

K.M.E. Society's
G.M.Momin Women's College-Bhiwandi

Department of Zoology

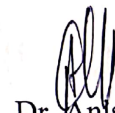
13th June 2023

Notice for Staff Meeting

I would like to invite all the teaching staff members along with lab assistance and lab attendants of the Zoology department to attend a staff meeting on 13th June 2023 at 12.300 a.m.

Agenda for the meeting

- 1- To discuss Time-table and work-load.
- 2- To Discuss syllabus distribution.
- 3- Other subjects



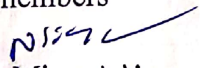
Dr. Anis Choudhery

Head of Department Zoology

Name of the staff members

Signature

Dr. Nandita Singh



Dr. Kamran Abbas Mirza



Dr. Heena Momin



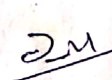
Dr. Sumaiya Khatib



Ms. Kahkashan Khan. 

Mr. Muzammil Umch.  15-6-23

Mr. Muzammil Kamekhan. 

Mr. Mansoor Ali Patel. 

Department of Zoology

Minutes of Staff meeting

Departmental opening meeting was held on 13th June, 2023 at 12:30 pm in Department of Zoology. Following points were discussed.

1. Dr. Anis Choudhery welcomed all the teaching and non teaching staff for the new academic year
2. Non Teaching staff are instructed to check the stock and submit requirements in week time for the practicals of T.Y. and S.Y classes.
3. Laboratory staff suggested to have electrical bell for the Zoo lab.
4. Dr. Anis Choudhery instructed to Laboratory staff to maintain discipline in laboratory.
5. Teaching staff are requested to submit requirement for the practical and inform laboratory staff prior a day for conduction of practical.
6. Dr. Anis Choudhery requested Dr.Nandita Singh to take care of department in his medical leave.
7. Time table , syllabus and work load distributed for the present staff.
8. Theory classes for TYBSc to be started from the very first day ,13th June 2023 according to the timetable and practicals to be started next week that is 19th June 2023.
9. First year and second year classes to be started after admissions and batch preparations.
10. Practical batches will not be more than 20 students per batch.
11. Five (5) CHB staff will be appointed by the college for Zoology Department.or 02 Full time temporary staff should be appointed.
12. Unit Plan should be submitted by every staff in the form of soft and hard copy.
13. Journals to be handwritten by students and Semester V and Semester VI Journals will be combined.

Name of the staff members

Dr. Anis Choudhery

Dr. Nandita Singh

Dr. Kamran Abbas Mirza

Dr. Heena Momin

Dr. Sumaiya Khatib

MS. Kahkashan Amol

Mr. Muzammil Vinchu

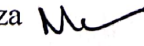
Mr. Muzammil Kamankar

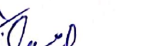
Mr. Mansoor Ali Patel

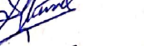
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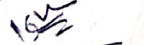


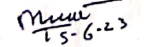
















Department of Zoology

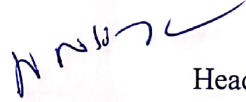
12th August 2023

Notice for Staff Meeting

I would like to invite all the teaching staff members of the Zoology department to attend a staff meeting on 14th August 2023 at 11.00 a.m.

Agenda for the meeting

- 1 - To discuss projects under proposed PM-USHA grant.
- 2 - Discussion regarding the conduction of theory , practicals and Projects of PG section
- 3 - To discuss other requirements


Head
Department Zoology

Department of Zoology

Minutes of Meeting – 14/8/23

A Departmental meeting was held on 14/8/23 in the Department of Zoology with regular staff members at 11:00 am. The following points were discussed.

1. Soft skill Projects to be proposed for PM-USHA Grants for three consecutive years were discussed.
2. All Staff members will give at least 02 projects in the term of Seminars, Workshops, Skill oriented Courses, or any other.
3. Some suggested projects are Apiculture, Butterfly Garden, Taxidermy, Certificate course on Wetlands, Study tour and Aquaponics. Few more can be added.
3. MSc Part II classes will start on 17/8/23.
4. MSc Part II Project distribution will be done on 17/8/23 and their work will start immediately.
5. MSc Part I classes will start after their admission work is complete.
6. Dr.Heena Momin will be attending Refresher Course from 16/8/23 to 29/8/23. Lectures and Practicals are adjusted.

Attendees-

Dr.Nandita Singh

Dr.Kamran Abbas

Dr.Heena Momin

Dr.Sumaiya Khatib

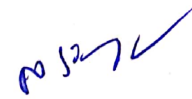
NSD 14.8.23
Hmomin 14/08/23
Sumaiya 14/08/23

Notice

03/01/24

A departmental staff meeting is scheduled on 04/01/24 at 10:00 am in Department of Zoology.

All the staff members are requested to attend the same.



Dr. Nandita Singh

Department of Zoology

Minutes of Meeting

04/01/2023

On January 04th, 2024, a Departmental meeting was held at Department of Zoology at 10:30 am. During the meeting, the following points were discussed:

1. Allotted conducted of first term needs to be submitted by all staff members.
2. Unit plan of second term needs to be submitted by all staff members.
3. Review of the unit plan of first term needs to be submitted by all staff members
4. Department activity report till date should be submitted by all activity Incharges.
5. Placement record of 2022-23 needs to be updated.
6. Activities to be conducted in January and February should be finalised including Certificate course and Movie screening.
7. Result analysis of 2022-23 will be submitted by Dr. Kamran
8. Student progression of 2022-23 will be submitted by Dr. Heena.
9. Plan of activity 2024-25 by all staff members should be submitted in common by Department.
10. Parent meeting will be conducted by Dr. Nandita Singh on 25th of January 2024.
11. Registration of BAB need to be done by the end of this year.
12. Star student award will be given to FYBSc, SYBSc and TYBSc students on the basis of their academic performance and extra curricular activities.
13. Personal documents of all staff members need to be uploaded on DMS .
14. Calender of First term activities need to be completed.

Attendees:

- Dr. Nandita Singh

- Dr. Kamran Abbas

- Dr. Heena Momin

- Dr. Sumaiya Khatib



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G. M. MOMIN WOMEN'S COLLEGE
Department of Zoology

Workload

WORKLOAD (2023-24)

	CLASS	LECTURE	PRACTICAL	WORKLOAD
Mr. Anis Choudhary	T.Y.B.Sc	4	2*4=8	18
	S.Y.B.Sc	3	----	
	F.Y.B.Sc	----	1*3=3	
Dr. Nandita Singh	T.Y.B.Sc	4	2*4=8	21
	S.Y.B.Sc	3	2*3=6	
	F.Y.B.Sc	----	----	
Dr. Kamran Abbas	T.Y.B.Sc	4	2*4=8	21
	S.Y.B.Sc	----	----	
	F.Y.B.Sc	3	2*3=6	
Dr. Hina Momin	T.Y.B.Sc	4	2*4=8	21
	S.Y.B.Sc	----	3*3=9	
	F.Y.B.Sc	----	----	
Dr. Sumaiya Khatib	T.Y.B.Sc	----	2*4= 8 (EVS)	23
	S.Y.B.Sc	3	4*3=12	
	F.Y.B.Sc	----	----	
Dr. Sadaf Don	T.Y.B.Sc	----	----	09
	S.Y.B.Sc	---	2*3=6	
	F.Y.B.Sc	3	---	
Dr. Tasmi Ansari	T.Y.B.Sc	----	----	09
	S.Y.B.Sc	3	----	
	F.Y.B.Sc	----	2*3=6	
Dr. Shifa Vinchu	T.Y.B.Sc	3 (EVS)	----	09
	S.Y.B.Sc	----	----	
	F.Y.B.Sc	----	2*3=6	
Dr. Ayesha Penbelli	T.Y.B.Sc	---	----	09
	S.Y.B.Sc	----	3*3=9	
	F.Y.B.Sc	----	----	
Dr. Shabana Momin	T.Y.B.Sc	1 (EVS)	2*4=8 (EVS)	09
	S.Y.B.Sc	----	----	
	F.Y.B.Sc	----	----	

2022-2023-24

March, 2006. (

Dept. Of Zoology

2023-2024

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
7.30-8.20	EVS-L	SV	EVS-L	SM	EVS-L	SV	EVS-L	SV	TL	HM	TL SL	HM TA
8.20-11.40	TP	AC/KA P2	TP	NS/AC P3	TP	KA/HM P1	TP	NS/HM P4	EVSP	SK/SM	EVSP	SM /SK
8.20-9.10			SL	TA			SL	TA				
9.10-9.40	SYBSc-BREAK											
9.40-10.30	SL	SK							SL	NS	SL	NS
10.30-11.20	SL	NS			SL	SK						
11.20-12.10	FL	SD			FL	SD	SL	SK			FL	KA
11.40-12.10	TYBSc-BREAK											
12.10-1.0	TL	KA	TL FY	NS KA	TL	NS	TL	AC-HM	TL FY	AC-NS KA	TL	AC-SK
12.10-2.00	SP	SD/SK P3	SP	SK/HM P2	SP	TA/HM P1	SP	NS/SK P1	SP	SK/NS P2	SP	SD/HM P3
1.0-1.50	TL	NS	TL	AC-KA	TL	NS	TL FY	KA SD			TL	KA
1.50-2.20	TYBSc/FYBSc BREAK											
2.20-3.10	TL	HM	TL	HM	TL	KA						
2.40-5.10	FP	TA/AP P1	FP	AP/KA P2	FP	AC/AP P1	FP	KA/AC P2	FP	SV P1	FP	SV P2

G.M Momin Women's College.

