases Third Week 16. Control and preventive measures of Bee enemies Fourth Week 17. Bee economy- Products of Apiculture industry- Honey and its uses 18. Bees wax and its uses Second Week 19. Propolis and its uses Fourth Week 20. Royal jelly and its uses Fourth Week 21. Bee pollen and its uses First Week 22. Entrepreneurship in Apiculture- Recent efforts Second Week 23. MTT Fourth Week 24. MTT Fourth Week 25. Bee Keeping Industry- Introduction Second Week 26. Modern methods in employing artificial beehives for cross pollination in horticultural gardens 27. Previous years question papers solving First Week 28. Revision First Week 30. Revision First Week 30. Revision Third Week 31. Bee pasturage Second Week 32. March 33. Revision Second Week 34. March 35. Bee Keeping Industry- Introduction Second Week 46. March 47. Fourth Week 48. Revision Second Week 49. Revision Second Week 40. March 41. Bee pollen and its uses Second Week 42. March 43. March 44. March 45. Bee Keeping Industry- Introduction Second Week 46. March 47. Previous years question papers solving First Week 48. Revision Second Week 49. Revision Second Week 40. Revision Third Week	6.	Social organization of bee colony	Second Week	
9. Bee pasturage 10. Selection of Bee species for apiculture 11. Bee keeping equipments 12. Methods of extraction of Honey (Indigenous and Modern) 13. Bee diseases 14. Bee enemies 15. Control and preventive measures of Bee diseases 16. Control and preventive measures of Bee enemies 17. Bee economy- Products of Apiculture industry- Honey and its uses 18. Bees wax and its uses 18. Bees wax and its uses 19. Propolis and its uses 19. Propolis and its uses 19. Propolis and its uses 10. Royal jelly and its uses 11. Bee pollen and its uses 12. Entrepreneurship in Apiculture- Recent efforts 13. Bee pollen and its uses 14. Bee pollen and its uses 15. Control and preventive measures of Bee enemies 16. Control and preventive measures of Bee enemies 17. Bee keeping in dis uses 18. Bees wax and its uses 19. Propolis and its uses 19. Propolis and its uses 19. Propolis and its uses 10. Revision 10. Fourth Week 11. Bee pollen and its uses 11. Bee pollen and its uses 12. Entrepreneurship in Apiculture- Recent efforts 13. Bee keeping Industry- Introduction 14. Bee keeping Industry- Introduction 15. Second Week 16. Control and preventive measures of Bee diseases 16. Control and preventive measures of Bee diseases 17. Fourth Week 19. Propolis and its uses 19. Previous years question papers solving 10. Fourth Week 10. February 10. February 11. Beet diseases 12. Previous years question papers solving 12. Previous years question papers solving 13. Beet diseases 14. Beet diseases 15. Cottober 16. October 17. Pourth Week 18. Pourth Week 19. Propolis and its uses 19. Previous years question papers solving 10. Fourth Week 19. Propolis and its uses 19. Previous years question papers solving 10. Revision 11. Trird Week 12. Beet memies 12. Beet memies 13. Beet diseases 14. Deturb Week 15. Cottober 16. Cottober 17. Pourth Week 18. Beet week 19. Propolis and its uses 18. Beet week 19. Propolis and its uses 18. Beet week 19. Propolis and its uses 19. Propolis and its uses 19. Pourth Week 19. Pourth Week 19. Pourth Week 19. Propolis and its use	7.	Rearing of Bees- Artificial Bee rearing (Apiary)	Third Week	
10. Selection of Bee species for apiculture  11. Bee keeping equipments  12. Methods of extraction of Honey (Indigenous and Modern)  13. Bee diseases  14. Bee enemies  15. Control and preventive measures of Bee diseases  16. Control and preventive measures of Bee enemies  17. Bee economy- Products of Apiculture industry- Honey and its uses  18. Bees wax and its uses  19. Propolis and its uses  10. Royal jelly and its uses  11. Bee pollen and its uses  12. Entrepreneurship in Apiculture- Recent efforts  12. Bee Keeping Industry- Introduction  12. Bee Keeping Industry- Introduction  13. Bee Keeping Industry- Introduction  14. Bee Keeping Industry- Introduction  