

**NIZAM COLLEGE: DEPARTMENT OF ZOOLOGY**  
**Lesson Plan**

**Class: B.Sc. - III Semester**

**Section: Zoology**

**Course :Animal physiology and animal behaviour**

**UNIT: I**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
1.1 Digestion	2
1.1.1. Enzymes	2
1.1.2 Digestion of carbohydrates,protiens,lipids cellulose	2
1.1.3 Absorption,assimilation of digested food	1
1.1.4 Role of gastrointestinal harmones in digestion	1
1.2 Excretion	1
1.2.1 ammonotelic ,ureotelic,ureotelic	1
1.2.2structure and function of nephron	2
1.2.3 urine formation and counter current mechanism	
1.3 osmoregulation	2
1.3.1 water and ionic regulation by fresh water	2
1.3.2 brackish water and marine water	2
total	15

**Name of the Teacher: Dr.G. Sridhar**

**Signature:**  
**Zoology**



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**Lesson Plan**

**Class: B.Sc. - III Semester**

**Section: Zoology**

**Course :Animal physiology and animal behaviour**

**UNIT: II**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
2.1 Homostatis	2
2.1.1 concept of homostatis	2
2.1.2 mechanism of homostatis	2
2.2 respiration	1
2.2.1 defination of respiration,respiratory mechanisim,extrenal,internal and cellular respiration	1
2.2.2respiratory pigments transport of o <sub>2</sub> o <sub>2</sub> dissociation cures,bohrrs effect	1
2.2.3 Regulation og respiration	1
2.3 Circulation	2
2.3.1 types of circulation	
2.3.2 types of heart	2
2.3.3 heart functions ,conductions an dregulation of heart beat, regulation of heart rate	2
2.3.4 Trachycardia, bradycardia	2
total	15

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**Section: Zoology**

**Course :Animal physiology and animal behaviour**

**UNIT: III            No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
3.1 Muscle contraction	2
3.1.1 types of muscles	2
3.1.2 ultra structure of skeletal muscle	2
3.1.3 Sliding filament theory of muscle contraction	1
3.1.4 Twitch tetanus summation, treppe fatigue	1
3.2 Nerves	1
3.2.1 Structure of neuron	1
3.2.2 Resting potential, threshold potential, action potential, conduction of nerves	2
3.2.3 Transmission of nerve impulse	
3.2.4 Synapse, synaptic transmission, neurotransmitters epsp, ipsp	2
3.3 Endocrine system	2
3.3.1 endocrine glands ;pituitary, thyroid, adrenal, parathyroid, pancreas	2
3.3.2 hormone action	1
3.3.3 male and female hormones	1
total	15

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**Class: B.Sc. - III Semester**

**Section: Zoology**

**Course :Animal physiology and animal behaviour**

**UNIT: IV**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
4.1 Animal behaviour	2
4.1.1 types of behaviour and acquired instinctive behaviour	2
4.1.2 behaviour taxes, reflexes tropism	2
4.2 learning and memory	1
4.2.1 types of learning	1
4.2.2 conditioning; classic conditioning, instrumental conditioning pavlovs experiment	1
4.3 social behaviour and communication	1
4.3.1 colonial existence of bees and termites ,pheromones	2
4.4 biological rhythms	
4.4.1 biological clocks, circadian rhythms, circannual rhythms	2
total	15

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**NIZAM COLLEGE: DEPARTMENT OF ZOOLOGY**  
**Lesson Plan**

**Class: B.Sc. - IV Semester**

**Section: Zoology**

**Course :Cell biology,Genetics&developmental biology**

**UNIT: I**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
1. Cell biology	1
1.1 Ultra structure of animal cell	2
1.2 structure and function of plasama membrane proteins	2
1.3 structure and function of cell organells	1
1.4 chromosome structure and types	1
1.5 cell division mitosis meosis cell cycle &regulation	1
total	15

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**Lesson Plan**

**Class: B.Sc. - IV Semester**

**Section: Zoology**

**Course : Cell biology,Genetics&developmental biology**

**UNIT: II**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
2 Microbiology	2
2.1 DNA &RNA structure,types	2
2.2 DNA repletion	2
2.3 protein synthesis -transcription,translation	1
2.4 gene expression-genetic code,operon concept	1
2.5 molecular biology techniques-pcr,electroporsis	1
total	15

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**Lesson Plan**

**Class: B.Sc. - IV Semester**

**Section: Zoology**

**Course : Cell biology, Genetics & developmental biology**

**UNIT: III**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
3. GENETICS	2
3.1 Mendals law of inheritance and non mendilin inheritance	2
3.2 linkage and crossing over	2
3.3 sex determination and sex linked inheritance	1
3.4 chorosomal mutations	1
3.5 inborn erros of new born	1
total	15

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**Class: B.Sc. - IV Semester**