Department of Zoology

Unit Plan of Paper III

Sem and Year: Sem V, 2023-24

Name of Teacher: Dr.Nandita Singh

Unit Plan
I - Term

Sr.No	Topic/Practical	Tentative Date of Completion
1	Histology-bridge , TS. organs	July 23
	Histology-glands	
	Histology-accessory	
2	Pathology –bridge/history, scope, cell injury.	August 23
	Pathology-necrosis	
	Pathology-gangrene	
3	Toxicology-bridge, history, scope	August 23
	Toxicology-types, sources, organ	
	Toxicology-regulatory	
4	Biostatistics-bridge, distribution	September 23
	Biostatistics-parameteric, nonparametric	
	Biostatistics-STD,SE..	

NS-
Subject Incharge

Dr. Nandita Singh

HOD

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Department of Zoology

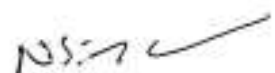
Unit Plan of Paper III

Sem and Year: Sem V, 2023-24

Name of Teacher: Dr.Nandita Singh

Practical III

Sr.No	Topic/Practical	Tentative Date of Completion
1	Histology- T.S. organ	July 23
	Histology-glands	
	Histology-Microtomy	
2	Toxicology-CCl4-GOT	July 23
	Toxicology- CCl4-GPT	
	Toxicology- CCl4-ALP	
3	Pathology-Identification	August 23
	Pathology-Report	
4	Biostatistics-Problems	August 23
	Biostatistics- Problems	
	Biostatistics- Problems	


Subject Incharge

Dr. Nandita Singh


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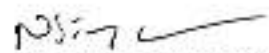
Department of Zoology

Unit Plan of Paper I

Sem and Year: Sem III, 2023-24

Name of Teacher: Dr. Nandita Singh

Sr.No	Topic/Practical	Tentative Date of Completion
1	Fundamental of Genetics-Introduction	July 23
	Mendelian Genetics	
	Multiple alleles and Genes	
	Linkage and crossing over	
2	Chromosomes and Heredity- Chromosomes	August 23
	Sex Determination	
	Sex Linked, Sex influenced, Sex limited inheritance	
3	Nucleic Acid-Genetic Material	September 23
	Flow of Genetic Material	
	Gene Expression and Regulation	
	Revision	


Subject Incharge

Dr. Nandita Singh


HOD

G.M Momin Women's College.

Department of Zoology

Unit Plan of Paper III

Sem and Year: Sem VI, 2023-24

Name of Teacher: Dr.Nandita Singh

Unit Plan
II - Term

Sr.No	Topic/Practical	Tentative Date of Completion	Date of Completion
Unit I	Molecular biology-types of Mutation	23 Dec 23	
	Induced mutation		
	DNA Repair		
	Gene expression		
Unit II	Genetic engineering -	15 Jan 24	
	Tools in genetic engineering		
	Techniques		
Unit III	Human Genetics-non disjunction	15 Feb 24	
	Genetic disorders		
	Diagnosis		
Unit IV	Bioinformatics -Introduction	10 March 24	
	Databases		
	Sequence Alignment		

NSM ✓
Subject Incharge
Dr. Nandita Singh

Dr. N. Singh
HOD

G.M Momin Women's College.

Department of Zoology

Unit Plan of Paper III

Sem and Year: Sem VI, 2023-24

Name of Teacher: Dr.Nandita Singh

Practical III

Sr.No	Topic/Practical	Tentative Date of Completion	Date of Completion
Unit I	Molecular biology-	Dec 23	
	DNA estimation		
	RNA estimation		
	Protein estimation		
Unit II	Genetic engineering -	Jan 24	
	Problems in restriction endonuclease		
Unit III	Human Genetics- Karyotype	Jan 24	
	Interpretation of genetic formulae		
	Calculation of mitotic index		
Unit IV	Bioinformatics -explore BLAST	Feb 24	
	Explore databases		
	Explore bibliography database-PubMed		

N/S ✓
Subject Incharge

Dr. Nandita Singh

N/S ✓
HOD

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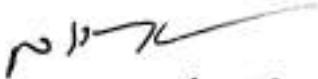
Department of Zoology

Unit Plan of Paper I

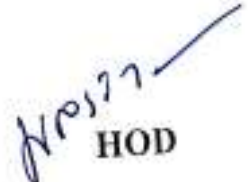
Sem and Year: Sem IV, 2023-24

Name of Teacher: Dr. Nandita Singh

Sr.No	Topic/Practical	Tentative Date of Completion	Date of Completion
Unit I	Comparative embryology-types of eggs	23 Dec 23	
	Types of sperms		
	Types of cleavage		
	Types of blastulae		
Unit II	Aspects of human reproduction-human reproduction system	10 Jan 24	
	Contraception and birth control		
	Infertility		
	Male infertility		
	Treatment of infertility		
Unit III	Pollution –Air pollution	10 March 24	
	Water pollution		
	Soil pollution		
	Sound pollution		
	Radioactive pollution		
	Solid waste pollution		
	Climate change and global warning		


Subject Incharge

Dr. Nandita Singh


HOD

Unit Plan:
F.Y.B.Sc. Theory
Year 2023-24
Semester: I

Course Code: USZO102 (Course 2) INSTRUMENTATION and ANIMAL BIOTECHNOLOGY

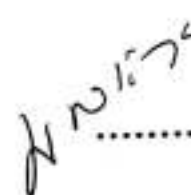
Unit Number	Topics	Tentative Completion Date
Unit 1: Laboratory safety, Units and Measurement	1.1: Introduction to good laboratory practices	21/07/2023 To 18/08/23
	1.2: Use of safety symbols: meaning, types of hazards and precautions	
	1.3: Units of measurement: 1.3.1: Calculations and related conversions of each: Metric system- length (meter to micrometer); weight (gram to microgram), Volumetric (Cubic measures)	
	1.3.2: Temperature: Celsius, Fahrenheit, Kelvin	
	1.3.3: Concentrations: Percent solutions, ppt, ppm, ppb dilutions, Normality, Molarity and Molality.	
	1.3.4: Biostatistics: Introduction and scope, Sampling and its types, Central Tendencies (mean, median, mode) Tabulation, Graphical representations (Histograms, bar diagrams, pie diagrams).	
Unit 2: Animal Biotechnology	2.1: Biotechnology: Scope and achievements of Biotechnology (Fishery, Animal Husbandry, Medical, Industrial)	19/08/2023 To 10/09/2023
	2.2: Transgenesis: Retro viral method, Nuclear transplantation method, DNA microinjection method and Embryonic stem cell method	
	2.3: Cloning (Dolly)	
	2.4: Ethical issues of transgenic and cloned animals	
	2.5: Applications of Biotechnology: 2.5.1: DNA fingerprinting: Technique in brief and its application in forensic science (Crime Investigation)	
	2.5.2: Recombinant DNA in medicines (recombinant insulin)	
	2.5.3: Gene therapy: Ex-vivo and In vivo, Severe Combined Immunodeficiency (SCID), Cystic Fibrosis	

	2.5.4: Green genes: Green Fluorescent Protein (GFP) from Jelly fish valuable as reporter genes used to detect food poisoning.	
Unit 3: Instrumentation	3.1: Microscopy 3.1.1: Construction, principle and applications of dissecting and compound microscope.	11/09/2023 To 30/09/2023
	3.2: Colorimetry and Spectroscopy - Principle and applications.	
	3.3: pH - Sorenson's pH scale, pH meter - principle and applications.	
	3.3: Centrifuge - Principle and applications (clinical and ultra centrifuges).	
	3.4: Chromatography - Principle and applications (Partition and Adsorption)	
	3.5: Electrophoresis - Principle and applications (AGE and PAGE)	

Subject Incharge



HOD



Unit Plan
FYBSc. Practical
Year 2023-24
Semester: I
Course Code: USZO102 (Course 2) INSTRUMENTATION and ANIMAL BIOTECHNOLOGY

Sr.No	Topic/Practical	Tentative Date of Completion
1	Interpretation of safety symbols (toxic, corrosive, explosive, flammable, skin irritant, oxidizing, compressed gases, aspiration hazards and Biohazardous infectious material.)	01/08/2023 To 10/10/2023
2	Study of Central tendencies and plotting of Bar diagram, histogram and pie diagram.	
3	Identification of transgenic fish (Trout and Salmon) / cloned animals (Dolly sheep, cc cat and Snuppy dog) from photograph.	
4.	Extraction of fruit juice with pectinase from apple/guava/or any other suitable fruit	
5	Calculation of pH of three different samples (one each acidic, alkaline and neutral) using pH paper/Universal Indicator and confirming the result with pH meter.	
6	Application of DNA Fingerprinting in criminology (photograph of electrophoretic pattern to be given for interpretation by the students)	
7	a) Study of parts of microscope and their functions. b) Technique of focussing a permanent slide under 10x and 45x (objectives).	
8	a) Dilution of given sample and estimation of OD by using colorimeter. b) Calculation of concentration from the given OD using formula.	
9	Calculation of pH of three different samples (one each acidic, alkaline and neutral) using pH paper/universal indicator/pH indicator from red cabbage and confirming the result with pH meter	
10	a) Separation of amino acids from the mixture by paper chromatography. b) Calculation of Rf value of separated pigments/amino acids from given chromatogram and their identification from standard chart.	
11	a) Separation of pigments by adsorption chromatography using chalk. b) Separation of lipids by TLC,	