15. Control and preventive measures of Bee diseases  16. Control and preventive measures of Bee enemies  17. Fourth Week  18. Bee economy- Products of Apiculture industry- Honey and its uses  18. Bees wax and its uses  19. Propolis and its uses  10. Fourth Week  10. Provint Week  11. Bee pollen and its uses  12. Fourth Week  13. Bee keeping Industry- Introduction  14. Bee pollen and its uses  15. Control and preventive measures of Bee diseases  16. Control and preventive measures of Bee diseases  17. Previous deal preventive measures of Bee diseases  18. Bee enemies  19. Propolis and its uses  10. Propolis and its uses  10. Propolis and its uses  11. December  12. Propolis and its	8.	Beehives – Newton and Langstroth beehive	Fourth Week	
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12.       Methods of extraction of Honey (Indigenous and Modern)       Fourth Week         13.       Bee diseases       First Week         14.       Bee enemies       Second Week         15.       Control and preventive measures of Bee diseases       Third Week         16.       Control and preventive measures of Bee enemies       Fourth Week         17.       Bee economy- Products of Apiculture industry- Honey and its uses       First Week         18.       Bees wax and its uses       Second Week         19.       Propolis and its uses       Fourth Week         20.       Royal jelly and its uses       Fourth Week         21.       Bee pollen and its uses       First Week       December         22.       Entrepreneurship in Apiculture- Recent efforts       Second Week       December         23.       MTT       Third Week       February         24.       MTT       Fourth Week       February         25.       Bee Keeping Industry- Introduction       Second Week       February         26.       Modern methods in employing artificial beehives for cross pollination in horticultural gardens       Fourth Week         27.       Previous years question papers solving       Fourth Week         28.       Revision       Second Week	10.	Selection of Bee species for apiculture	Second Week	
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16.Control and preventive measures of Bee enemiesFourth Week17.Bee economy- Products of Apiculture industry- Honey and its usesFirst Week18.Bees wax and its usesSecond Week19.Propolis and its usesThird Week20.Royal jelly and its usesFourth Week21.Bee pollen and its usesFirst Week22.Entrepreneurship in Apiculture- Recent effortsSecond Week23.MTTThird Week24.MTTFourth Week25.Bee Keeping Industry- IntroductionSecond Week26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week30.RevisionSecond Week30.RevisionThird Week	14.	Bee enemies	Second Week	
17. Bee economy- Products of Apiculture industry- Honey and its uses  18. Bees wax and its uses  19. Propolis and its uses  20. Royal jelly and its uses  21. Bee pollen and its uses  22. Entrepreneurship in Apiculture- Recent efforts  23. MTT  24. MTT  25. Bee Keeping Industry- Introduction  26. Modern methods in employing artificial beehives for cross pollination in horticultural gardens  27. Previous years question papers solving  28. Revision  29. Revision  18. Bee economy- Products of Apiculture industry- Honey and First Week  Second Week  Pourth Week  Pebruary  February  February  February  March  March  Second Week  Third Week  February  Fourth Week  Third Week	15.	Control and preventive measures of Bee diseases	Third Week	