**Section: Zoology**

**Course : Cell biology,Genetics&developmental biology**

**UNIT: IV**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
4 DEVELOPMENTL BIOLOGY AND EMBRYOLOGY	2
4.1 Gametogenesis ,fertilization	2
4.2 development of frog upto formation of primry germ layers	2
4.3 formation of foetal membrane in chick embryo	1
4.4 types and functions of placenta in mammals	1
4.5 regulation in turbulleria and lizards	1
total	15

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**NIZAM COLLEGE: DEPARTMENT OF ZOOLOGY**

**Lesson Plan**

**Class: B.Sc. - V Semester**

**Section: Zoology**

**Course : physiology and biochemistry**

**UNIT: I physiology**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
1.1 Digestion	2
1.1.1 digestion absorption and assimilation of carbohydrates ,proteins,and lipds	2
1.1.2 digestion of cellulose	2
1.2.3 role of gastrointestinal harmones in digestion	1
1.2 respiration	1
1.2.1 Respiratory pigments transport of o2 ,o2 dissociation curves,bohrrs effect	1
1.2.2 transport of co2 -chloride shift ,regulation of respiration-nervous and chemical	2
1.3.1 Circulation	1
1.3.2 structure of mammalian heart ,types of heart	1
1.3.3 Trachycardia, bradycardia	1
1.4 excretion	1
1.4.1 structure and function of nephron	1
1.4.2 urine formation ,counter current mechanism	1

1.4.4 osmoregulation water and ionic regulation	1
total	15

**Name of the Teacher: Dr.G. Sridhar**

**Signature**

**Hed,department of zoology**

**NIZAM COLLEGE: DEPARTMENT OF ZOOLOGY**

**Lesson Plan**

**Class: B.Sc. - V Semester**

**Section: Zoology**

**Course : physiology and biochemistry**

**UNIT: II**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
2.1 Muscle contraction	2
2.1.1 types of muscles	2
2.1.2 ultra structure of skeletal muscle	2
2.1.3 Sliding filament theory of muscle contraction	1
2.2 Nerve impulse	1
2.2.1 nerve impulse -resting potential and action potential	1
2.2.3 synapse,types of synapses and synaptic transmission	1
2.3 Endocrine system	2
2.3.1 endocrine glands thyroid gland,pituitary adrenal glands	1
2.3.2 hormone action and concept of secondary messengers	1
2.3.3 male and female hormones ,hormonal control of menstrual cycle	1

total	15
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**NIZAM COLLEGE: DEPARTMENT OF ZOOLOGY**

**Lesson Plan**

**Class: B.Sc. - V Semester**

**Section: Zoology**

**Course : physiology and biochemistry**

**UNIT: III**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
3.1 Homostasis and enzymes	2
3.1.1 concept of homostasis	2
3.1.2 mechanisam of homostatis	2
3.1.3 osmoregulation-water and ionic regulation byfresh ,brackish water	1
2.43.1.4 enzymes	1
3.2 biomolecules and metabolism	1
3.2.2 carbohydrate metabolism glycolysis,krebs cycle,etc	
3.2.3protein metabolism	
3.2.4 lipid metabolism-fatty acid	
total	15

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**Lesson Plan**

**Class: B.Sc. - VI Semester**

**Section: Zoology**

**Course / Paper:VI- immunology**

**UNIT: I immunology-basic concept**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
1.1 Basic concepts of immunology	2
1.2 cells of immune system	2
1.3 primary and secondary organs of immune system	2
1.4 types of immunity; innate and acquired	2
1.5 structure ,function and types of antibodies, monoclonal antibodies	3
1.6 B and T cells epitopes, haptens, adjuvants	3
<b>Total</b>	<b>15 Hours</b>

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**Lesson Plan**

**Class: B.Sc. - VI Semester**

**Section: Zoology**

**Course / Paper:VI- immunology**

**UNIT: I working of immune system immune system in health and diseases**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
2.1 Antigen-Atibody rections	2
2.2 structure and function of MHC	2
2.3 basic properties and function of cytokinenis,interferons	2
2.4 types of hypersensitivity	2
2.5 concepts of autoimmunitywith reference to pheumatoid arthritiesand tolerance aids	3
2.6intro to vacines and types of vaccines	3
<b>Total</b>	<b>15 Hours</b>

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**Lesson Plan**

**Class: B.Sc. - VI Semester**

**Section: Zoology**

**Course / Paper:VI- IMMUNOLOGY**

**UNIT-III: Transplantation and rejections,stem cells nd immunology**

**No. of Hours Allotted: 15**

<b>Topics to be covered</b>	<b>No. of. Hours</b>
3.1 History ,def,scope of transplantation	2
3.2 genetic barriers b/w donor and recipient	2
3.3 acute nd chronoic rejections,graft rejections	2
3.4 transplantation of specific organs and tissues	2
3.5 immunosupressents and immunosuppression drugs	3
3.6 stem cells nd immunology	3
total	15

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