Unit Plan
 TYBSc. Theory
 Year 2023-24
 Semester: V
 Course Code: USZ0502

Sr.No	Topic/Practical	Tentative Date of Completion
Unit 1: Basic Hematology	1.1: Composition of blood Plasma & formed elements	14/06/2023 to 24/07/2023
	1.2: Blood volume Total quantity and regulation; haemorrhage	
	1.3: Plasma proteins Inorganic constituents, respiratory gases, organic constituents other than proteins (include internal secretions, antibodies and enzymes)	
	1.4: RBCs Structure and functions, abnormalities in structure, total count, variation in number; types of anaemia and genetic disorders; ESR	
	1.5: Hemoglobin Structure, formation and degradation, role in transport of oxygen and carbon dioxide (Chloride shift and Bohr's effect); types of hemoglobin (foetal, adult and sickle)	
	1.6: WBCs Types of leukocytes and function; total count and variation in number; leucopoiesis and leukemia and its types	
	1.7: Blood clotting Thrombocytes; factors and mechanism of coagulation; anticoagulants; formation of blood platelets (thrombopoiesis); clotting mechanism; bleeding and clotting time; failure of clotting mechanism; haemophilia and purpura	
Unit 2: Applied Hematology	2.1: Introduction to Applied Hematology Definition, scope and brief introduction of basic branches: clinical, microbiological, oncological and forensic hematology	25/07/2023 to 24/08/2023
	2.2: Diagnostic techniques used in hematology	
	2.2.1: Microscopic examination of blood: For detection of blood cancers (Lymphoma, Myeloma); infectious diseases (Malaria, Filariasis, Leishmaniasis); hemoglobinopathies (Sickle cell, Thalassemia)	
	2.2.2: Coagulopathies: Diagnostic methods (hemophilia and purpura)	

	2.2.3: Microbiological examination: Blood culture: Method and application in diagnosis of infectious diseases (Typhoid and TB) 2.2.4: Biochemical examinations of blood for: Liver function tests: Albumin, AST, ALT, AST:ALT ratio, Total bilirubin, Direct bilirubin, Prothrombin time / International normalized ratio (PT/INR), Serum glucose, LDH and Alkaline phosphatase Kidney function tests: Serum creatinine, blood urea nitrogen Carbohydrate metabolism tests: Blood sugar, Glucose tolerance test, Glycosylated hemoglobin test Other biochemical tests: Blood hormones (Thyroid, FSH, LH), Cancer Antigen test (CA124 or CA125) 2.2.5: Blood Bank: Collection, storage, preservation of its components 2.2.6: Blood transfusion: Crossing matching, Transfusion of blood and bone marrow transplant	
Unit 3: Basic Immunology	3.1: Overview of Immunology Definition and scope 3.2: Components of immune system: 3.2.1: Innate immunity – Definition, Factors affecting innate immunity, Mechanisms of innate immunity – physical barriers, chemical barriers and cellular barriers 3.2.2: Adaptive or Acquired immunity – Active Acquired immunity – Natural and Artificial; Passive Acquired immunity – Natural and Artificial 3.3: Cells and Organs of immune system 3.3.1: Cells of immune system – B cells, T cells and null cells, macrophages, dendritic cells and mast cells 3.3.2: Organs of immune system – Primary – Thymus and bone marrow; Secondary - Lymph node and spleen 3.4: Antigens Definition, properties of antigens; haptens 3.5: Antibodies Definition, basic structure, classes of antibodies – IgG, IgA, IgM, IgD and IgE 3.6: Hypersensitivity, Autoimmunity and Immunodeficiency 3.6.1: Definition of Hypersensitivity; Classification of hypersensitivity reactions: Type-I, Type-II, Type-III and Type-IV (one example of each type) 3.6.2: Introduction and a brief account of autoimmunity and example, Rheumatoid arthritis 3.6.3: Introduction to immunodeficiency – Congenital, e.g. SCID; Acquired, e.g. AIDS	25/08/2023 to 10/09/2023
Unit 4: Applied Immunology	4.1: Antigen-Antibody interaction (5 lectures) General features of antigen-antibody interaction; Precipitation reaction: Definition, characteristics and mechanism, precipitation in gels (slide test) - Radial immunodiffusion (Mancini method), Double	

	immunodiffusion (Ouchterlony method); Agglutination reaction: definition, characteristics and mechanism, Haemagglutination (slide and micro-tray agglutination), passive agglutination, Coomb's test and ELISA	
4.2: Vaccines and Vaccination	Brief history of vaccination, principles of vaccines, Active and Passive immunization; Routes of vaccine administration Classification of Vaccines: Live attenuated, Whole-Killed or inactivated, Sub-unit vaccines: Toxoids, Protein vaccines, Viral-like particles, DNA vaccines Adjuvants: Introduction and application; Adjuvants used for human vaccines (Alum, Virosomes and Liposomes, Saponins, Water-in-oil emulsions) 10 Vaccines against human pathogens: Polio; Hepatitis A and B; Rotavirus; Tuberculosis (BCG); Diphtheria, Tetanus and Pertussis (DPT); Typhoid (TAB) vaccines	11/09/2023 To 10/10/2023
4.3: Transplantation and Tumour immunity	Transplantation: Introduction to transplantation; Types of grafts; Immunologic basis of graft rejection: MHC compatibility in organ transplantation, Lymphocyte mediated graft rejection, Antibody mediated graft rejection; Prevention of graft rejection; Immunosuppressive therapy	
	Tumour immunology (Cancer immunology): Introduction to cellular transformation and cancer; Tumour antigens and immune surveillance; Immunotherapy: Antigen-independent cytokine therapy, Stimulation of cell-mediated immune responses, Passive immunotherapy	

Subject Incharge

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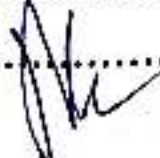
Nov 7 HOD

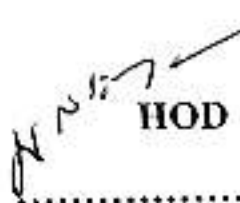
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Unit Plan
TYBSc. Practicals
Year 2023-24
Semester: V
Course Code: USZO502

Practical	Tentative Completion Date
1. Enumeration of erythrocytes - Total count	14/06/2023 to 24/08/2023
2. Erythrocyte Sedimentation Rate by suitable method – Westergren or Wintrobe method	
3. Estimation of haemoglobin by Sahli's acid haematin method	
4. Enumeration of leucocytes –Total Count	
5. Differential count of WBC	
6. Determination of Serum LDH	
7. Estimation of total plasma proteins by Folin's method	
8. Estimation of serum/ plasma total triglycerides by Phosphovanillin method	
9. Latex agglutination test - Rheumatoid Arthritis	
10. Revision	Last week of August Onwards
11. Journal Writing and Corrections	
12. Certification of Journal	

Subject Incharge

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Unit Plan
FYBSc. Theory
Year 2023-24
Semester: II

Course Code: Course: 4 [USZO 202] NUTRITION, PUBLIC HEALTH AND HYGIENE

Unit Number	Topics	Tentative Completion Date
Unit 2: Public Health and Hygiene	1.1: Concept of balanced diet, dietary recommendations to a normal adult, infant, pregnant woman and aged.	24/11/2023
	1.2: Malnutrition disorders – Anemia (B12 and Iron deficiency), Rickets, Marasmus, Goiter, Kwashiorkor (cause, symptoms, precaution and remedy).	
	1.3: Constipation, piles, starvation, acidity, flatulence, peptic ulcers (cause, symptoms, precaution and remedy).	
	1.4: Obesity (Definition and consequences).	
	1.5: Importance of fibres in food.	
	1.6: Significance of breast feeding.	
	1.7: Swine flu and Dengue (cause, symptoms, precaution and remedy).	
	1.8: BMI calculation and its significance.	
Unit 2: Public Health and Hygiene	2.1: Health 2.1.1: Definition of Health, the need for health education and health goal. 2.1.2: Physical, psychological and Social health issues. 2.1.3: WHO and its programmes - Polio, Small pox, Malaria and Leprosy (concept, brief accounts and outcome with respect to India). 2.1.4: Ill effects of self-medication	1/01/2024
	2.2: Water and water supply 2.2.1: Sources and properties of water. 2.2.2: Purification of water, small scale, medium scale and large scale (rapid sand filters) 2.2.3 : Water footprint (concept, brief accounts and significance).	
	2.3: Hygiene: 2.3.1: Hygiene and health factors at home, personal hygiene, oral hygiene and sex hygiene.	
	2.4: Radiation risk: 2.4.1: Mobile Cell tower and electronic gadgets (data of recommended level, effects and precaution).	
	2.5: First Aid	
	2.6: Blood bank – Concept and significance	
UNIT 3: Common Human Diseases and Disorders	3.1: Stress related disorders 3.1.1: Hypertension, Diabetes type II, anxiety, insomnia, migraine, depression (cause, symptoms, precaution and remedy)	20/2/2024
	3.2: Communicable and non-communicable diseases 3.2.1: Tuberculosis and Typhoid 3.2.2: Hepatitis (A and B), AIDS, Gonorrhea and Syphilis.	
	3.2.3: Diseases of respiratory system- Asthma, Bronchitis	
	3.2.4: Oral Cancer (Discuss cause/causative agents, symptoms, diagnostics, precaution /prevention and remedy)	