its uses  18. Bees wax and its uses  19. Propolis and its uses  20. Royal jelly and its uses  21. Bee pollen and its uses  22. Entrepreneurship in Apiculture- Recent efforts  23. MTT  24. MTT  25. Bee Keeping Industry- Introduction  26. Modern methods in employing artificial beehives for cross pollination in horticultural gardens  27. Previous years question papers solving  28. Revision  18. Bees wax and its uses  19. Second Week  19. Third Week  20. February  21. Previous years question papers solving  22. February  23. Fourth Week  24. MTT  25. Bee Keeping Industry- Introduction  26. Modern methods in employing artificial beehives for cross pollination in horticultural gardens  27. Previous years question papers solving  28. Revision  29. Revision  10. Revision  11. Second Week  12. March  12. Previous years question papers solving  13. Fourth Week  14. March  15. Second Week  16. March  16. March  17. Provious years question papers solving  17. Previous years question papers solving  28. Revision  29. Revision  10. Third Week  10. Meek	16.	Control and preventive measures of Bee enemies	Fourth Week	
18.Bees wax and its usesSecond Week19.Propolis and its usesThird Week20.Royal jelly and its usesFourth Week21.Bee pollen and its usesFirst Week22.Entrepreneurship in Apiculture- Recent effortsSecond Week23.MTTThird Week24.MTTFourth Week25.Bee Keeping Industry- IntroductionSecond Week26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week29.RevisionSecond Week30.RevisionThird Week	17.	Bee economy- Products of Apiculture industry- Honey and	First Week	November
19.Propolis and its usesThird Week20.Royal jelly and its usesFourth Week21.Bee pollen and its usesFirst Week22.Entrepreneurship in Apiculture- Recent effortsSecond Week23.MTTThird Week24.MTTFourth Week25.Bee Keeping Industry- IntroductionSecond Week26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week29.RevisionSecond Week30.RevisionThird Week		its uses		
20.Royal jelly and its usesFourth Week21.Bee pollen and its usesFirst Week22.Entrepreneurship in Apiculture- Recent effortsSecond Week23.MTTThird Week24.MTTFourth Week25.Bee Keeping Industry- IntroductionSecond Week26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week29.RevisionSecond Week30.RevisionThird Week	18.	Bees wax and its uses	Second Week	
21.Bee pollen and its usesFirst WeekDecember22.Entrepreneurship in Apiculture- Recent effortsSecond Week23.MTTThird Week24.MTTFourth Week25.Bee Keeping Industry- IntroductionSecond Week26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week29.RevisionSecond Week30.RevisionThird Week	19.	Propolis and its uses	Third Week	
22.Entrepreneurship in Apiculture- Recent effortsSecond Week23.MTTThird Week24.MTTFourth Week25.Bee Keeping Industry- IntroductionSecond Week26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week29.RevisionSecond Week30.RevisionThird Week	20.	Royal jelly and its uses	Fourth Week	
23. MTT Third Week 24. MTT Fourth Week 25. Bee Keeping Industry- Introduction Second Week 26. Modern methods in employing artificial beehives for cross pollination in horticultural gardens 27. Previous years question papers solving Fourth Week 28. Revision First Week 29. Revision Second Week 30. Revision Third Week	21.	Bee pollen and its uses	First Week	December
24.MTTFourth Week25.Bee Keeping Industry- IntroductionSecond Week26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week29.RevisionSecond Week30.RevisionThird Week	22.	Entrepreneurship in Apiculture- Recent efforts	Second Week	
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26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week29.RevisionSecond Week30.RevisionThird Week	24.	MTT	Fourth Week	
26.Modern methods in employing artificial beehives for cross pollination in horticultural gardensThird Week27.Previous years question papers solvingFourth Week28.RevisionFirst Week29.RevisionSecond Week30.RevisionThird Week	25.	Bee Keeping Industry- Introduction	Second Week	February
27.Previous years question papers solvingFourth Week28.RevisionFirst WeekMarch29.RevisionSecond Week30.RevisionThird Week	26.		Third Week	
28.RevisionFirst WeekMarch29.RevisionSecond Week30.RevisionThird Week		pollination in horticultural gardens		
28.RevisionFirst WeekMarch29.RevisionSecond Week30.RevisionThird Week	27.	Previous years question papers solving	Fourth Week	
30. Revision Third Week	28.		First Week	March
30. Revision Third Week	29.	Revision	Second Week	
31. Revision Fourth Week	30.		Third Week	
	31.	Revision	Fourth Week	

# Class: B.Sc. Third Year DSE IA

#### Course: Applied Zoology {ZOOL 301 (A) TH}

Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system	First Week	July
	(CBCS), Overview of Applied Zoology		
2.	Introduction to Host-parasite Relationship, Host, Definitive	Second Week	
	host, Intermediate host		
3.	Parasitism, Symbiosis, Commensalism, Reservoir,	Third Week	
	Zoonosis		
4.	Transmission, Prevention and control of Tuberculosis	Fourth Week	
5.	Transmission, Prevention and control of Typhoid	First Week	August
6.	Brief account of Rickettsia prowaziiekii	Second Week	
7.	Brief account of Borrelia recurrentis	Third Week	
8.	Brief account of Treponema pallidum	Fourth Week	
9.	Life history and pathogenicity of Entamoeba histolytica	First Week	September
10.	Life history and pathogenicity of <i>Plasmodium vivax</i>	Second Week	1
11.	Life history and pathogenicity of Trypanosoma gambiense	Third Week	
12.	Life history and pathogenicity of Ancylostoma duodenale	Fourth Week	1
13.	Life history and pathogenicity of Wuchereria bancrofti	First Week	October
14.	Biology, control and damage caused by Helicoverpa	Second Week	1
	armigera, Pyrilla perpusilla		
15.	Biology, control and damage caused by Papilio demoleus,	Third Week	1
	Callosobruchus chinensis		
16.	Biology, control and damage caused by Sitophilus oryzae	Fourth Week	
	and Tribolium castaneum		
17.	Medical importance and control of Pediculus humanus	First Week	November
	corporis, Anopheles		
18.	Medical importance and control of Culex, Aedes,	Second Week	
	Xenopsylla cheopis		
19.	Preservation and artificial insemination in cattle	Third Week	
20.	Induction of puberty and synchronization of estrus in cattle	Fourth Week	
21.	Principles of poultry breeding	First Week	December
22.	Management of breeding stock, Processing of eggs	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Genetic improvements in aquaculture industry	Second Week	February
26.	Induced breeding and transportation of fish seed	Third Week	
27.	Previous years question papers solving	Fourth Week	
28.	Revision	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	

# DSE IB Course: Insect, Vectors and Diseases {ZOOL 302(A) TH} Lectures per week: 3

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system	First Week	July
	(CBCS), Overview of Insect, vectors and diseases		-
2.	Introduction to insects- General features of insects	Second Week	
3.	Morphological features, Head -Eyes	Third Week	
4.	Types of antennae, Mouth parts w.r.t. feeding habits	Fourth Week	
5.	Classification of insects up to orders	First Week	August
6.	Detailed features of order Diptera	Second Week	
7.	Detailed features of order Siphonaptera	Third Week	
8.	Detailed features of order Siphunculata	Fourth Week	
9.	Detailed features of order Hemiptera	First Week	September
10.	Dipterans as important insect vectors – Mosquitoes	Second Week	
11.	Sand fly, Houseflies	Third Week	
12.	Study of mosquito-borne diseases – Malaria, Dengue	Fourth Week	]
13.	Chikungunya, Viral encephalitis, Filariasis	First Week	October
14.	Control of mosquitoes study of sand fly-borne diseases –	Second Week	]
	Visceral Leishmaniasis,		
15.	Cutaneous Leishmaniasis, Phlebotomus fever	Third Week	]
16.	Control of Sand fly, Study of house fly as important	Fourth Week	
	mechanical vector		
17.	Myiasis, Control of house fly	First Week	November
18.	Fleas as important insect vectors, Host-specificity	Second Week	
19.	Study of Flea-borne diseases – Plague, Typhus fever	Third Week	
20.	Control of fleas, Human louse (Head, Body and Pubic	Fourth Week	
	louse) as important insect vectors		
21.	Study of louse-borne diseases -Typhus fever, Relapsing	First Week	December
	fever		
22.	Trench fever, Vagabond's disease, Phthiriasis	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Control of human louse, Bugs as insect vectors	Second Week	February
26.	Blood-sucking bugs; Chagas disease	Third Week	
27.	Bed bugs as mechanical vectors, Control and prevention	Fourth Week	
	measures		
28.	Previous years question papers solving	First Week	March
29.	Revision	Second Week	
30.	Practicals	Third Week	
31.	Practicals	Fourth Week	1