Subject Incharge

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Unit Plan
FYBSc. Practical
Year 2023-24
Semester: II
Course Code: Practical USZOP2 (Course IV)

Sr.No	Topic/Practical	Tentative Date of Completion
1	Qualitative estimation of Vitamin C by Iodometric method.	24/11/2023 To 28/02/2024
2	Study of microscopic structure of starch granules of different cereals (wheat, maize and jowar).	
3	a) Estimation of maltose from brown/white bread. b) Moisture content from biscuits or other suitable food products.	
4	Food adulteration Test: a) Milk adulterants (starch and glucose), methylene blue reduction Test (MBRT). b) Adulterants in Cheese, Butter, Jaggery, Ghec, Honey, Iodised Salt	
5	a) Estimation of protein content of two egg varieties. b) Study of efficacy of different antacids (any two antacids)	
6	Study of Human Parasites Endoparasites - Protozoans (Entamoeba, Plasmodium), Helminths (Ascaris, Wuchereria), Ectoparasites (Head louse, tick) and Exoparasites (Bed bug, Mosquito).	
7	Screening of anaemic/non-anaemic persons using CuSO ₄ method.	
8	First Aid - Demonstration Practical Training for teachers and students to be conducted by the experts from Red Cross, Civil defence, Civic authorities by individual institute or cluster colleges in rotation.	
9	BMI analysis - Measurement of Height/ Weight and calculation of BMI using formula, preparation and submission of report. (10 students/ group-50 readings/group)	
10	Revision	
11.	Journal Writing and Corrections	
12.	Certification of Journal	

Subject Incharge

HOD

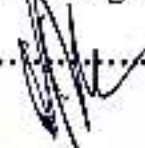
Unit Plan
TYBSc. Theory
Semester VI
(Theory) Course 16 Course Code: USZO602

Sr.No	Topic/Practical	Tentative Date of Completion
1	Unit 1: Enzymology 1.1: Definition, nomenclature and classification (based on Enzyme Commission) of enzymes, cofactors and coenzymes, the concept and properties of active site 1.2: Factors affecting enzyme activity - pH and temperature; concept of activation energy; Enzyme structure (lysozyme and serine protease) 1.3: Enzyme kinetics, Concept of steady state, Derivation of Michaelis-Menton equation and Lineweaver-Burk plot, Enzyme assay, concept and significance of K_m , V_{max} and k_{cat} , modulation of enzyme activity with reference to GDI 1.4: Enzyme inhibitors, competitive and non-competitive inhibitors and their kinetics; therapeutic applications of enzyme inhibitors 1.5: Regulation of enzyme activity; Hill equation; allosteric regulation and regulation by covalent modification of enzymes; Zymogen (pepsinogen and proelastase); Isozymes (LDH) 1.6: Clinical significance and industrial applications of enzymes	26-11-2023 To 15-12-2023
2	Unit 2: Homeostasis (Temperature and Ionic regulation) 2.1: Homeostasis External and internal environment; Acclimation and acclimatization; Control systems in biology: Feedback mechanism - negative feedback and positive feedback with suitable examples 2.2: Thermoregulation Endothermy, ectothermy (relation between temperature and biological activities); temperature balance; heat production - shivering and non shivering thermogenesis; brown fat - special thermogenic tissue in mammals, mechanisms of heat loss; adaptive response to temperature - daily torpor, hibernation, aestivation 2.3: Osmotic and Ionic regulation Maintaining water and electrolyte balance; ionic regulation in iso-osmotic environment; living in hypo-osmotic and hyper-osmotic environment; problems of living in terrestrial environment: water absorption, salt water ingestion and salt excretion, salt glands, role of kidney in ionic regulation, metabolic water	01-01-2024 To 20-01-2024
3	Unit 3: Histology	21-01-2024 To

	3.1: Vertical section (V.S.) of skin Layers and cells of epidermis; papillary and reticular layers of dermis; sweat glands, sebaceous glands and skin receptors 3.2: Digestive System 3.2.1: Vertical Section (V.S.) of tooth – hard tissue – dentine and enamel; soft tissue – dentinal pulp and periodontal ligaments 3.2.2: Transverse section (T.S.) of tongue – mucosal papillae and taste buds 3.2.3: Alimentary Canal – basic histological organization with reference to transverse section (T.S.) of oesophagus, stomach, duodenum, ileum and rectum of mammal 3.2.4: Glands associated with digestive system - histology with reference to transverse section (T.S.) of salivary glands, liver, pancreas 3.3: Respiratory organs – transverse section (T.S.) of trachea and lung	10-02-2024
4	Unit 4: General pathology 4.1: Infectious diseases: aetiology, infectious agents, viruses - hepatitis, bacteria - tuberculosis, fungi - skin diseases 4.2: Retrogressive changes Definition, cloudy swelling, degeneration: fatty, mucoid and amyloid (causes and effects) 4.3: Disorders of pigmentation Endogenous: Brief ideas about normal process of pigmentation, melanosis, jaundice (causes and effects) 4.4: Necrosis Definition and causes; nuclear and cytoplasmic changes; Types: Coagulative, Liquefactive, Caseous, Fat and Fibroid 4.5: Gangrene Definition and types (dry, moist and gas gangrene) 4.6: Circulatory disturbances Causes and effects of Hyperaemia, Ischaemia, Thrombosis, Embolism, Oedema and Infarction 4.7: Inflammation Definition and causes (pathogenic and immune), cardinal signs of inflammation; acute and chronic inflammation 4.8: Applied pathology Anatomical, clinical and molecular; investigating methods: biopsy and surgery (for pathological examination of tissue) 4.9: Forensic pathology Autopsy, post mortem changes - Algor mortis - body cooling, Rigor mortis - stiffening of limbs, state of decomposition - autolysis (process of self-digestion) and putrefaction	11-02-2024 To 30-03-2024

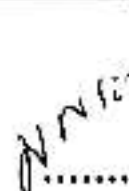
Subject Incharge

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Unit Plan
T.Y.B.Sc. Zoology
Semester VI
(PRACTICAL) Course 16 Course Code: USZO602

Sr.No	Topic/Practical	Tentative Date of Completion
1	1. Effect of pH on activity of enzyme Acid Phosphatase	30-11-2024 To 15-01-2024
2	2. Effect of varying enzyme concentration on activity of enzyme Acid Phosphatase	
3	3. Effect of varying substrate concentration on activity of enzyme Acid Phosphatase	
4	4. Effect of inhibitor on the activity of enzyme Acid Phosphatase	
5	5. Study of separation of LDH isozymes by agarose gel electrophoresis	
6	6. To study the effect of enzymes in detergents	
7	7. Study of mammalian tissues: i. V. S. of Skin ii. V.S. of Tooth iii. T.S. of Stomach iv. T.S. of Ileum v. T.S. of Liver vi. T.S. of Pancreas vii. T.S. of Lung	
8	8. i. Identification of following diseases or conditions (from slides or pictures) – Melesma, Vitiligo, Psoriasis, Bed sores, Necrosis, Oedema, Malaria, Filariasis, Leishmaniasis ii. Vidal's Test 43 iii. Study and interpretation of pathological reports: Blood, Urine and Stool (feces)	

Subject Incharge

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Unit Plan: Review

F.Y.B.Sc. Theory

Year 2023-24

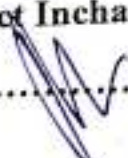
Semester: I

Course Code: USZO102 (Course 2) INSTRUMENTATION and ANIMAL BIOTECHNOLOGY

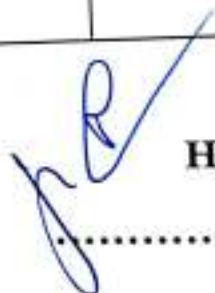
Unit Number	Topics	Tentative Completion Date	Status
Unit 1: Laboratory safety, Units and Measurement	1.1: Introduction to good laboratory practices	21/07/2023 To 18/08/23	Completed
	1.2: Use of safety symbols; meaning, types of hazards and precautions		
	1.3: Units of measurement: 1.3.1: Calculations and related conversions of each; Metric system- length (meter to micrometer); weight (gram to microgram), Volumetric (Cubic measures)		
	1.3.2: Temperature: Celsius, Fahrenheit,		
	Kelvin 1.3.3: Concentrations: Percent solutions, ppt, ppm, ppb dilutions, Normality, Molarity and Molality.		
	1.3.4: Biostatistics: Introduction and scope, Sampling and its types, Central Tendencies (mean, median, mode) Tabulation, Graphical representations (Histograms, bar diagrams, pie diagrams).		
Unit 2: Animal Biotechnology	2.1: Biotechnology: Scope and achievements of Biotechnology (Fishery, Animal Husbandry, Medical, Industrial)	19/08/2023 To 10/09/2023	
	2.2: Transgenesis: Retro viral method, Nuclear transplantation method, DNA microinjection method and Embryonic stem cell method		
	2.3: Cloning (Dolly)		
	2.4: Ethical issues of transgenic and cloned animals		
	2.5: Applications of Biotechnology: 2.5.1: DNA fingerprinting: Technique in brief and its application in forensic science		