#### SEC - III

#### Course: Sericulture (ZOOL 303 TH)

#### Lectures per week: 2

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system	First Week	July
	(CBCS), Overview of Sericulture		
2.	Sericulture introduction, History and present status	Second Week	
3.	Silk route, Types of silkworms	Third Week	
4.	Distribution of silkworms and races, Exotic and indigenous races	Fourth Week	
5.	Mulberry and non-mulberry sericulture	First Week	August
6.	Life cycle of <i>Bombyx mori</i>	Second Week	
7.	Structure of silk gland and secretion of silk	Third Week	
8.	Selection of mulberry variety	Fourth Week	
9.	Establishment of mulberry garden	First Week	September
10.	Rearing house and rearing appliances	Second Week	_
11.	Disinfectants: Formalin, bleaching powder, RKO	Third Week	
12.	Silkworm rearing technology: Early age	Fourth Week	
13.	Late age rearing	First Week	October
14.	Types of mountages	Second Week	
15.	Spinning and Harvesting of cocoon	Third Week	
16.	Storage of cocoon, Pests of silkworm: Uzi fly	Fourth Week	
17.	Dermestid beetles and Vertebrates	First Week	November
18.	Pathogenesis- Protozoan and viral diseases of silkworms	Second Week	
19.	Fungal and bacterial diseases of silkworms	Third Week	
20.	Control and prevention of pests and diseases	Fourth Week	
21.	Prospectus of Sericulture in India	First Week	December
22.	Sericulture industry in different states, Employment	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	Potential in mulberry and non-mulberry sericulture	Second Week	February
26.	Visit to various sericulture centers	Third Week	
27.	Previous years question papers solving	Fourth Week	
28.	Revision	First Week	March
29.	Revision	Second Week	
30.	Revision	Third Week	
31.	Revision	Fourth Week	

#### SEC – IV Course: Aquarium Fish Keeping {ZOOL 304 (A) TH} Lectures per week: 2

S.No.	Topic	Week	Month
1.	Introduction about Syllabus, Choice based credit system	First Week	July
	(CBCS), Overview of Aquarium fish keeping		
2.	Introduction to Pisces group	Second Week	
3.	Classification of fishes	Third Week	
4.	Introduction to aquarium fish keeping	Fourth Week	
5.	The potential scope of aquarium fishes	First Week	August
6.	Aquarium fish industry as a cottage industry	Second Week	
7.	Fresh water and marine water aquarium fishes	Third Week	
8.	Exotic and endemic species of aquarium fishes	Fourth Week	
9.	Biology of Aquarium Fishes	First Week	September
10.	Common characters and sexual dimorphism of Guppy fish	Second Week	
11.	Common characters and sexual dimorphism of Sword tail	Third Week	
12.	Common characters and sexual dimorphism of Molly	Fourth Week	
13.	Common characters and sexual dimorphism of Gold fish	First Week	October
14.	Common characters and sexual dimorphism of Angel fish	Second Week	
15.	Common characters and sexual dimorphism of Blue morph	Third Week	
16.	Common characters and sexual dimorphism of Anemone	Fourth Week	
	fish		
17.	Common characters and sexual dimorphism of Butterfly	First Week	November
	fish		
18.	Use of live fish feed organisms	Second Week	
19.	Composition of formulated fish feeds	Third Week	
20.	Preparation of formulated fish feed	Fourth Week	
21.	Live fish transport - Fish handling	First Week	December
22.	Packing and forwarding techniques	Second Week	
23.	MTT	Third Week	
24.	MTT	Fourth Week	
25.	General Aquarium maintenance	Second Week	February
26.	Budget for setting up an aquarium fish farm as a cottage	Third Week	
	Industry		
27.	Previous years question papers solving	Fourth Week	
28.	Revision	First Week	March
29.	Revision	Second Week	
30.	Revision	Third Week	
31.	Revision	Fourth Week	