	(Crime Investigation)		Completed
	2.5.2: Recombinant DNA in medicines (recombinant insulin)		
	2.5.3: Gene therapy: Ex-vivo and In vivo, Severe Combined Immunodeficiency (SCID), Cystic Fibrosis		
	2.5.4: Green genes: Green Fluorescent Protein (GFP) from Jelly fish valuable as reporter genes used to detect food poisoning.		
Unit 3: Instrumentation	3.1: Microscopy 3.1.1: Construction, principle and applications of dissecting and compound microscope.	11/09/2023 To 30/09/2023	Completed
	3.2: Colorimetry and Spectroscopy - Principle and applications.		
	3.3: pH - Sorenson's pH scale, pH meter - principle and applications.		
	3.3: Centrifuge - Principle and applications (clinical and ultra centrifuges).		
	3.4: Chromatography - Principle and applications (Partition and Adsorption)		
	3.5: Electrophoresis - Principle and applications (AGE and PAGE)		

Subject Incharge



HOD



Unit Plan: Review

FYBSc. Practical

Year 2023-24

Semester: I

Course Code: USZO102 (Course 2) INSTRUMENTATION and ANIMAL BIOTECHNOLOGY

Sr.No	Topic/Practical	Tentative Date of Completion	Status
1	Interpretation of safety symbols (toxic, corrosive, explosive, flammable, skin irritant, oxidizing, compressed gases, aspiration hazards and Biohazardous infectious material.)	July 2023 To November 2023	Completed
2	Study of Central tendencies and plotting of Bar diagram, histogram and pie diagram.		
3	Identification of transgenic fish (TROUT and Salmon) / cloned animals (Dolly sheep, cc cat and Snuppy dog) from photograph.		
4.	Extraction of fruit juice with pectinase from apple/guava/or any other suitable fruit		
5	Calculation of pH of three different samples (one each acidic, alkaline and neutral) using pH paper/Universal Indicator and confirming the result with pH meter.		
6	Application of DNA Fingerprinting in criminology (photograph of electrophoretic pattern to be given for interpretation by the students)		
7	a) Study of parts of microscope and their functions. b) Technique of focussing a permanent slide under 10x and 45x (objectives).		
8	a) Dilution of given sample and estimation of OD by using colorimeter. b) Calculation of concentration from the given OD using formula.		
9	Calculation of pH of three different samples (one each acidic, alkaline and neutral) using pH paper/universal indicator/pH indicator from red cabbage and confirming the result with pH meter		
10	a) Separation of amino acids from the mixture by paper chromatography. b) Calculation of Rf value of separated		

ts/amino acids from given
togram and their identification
andard chart.

eration of pigments by adsorption
tography using chalk.
eration of lipids by TLC,

Completed

Unit Plan: Review
 TYBSc. Theory
 Year 2023-24
 Semester: V
 Course Code: USZ0502

Sr.No	Topic/Practical	Tentative Date of Completion	Status
Unit 1: Basic Hematology	1.1: Composition of blood Plasma & formed elements	14/06/2023 to 24/07/2023	Completed
	1.2: Blood volume Total quantity and regulation; haemorrhage		
	1.3: Plasma proteins Inorganic constituents, respiratory gases, organic constituents other than proteins (include internal secretions, antibodies and enzymes)		
	1.4: RBCs Structure and functions, abnormalities in structure, total count, variation in number; types of anaemia and genetic disorders; ESR		
	1.5: Hemoglobin Structure, formation and degradation, role in transport of oxygen and carbon dioxide (Chloride shift and Bohr's effect); types of hemoglobin (fetal, adult and sickle)		
	1.6: WBCs Types of leukocytes and function; total count and variation in number; leucopoiesis and leukemia and its types		
	1.7: Blood clotting Thrombocytes; factors and mechanism of coagulation; anticoagulants; formation of blood platelets (thrombopoiesis); clotting mechanism; bleeding and clotting time; failure of clotting mechanism; haemophilia and purpura		
Unit 2: Applied Hematology	2.1: Introduction to Applied Hematology Definition, scope and brief introduction of basic branches: clinical, microbiological, oncological and forensic hematology	25/07/2023	
	2.2: Diagnostic techniques used in		

	hematology 2.2.1: Microscopic examination of blood: For detection of blood cancers (Lymphoma, Myeloma); infectious diseases (Malaria, Filariasis, Leishmaniasis); hemoglobinopathies (Sickle cell, Thalassemia) 2.2.2: Coagulopathies: Diagnostic methods (hemophilia and purpura) 2.2.3: Microbiological examination: Blood culture: Method and application in diagnosis of infectious diseases (Typhoid and TB) 2.2.4: Biochemical examinations of blood for: Liver function tests: Albumin, AST, ALT, AST:ALT ratio, Total bilirubin, Direct bilirubin, Prothrombin time / International normalized ratio (PT/INR), Serum glucose, LDH and Alkaline phosphatase Kidney function tests: Serum creatinine, blood urea nitrogen Carbohydrate metabolism tests: Blood sugar, Glucose tolerance test, Glycosylated hemoglobin test Other biochemical tests: Blood hormones (Thyroid, FSH, LH), Cancer Antigen test (CA124 or CA125) 2.2.5: Blood Bank: Collection, storage, preservation of its components 2.2.6: Blood transfusion: Crossing matching, Transfusion of blood and bone marrow transplant	to 24/08/2023	Completed
Unit 3: Basic Immunology	3.1: Overview of Immunology Definition and scope 3.2: Components of immune system: 3.2.1: Innate immunity – Definition, Factors affecting innate immunity, Mechanisms of innate immunity – physical barriers, chemical barriers and cellular barriers 3.2.2: Adaptive or Acquired immunity – Active Acquired immunity – Natural and Artificial; Passive Acquired immunity – Natural and Artificial 3.3: Cells and Organs of immune system 3.3.1: Cells of immune system – B cells, T cells and null cells, macrophages, dendritic cells and mast cells 3.3.2: Organs of immune system – Primary – Thymus and bone marrow;	25/08/2023 to 10/09/2023	Completed

	Secondary - Lymph node and spleen 3.4: Antigens Definition, properties of antigens; haptens 3.5: Antibodies Definition, basic structure, classes of antibodies – IgG, IgA, IgM, IgD and IgE 3.6: Hypersensitivity, Autoimmunity and Immunodeficiency 3.6.1: Definition of Hypersensitivity; Classification of hypersensitivity reactions: Type-I, Type-II, Type-III and Type-IV (one example of each type) 3.6.2: Introduction and a brief account of autoimmunity and example, Rheumatoid arthritis 3.6.3: Introduction to immunodeficiency – Congenital, e.g. SCID; Acquired, e.g. AIDS		Completed
Unit 4: Applied Immunology	4.1: Antigen-Antibody interaction (5 lectures) General features of antigen-antibody interaction; Precipitation reaction: Definition, characteristics and mechanism, precipitation in gels (slide test) - Radial immunodiffusion (Mancini method), Double immunodiffusion (Ouchterlony method); Agglutination reaction: definition, characteristics and mechanism, Haemagglutination (slide and micro-tray agglutination), passive agglutination, Coomb's test and ELISA		Completed
4.2: Vaccines and Vaccination	Brief history of vaccination, principles of vaccines, Active and Passive immunization; Routes of vaccine administration Classification of Vaccines: Live attenuated, Whole-Killed or inactivated, Sub-unit vaccines: Toxoids, Protein vaccines, Viral-like particles, DNA vaccines Adjuvants: Introduction and application; Adjuvants used for human vaccines (Alum, Virosomes and Liposomes, Saponins, Water-in-oil emulsions) 10 Vaccines against human pathogens: Polio; Hepatitis A and B; Rotavirus; Tuberculosis (BCG); Diphtheria, Tetanus and Pertussis (DPT); Typhoid (TAB) vaccines	11/09/2023 To 10/10/2023	
4.3: Transplantation and Tumour immunity	Transplantation: Introduction to transplantation; Types of grafts; Immunologic basis of graft rejection: MHC compatibility in organ		

	transplantation. Lymphocyte mediated graft rejection. Antibody mediated graft rejection; Prevention of graft rejection; Immunosuppressive therapy		
	Tumour immunology (Cancer immunology): Introduction to cellular transformation and cancer; Tumour antigens and immune surveillance; Immunotherapy: Antigen-independent cytokine therapy. Stimulation of cell-mediated immune responses, Passive immunotherapy		Completed

Subject Incharge

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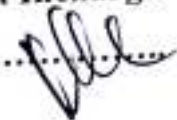
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Unit Plan: Review
T.Y.B.Sc. Zoology
Semester VI
(PRACTICAL) Course 16 Course Code: USZO602

Sr.No	Topic/Practical	Tentative Date of Completion	Status
1	1. Effect of pH on activity of enzyme Acid Phosphatase	30-11-2024 To 15-01-2024	Completed
2	2. Effect of varying enzyme concentration on activity of enzyme Acid Phosphatase		
3	3. Effect of varying substrate concentration on activity of enzyme Acid Phosphatase		
4	4. Effect of inhibitor on the activity of enzyme Acid Phosphatase		
5	5. Study of separation of LDH isozymes by agarose gel electrophoresis		
6	6. To study the effect of enzymes in detergents		
7	7. Study of mammalian tissues: i. V. S. of Skin ii. V.S. of Tooth iii. T.S. of Stomach iv. T.S. of Ileum v. T.S. of Liver vi. T.S. of Pancreas vii. T.S. of Lung		
8	8. i. Identification of following diseases or conditions (from slides or pictures) – Melesma, Vitiligo, Psoriasis, Bed sores, Necrosis, Oedema, Malaria, Filariasis, Leishmaniasis ii. Vidal's Test 43 iii. Study and interpretation of pathological reports: Blood, Urine and Stool (feces)		

Subject Incharge

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G.M Momin Women's College.

Department of Zoology

Unit Plan of T.Y.B.Sc.

Sem and Year V, 2023-24 Zoology Paper I Theory

Name of Teacher: **Dr. Heena Momin**

Unit 1	Topic	Tentative Date of Completion
1. Principles of Taxonomy	a) Symmetry: i. Asymmetry, e.g. Sponge ii. Radial: Bi-radial, e.g. Comb jelly Penta-radial, e.g. Adult Brittle star iii. Bi-lateral, e.g. Larva of Brittle star and human b) b. Coelom: i. Acoelomate, e.g. Tapeworm ii. Pseudocoelomate, e.g. Ascaris iii. Coelomate, e.g. Frog c) c. Segmentation: i. Homonymous, e.g. Nereis ii. Heteronomous, e.g. Cockroach d) Cephalization: i. Cephalization, e.g. Honey bee ii. Cephalothorax, e.g. Crab	30/06/23
2. Kingdom: Animalia I	i. Class Rhizopoda, e.g. Amoeba - amoeboid locomotion, asexual reproduction - binary fission ii. Class Ciliophora, e.g. Vorticella - ciliary locomotion, sexual reproduction - conjugation iii. Class Flagellata, e.g. Noctiluca - flagellar locomotion iv. Class Sporozoa, e.g. Monocystis - gliding locomotion a) Phylum Porifera: i. Class Calcarea - Canal system, e.g. Scypha - Sycon type Leucosolenia - Ascon type ii. Class Demospongia - Canal system, e.g. Spongilla larva - Rhagon type Adult - Leuconoid type iii. Class Hexactinellida - Observation of sponge spicules (permanent slide/photograph), e.g. Hyalonemma b) Phylum Cnidaria: i. Class Hydrozoa, e.g. Vellela ii. Class Scyphozoa, e.g. Rhizostoma iii. Class Anthozoa, e.g. Corallium (Red coral) c) Phylum Platyhelminthes: i. Class Turbellaria, e.g. Planaria	30/07/23

	ii. Class Trematoda, e.g. Liverfluke iii. Class Cestoda, e.g. Taeniasolium d) Phylum Nemathelminthes, e.g. Trichinella e) Phylum Annelida: i. Class Polychaeta, e.g. Arenicola/ Nereis ii. Class Oligochaeta, e.g. Tubifex/ Earthworm iii. Class Hirudinea, e.g. Pontobdella/ Leech f) Phylum Arthropoda: i. Class Merostomata, e.g. Limulus (King crab) ii. Class Arachnida, e.g. Scorpion iii. Class Crustacea, e.g. Balanus iv. Class Myriapoda, e.g. Scolopendra (Centipede) v. Class Insecta, e.g. Coccinella (Ladybird beetle) vi. Class Onychophora, e.g. Peripatus vii. Observation and identification of planktonic crustaceans viii. Types of Metamorphosis in insects g) Phylum Mollusca: i. Class Aplacophora, e.g. Chaetoderma ii. Class Polyplacophora, e.g. Tonicella/ Chiton iii. Class Monoplacophora, e.g. Neopilina iv. Class Gastropoda, e.g. Achatina v. Class Pelycypoda, e.g. Donax/ Unio vi. Class Scaphopoda, e.g. Dentalium vii. Class Cephalopoda, e.g. Octopus h) Phylum Echinodermata: i. Class Asteroidea, e.g. Starfish ii. Class Ophiuroidea, e.g. Brittle star iii. Class Echinoidea, e.g. Echinus iv. Class Holothuroidea, e.g. Holothuria (Sea cucumber) v. Class Crinoidea, e.g. Crinoid (Sea lily) i) Phylum Hemichordata (Acorn worms): i. Class Enteropneusta, e.g. Saccoglossus/ Balanoglossus ii. Class Pterobranchia, e.g. Rhabdopleura iii. Class Planctosphaeroidea, e.g. Planctosphaera	30/08/23
3. Kingdom: Animalia II		
4. Type study: Sepia	External characters Digestive system Reproductive system Circulatory system Urinogenital System	30/09/23

Study of Statocysts

Subject Incharge

H. P. Arora
16/6/23

HOD

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UNIT	TOPIC	Tentative dates
I	Levels of organization	30 th July 2023
II	Taxonomy of Phylum Protozoa to Phylum Nematelminthes	30 th August 2023
III	Taxonomy of Phylum Annelida to Phylum Echinodermata	30 th August 2023
IV	Type study : Sepia	30 th September 2023

Topics	Tentative Date of Completion
1. Levels of organization a. Symmetry: i. Asymmetry, e.g. Sponge ii. Radial: Bi-radial, e.g. Comb jelly Penta-radial, e.g. Adult Brittle star iii. Bi- lateral, e.g. Larva of Brittle star and human b. Coelom: i. Acoelomate, e.g. Tapeworm ii. Pseudocoelomate, e.g. Ascaris iii. Coelomate, e.g. Frog c. Segmentation: i. Homonymous, e.g. Nereis ii. Heteronomous, e.g. Cockroach d. Cephalization: i. Cephalization, e.g. Honey bee ii. Cephalothorax, e.g. Crab	30 th July 2023
2. Taxonomy of Protozoa to Hemichordata a. Phylum Protozoa:	30 th August 2023
i. Class Rhizopoda, e.g. Amoeba - amoeboid locomotion, asexual reproduction - binary fission ii. Class Ciliophora, e.g. Vorticella - ciliary locomotion, sexual reproduction - conjugation iii. Class Flagellata, e.g. Noctiluca - flagellar locomotion iv. Class Sporozoa, e.g. Monocystis - gliding locomotion	
b. Phylum Porifera: i. Class Calcarea - Canal system, e.g. Scypha - Sycon type Leucosolenia - Ascon type ii. Class Demospongia - Canal system, e.g.	15 th September 2023

Spongilla larva - Rhagon type Adult - Leuconoid type iii. Class Hexactinellida - Observation of sponge spicules (permanent slide/photograph), e.g. Hyalonemna	
c. Phylum Cnidaria: i. Class Hydrozoa, e.g. Vellela ii. Class Scyphozoa, e.g. Rhizostoma iii. Class Anthozoa, e.g. Corallium (Red coral)	30 th September 2023
d. Phylum Platyhelminthes: i. Class Turbellaria, e.g. Planaria ii. Class Trematoda, e.g. Liverfluke iii. Class Cestoda, e.g. Taenia solium	15 th October 2023
e. Phylum Nematelminthes, e.g. Trichinella	15 th October 2023
f. Phylum Annelida: i. Class Polychaeta, e.g. Arenicola/ Nereis ii. Class Oligochaeta, e.g. Tubifex/ Earthworm iii. Class Hirudinea, e.g. Pontobdella/ Leech	15 th October 2023
g. Phylum Arthropoda: i. Class Merostomata, e.g. Limulus (King crab) ii. Class Arachnida, e.g. Scorpion iii. Class Crustacea, e.g. Balanus iv. Class Myriapoda, e.g. Scolopendra (Centipede) v. Class Insecta, e.g. Coccinella (Ladybird beetle) vi. Class Onychophora, e.g. Peripatus vii. Observation and identification of planktonic crustaceans viii. Types of Metamorphosis in insects	15 th October 2023
h. Phylum Mollusca: i. Class Aplacophora, e.g. Chaetoderma ii. Class Polyplacophora, e.g. Tonicella/ Chiton iii. Class Monoplacophora, e.g. Neopilina iv. Class Gastropoda, e.g. Achatina v. Class Pelycypoda, e.g. Donax/ Unio vi. Class Scaphopoda, e.g. Dentalium vii. Class Cephalopoda, e.g. Octopus	15 th October 2023

Unit Topic	Tentative dates
I Minor Phyla and Protochordata 2	15 th November 2021
II Taxonomy – Pisces and Amphibia	30 th November 2021
III Taxonomy – Reptilia, Aves and Mammals	15 th December 2021
IV Type study : Shark	30 th December 2021

Unit Plan TYBSc Zoology Practical I- 2021-2022 Semester VI Dr.Heena Momin

T. Y. B. Sc. Zoology Semester VI (Practical) Course 15 Course Code: USZO601

Title of Practicals	Tentative Dates
1. Levels of organization Minor Phyla	20 th November 2021
2. Taxonomy of phylum Chordata a. Subphylum Urochordata (Sea squirts) 1. Class Larvaceae, e.g. Oikopleura 2. Class Ascidiacea, e.g. Ciona/ Herdmania 40	30 th November 2021
3. Class Thaliacea, e.g. Salpa/ Doliolum	
4. Class Dipnoi (Lung fishes), e.g. Protopterus (African lungfish)	
5. Class Teleostomi, e.g. Latimera (Coelacanth), Catfish ii. Superclass - Tetrapoda :	15 th December 2021
6. Study of endoskeleton of shark: a. Axial (skull and vertebral column) b. Appendicular (pelvic and pectoral fins, pelvic and pectoral girdle)	30 th January 2022
Note: Visit to local fish market to study available vertebrates	30 th February 2022

- Phylum Echinodermata:
- i. Class Asteroidea, e.g. Starfish
 - ii. Class Ophiuroidea, e.g. Brittle star
 - iii. Class Echinoidea, e.g. Echinus
 - iv. Class Holothuroidea, e.g. Holothuria (Sea cucumber)
 - v. Class Crinoidea, e.g. Crinoid (Sea lily)

- j. Phylum Hemichordata (Acorn worms):
- i. Class Enteropneusta, e.g. Saccoglossus/Balanoglossus
 - ii. Class Pterobranchia, e.g. Rhabdopleura
 - iii. Class Planctosphaeroidea, e.g. Planctosphaera

Note: Visit to local fish market to study available invertebrates.

15th October 2023

30th September 2023

~~HP/min~~
16/08/23

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Sr.No	Unit	Topic	Tentative dates of completion
01	2.1	Solar energy	10 th August 2023 To 30 th October 2023
02		Tidal energy	
03	2.2	Biomass & bio-fuels	
04		Wind energy,	
05		Nuclear energy	
06		Use of wastes: Water-based biomass	
07	2.3	Energy from waste & solid waste	
08	8	Case studies	

Unit 8: Case Studies and Simulations	Tentative dates
8.1 Covid 19	30th October 2023
8.2 Domestic Violence During Covid 19.	
8.3 Powai lake conservation, Mumbai.	
8.4 Bhiwandi food Poisoning.	
8.5 Itai-itai disease for Cadmium toxicity.	
8.6 Chernobyl disaster.	
8.7 Environmental Education in Finland – A Case Study of Environmental Education in Nature Schools	
8.8 An international environmental law case study: Bhopal Gas Tragedy.	
8.9 Case Study on Green Building, Hotel Orchid- Ecotel.	
8.10 Mumbai rain disaster of 26th July 2005.	30th October 2023

Bridge course Syllabus EVS -2022-23

Dr.Heena Momin

13/06/2023 - 23/06/23

01	Energy Resources	13/06/2023
02	Conventional Energy	
03	Non-Conventional Energy	
04	Alternatives to conventional resources	
05	Solar Energy	
06	Open unit Value Education	23/06/23

H/Momin
16/06/23


16/06/23

G.M.Momin Womens College,

Department of Zoology

Unit plan paper I Sem VI-2022-23

Name of teacher : Dr.Heena Momin

Zoology Paper I-Theory Sem 6

T.Y.B.Sc. USZOP601 Theory Semester VI		Tentative Date	Date of Completion
Unit I	Phylum Chordata to Euchordata I General character and difference Between Non chordates and Chordates Origin of Chordates Protochordata Group Euchordata I	20/12 /2023	
Unit II	Group-Euchordata II Division- Gnathostomata a Superclass - Pisces: i) Class Placodermi e.g.Bothriolepis, ii) Class - Tetrapoda : i). Class Amphibia, e.g. Ichthyophis, e.g. Alytes, e.g. Triton	09/01/2024	
		30/01/2024	
Unit III	Group-Euchordata III Class Reptilia: e.g. Geochelone (Indian star tortoise),e.g Sphenodon , ex Varanus, e.g. Alligator Class Aves: E.g. Archaeopteryx, Ostrich, Penguin, Flamingo, Vulture, Hornbill Class Mammalia: e.g. Duck-billed platypus, Dasyurus (Tiger cat), Dugong, Flying ,Squirrel, Gorilla	6/02/2024	
Unit IV	Type study-Shark Shark: 1. Study of endoskeleton of shark: a. Axial- skull and vertebral column b. Appendicular- pelvic and pectoral fins, pelvic and pectoral girdle.	20/02/2024	

Subject Incharge

Dr.Heena Momin

HOD

G.M.Momin Womens College,

Department of Zoology

Unit plan paper I Sem VI-2023-24

Name of teacher : Dr.Heena Momin

Zoology Paper 1-Practicals Sem 6

T.Y.B.Sc. USZOP601 Practical I Semester VI		Tentative Date	Date of Completion
1.	Group - Protochordata Subphylum Urochordata - a. Class Larvaceae, e.g. Oikopleura b. Class Ascidiacea, e.g. Ciona c. Class Thaliacea, e.g. Salpa Subphylum Cephalochordata: a Class Leptocardii, e.g. Branchiostoma (Amphioxus)	20/12 /2023	
2.	Subphylum Vertebrata: 1 Division Agnatha - Class Ostracodermi, e.g. Pharyngolepis, Class Cyclostomata, e.g. Petromyzon 2. Division- Gnathostomata a Superclass - Pisces: i) Class Placodermi e.g.Bothriolepis, ii) Class Chondrichthyes- e.g.. Rhinobates e.g. Chimaera iii) Class- Osteichthyes - e.g.Protopterus , e.g. Catfish b. Superclass - Tetrapoda : i). Class Amphibia, e.g. Ichthyophis, e.g. Alytes, e.g. Triton ii). Class Reptilia: e.g. Geochelone (Indian star tortoise),e.g Sphenodon , ex Varanus, e.g. Alligator	09/01 /2024	
		30/01 /2024	
3.	Class Aves: E.g. Archaeopteryx, Ostrich, Penguin, Flamingo, Vulture, Hornbill	6/02/2024	
4.	Class Mammalia: e.g. Duck-billed platypus, Dasyurus (Tiger cat), Dugong, Flying ,Squirrel, Gorilla	13/02/2024	
5.	Shark: 1. Study of endoskeleton of shark: a. Axial- skull and vertebral column b. Appendicular- pelvic and pectoral fins, pelvic and pectoral girdle.	20/02/2024	
6.	Visit to local fish market/Aquarium zoo/ National park/Any other relevant place to observe Chordate animals.	01/02/2024- 15/03/2024	

G.M.Momin Women's College,

Department of Zoology

Unit plan Sem IV-2023-24

Class:SYBSc

Name of teacher : Dr.Heena Momin

Zoology Paper I,II and III Practicals


Subject Incharge

Dr.Heena Momin


HOD

UNIT	TOPIC	Tentative Dates	Date of Completion
I	Levels of organization	30 th July 2023	30 th July 2023
II	Taxonomy of Phylum Protozoa to Phylum Nemathelminthes	10 th August 2023	10 th August 2023
III	Taxonomy of Phylum Annelida to Phylum Echinodermata	30 th August 2023	30 th August 2023
IV	Type study - Sepia	30 th September 2023	30 th September 2023

Review of Unit Plan TYBSc Zoology Practical I- 2023-2024 Semester V Dr. Heena Momin

Topics	Tentative Date of Completion	Date of Completion
1. Levels of organization a. Symmetry: i. Asymmetry, e.g. Sponge ii. Radial: Bi-radial, e.g. Comb jelly Penta-radial, e.g. Adult Brittle star iii. Bi- lateral, e.g. Larva of Brittle star and human b. Coelom: i. Acoelomate, e.g. Tapeworm ii. Pseudocoelomate, e.g. Ascaris iii. Coelomate, e.g. Frog c. Segmentation: i. Homonymous, e.g. Nereis ii. Heteronomous, e.g. Cockroach d. Cephalization: i. Cephalization, e.g. Honey bee ii. Cephalothorax, e.g. Crab	30 th July 2023	30 th July 2023
2. Taxonomy of Protozoa to Hemichordata a. Phylum Protozoa:	10 th August 2023	10 th August 2023
i. Class Rhizopoda, e.g. Amoeba - amoeboid locomotion, asexual reproduction - binary fission ii. Class Ciliophora, e.g.		

Vorticella - ciliary locomotion, sexual reproduction - conjugation iii. Class Flagellata, e.g. Noctiluca - flagellar locomotion iv. Class Sporozoa, e.g. Monocystis - gliding locomotion		
b. Phylum Porifera: i. Class Calcarea - Canal system, e.g. Scypha - Sycon type Leucosolenia - Ascon type ii. Class Demospongia - Canal system, e.g. Spongilla larva - Rhagon type Adult - Leuconoid type iii. Class Hexactinellida - Observation of sponge spicules (permanent slide/photograph), e.g. Hyalonemma	15 th August 2023	15 th August 2023
c. Phylum Cnidaria: i. Class Hydrozoa, e.g. Vellela ii. Class Scyphozoa, e.g. Rhizostoma iii. Class Anthozoa, e.g. Corallium (Red coral)	10 th September 2023	10 th September 2023
d. Phylum Platyhelminthes: i. Class Turbellaria, e.g. Planaria ii. Class Trematoda, e.g. Liverfluke iii. Class Cestoda, e.g. Taenia solium	15 th September 2023	15 th September 2023
e. Phylum Nematelminthes, e.g. Trichinella	30 th September 2023	30 th September 2023
f. Phylum Annelida: i. Class Polychaeta, e.g. Arenicola/ Nereis ii. Class Oligochaeta, e.g. Tubifex/ Earthworm iii. Class Hirudinea, e.g. Pontobdella/	30 th September 2023	30 th September 2023

Leech 20		
g. Phylum Arthropoda: i. Class Merostomata, e.g. Limulus (King crab) ii. Class Arachnida, e.g. Scorpion iii. Class Crustacea, e.g. Balanus iv. Class Myriapoda, e.g. Scolopendra (Centipede) v. Class Insecta, e.g. Coccinella (Ladybird beetle) vi. Class Onychophora, e.g. Peripatus vii. Observation and identification of planktonic crustaceans viii. Types of Metamorphosis in insects	30 th September 2023	30 th September 2023
h. Phylum Mollusca: i. Class Aplacophora, e.g. Chaetoderma ii. Class Polyplacophora, e.g. Tonicella/ Chiton iii. Class Monoplacophora, e.g. Neopilina iv. Class Gastropoda, e.g. Achatina v. Class Pelycypoda, e.g. Donax/ Unio vi. Class Scaphopoda, e.g. Dentalium vii. Class Cephalopoda, e.g. Octopus	30 th September 2023	30 th September 2023
i. Phylum Echinodermata: i. Class Asteroidea, e.g. Starfish ii. Class Ophiuroidea, e.g. Brittle star iii. Class Echinoidea, e.g. Echinus iv. Class Holothuroidea, e.g. Holothuria (Sea cucumber) v. Class Crinoidea, e.g.		

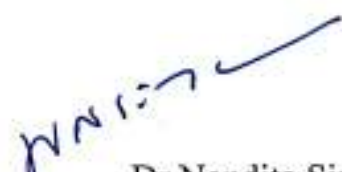
Crinoid (Sea lily)		
j. Phylum Hemichordata (Acorn worms):	30 th September 2023	30 th September 2023
i. Class Enteropneusta, e.g. Saccoglossus/ Balanoglossus		
ii. Class Pterobranchia, e.g. Rhabdopleura		
iii. Class Planctosphaeroidea, e.g. Planctosphaera		
Note: Visit to local fish market to study available invertebrates.	30 th September 2023	30 th September 2023

Review of Unit Plan TYBSc Zoology Theory I- 2023-2024 Semester VI

Dr.Heena Momin

Unit Topic	Tentative dates	Date of Completion
I Minor Phyla and Protochordata 2	15 th November 2023	15 th November 2023
II Taxonomy – Pisces and Amphibia	30 th November 2023	30 th November 2023
III Taxonomy – Reptilia, Aves and Mammals	15 th December 2023	15 th December 2023
IV Type study : Shark	15 th January 2024	15 th January 2024


Teacher Incharge

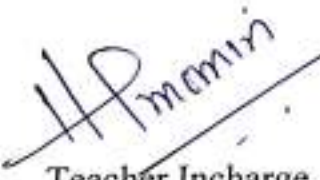

Dr.Nandita Singh

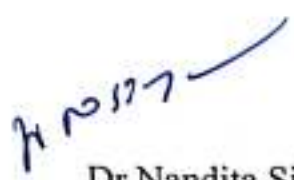
Department of Zoology

Review of Unit Plan TYBSc Zoology Practical I- 2023-2024 Semester VI
Dr.Heena Momin

T. Y. B. Sc. Zoology Semester VI (Practical) Course 15 Course Code: USZO601

Title of Practicals	Tentative Dates	Date of Completion
1. Levels of organization Minor Phyla	20 th November 2023	20 th November 2023
2. Taxonomy of phylum Chordata a. Subphylum Urochordata (Sea squirts) 1. Class Larvaceae, e.g. Oikopleura 2. Class Ascidiacea, e.g. Ciona/ Herdmania 40	30 th November 2023	30 th November 2023
3. Class Thaliacea, e.g. Salpa/ Doliolum	15 th December 2023	15 th December 2023
4. Class Dipnoi (Lung fishes), e.g. Protopterus (African lungfish)		
5. Class Teleostomi, e.g. Latimera (Coelacanth), Catfish ii. Superclass - Tetrapoda	15 th December 2023	15 th December 2023
6. Study of endoskeleton of shark: a. Axial (skull and vertebral column) b. Appendicular (pelvic and pectoral fins, pelvic and pectoral girdle)	30 th January 2024	30 th January 2024
Note: Visit to local fish market to study available vertebrates	29 th February 2024	29 th February 2024


Teacher Incharge


Dr.Nandita Singh

Department of Zoology

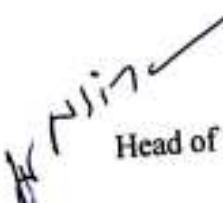
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
III Semester Unit Plan

Name of Faculty: Dr. Sumaiya Khatib
Class: S.Y.B.Sc

Academic Year: 2023-24
Subject: Zoology-II (Theory)

Sr. No.	Topic	Tentative Date of Completion
Unit- I	Study of Nutrition and Excretion	31/07/2023
	1.1-Comparative study of Nutritional Apparatus	
	1.2-Physiology of digestion in man	
	1.3-Comparative study of Excretory and Osmoregulation	
	1.4-Categorization of animals based on principle nitrogenous excretory products	
	1.5-Structure of kidney, Uriniferous tubule and physiology of urine formation in man.	
Unit-II	Study Respiration and circulation	31/08/2023
	2.1-Comparative study of Respiratory organs	
	2.2-Structure of lungs and physiology of respiration in man	
	2.3-Comparative study of circulation	
	2.4-Types of circulating fluids	30/09/2023
	2.5-Comparative study of Hearts	
Unit-III	2.6-Structure and mechanism of working of heart in man	30/09/2023
	3.1-Control and coordination	
	3.2- Movement and Locomotion	
	3.3- Structure of Striated muscle fiber in human and Sliding filament theory	
	3.4- Reproduction	


Teacher Incharge


Head of the Department

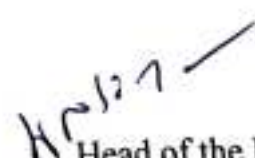
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
III Semester Unit Plan

Name of Faculty: Dr. Sumaiya Khatib
Class: S.Y.B.Sc

Academic Year: 2023-24
Subject: Zoology-II (Practical)

Sr. No	Practical	Tentative Date of Completion
1.	Urine analysis—Normal and abnormal constituents	01-05/08/2023
2.	Detection of ammonia in water excreted by fish	07-12/08/2023
3.	Detection of uric acid from excreta of Birds	14-19/08/2023
4.	Study of striated and non- striated muscle fiber	21-26/08/2023
5.	Study of nutritional Apparatus	02-08/09/2023
6.	Study of respiratory structures	09-15/09/2023
7.	Study of locomotory organs	16-22/09/2023
8.	Study of structure of hearts	23-30/09/2023
9.	Study of permanent slides of reproductive organ	01-05/08/2023


Teacher Incharge


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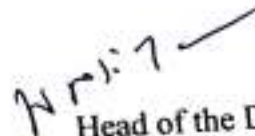
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
III Semester Unit Plan

Name of Faculty: Dr. Sumaiya Khatib
Class: S.Y.B.Sc

Academic Year: 2023-24
Subject: Zoology-I_(Practical)

Sr. No	Practical	Tentative Date of Completion
1.	Extraction and detection of DNA	01-05/08/2023
2.	Extraction and detection of RNA	07-12/08/2023
3.	Mounting of Barr bodies	14-19/08/2023
4.	Study of polytene chromosome	21-26/08/2023
5.	Study of mitosis- temporary squash preparation of Onion root tip	02-08/09/2023
6.	Detection of blood groups and Rh factor	09-15/09/2023
7.	Problems in Genetics a) Monohybrid/ Dihybrid Cross: b) X- linked inheritance: c) Multiple Alleles	16-22/09/2023
8.	Chromosome morphology: (photograph to be provided)	23-30/09/2023
9.	Pedigree analysis	01-05/08/2023
10.	Problems based on molecular biology	07-12/08/2023


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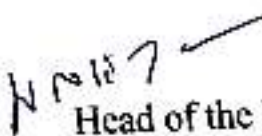
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
V Semester Unit Plan

Name of Faculty: Dr. Sumaiya Khatib
Class: T.Y.B.Sc

Academic Year: 2023-24
Subject: EVS (Practical)

Sr. No	Practical	Tentative Date of Completion
1.	Study of Physico-chemical properties of sewage/effluent water	23-24/06/2023
2.	Estimation of Pollution: BOD & COD	30/06/2023 01/07/2023
3.	Microbiological parameters: MPN and Gram staining	07-08/07/2023
4.	Study of air micro flora	14-15/07/2023
5.	Measurement of intensity of light by Lux meter	21-22/07/2023
6.	Study of application of alternative energy resources	04-05/08/2023
7.	Bioassay studies using water hyacinth or any suitable material	11-12/08/2023
8.	Study of product derived by application of green chemistry	18-19/08/2023
9.	Study of types of pollution	25-26/08/2023
10.	Study of applications of various Spectroscopy	01-02/09/2023
11.	Study of logistic services for medical and toxic waste	08-09/09/2023
12.	Study of indoor plants for reduction of pollution	15-16/09/2023


Teacher Incharge


Head of the Department

K. M. E. Society's
G. M. Momin Women's College-Bhlwandi
VI Semester Unit Plan

Name: Dr. Sumaiya Mohaddis Khatib
 Class: T.Y.B.Sc (Practical)

Academic Year: 2023-24
 Subject: Environmental Science & Pollution

Sr. No	Practical	Tentative Date of Completion
1.	Study of moisture and texture of soil	16/12/23
2.	Study of soil microflora	23/12/23
3.	pH of soil	06/01/24
4.	Organic matter and Calcium carbonate	13/01/24
5.	Zinc, Cadmium, Lead in soil	20/01/24
6.	Population analysis by Quadrant method & Line transect method	27/01/24
7.	Observation & study of indicator species	03/02/24
8.	Study of air & noise pollution monitoring device, geospatial instrument.	10/02/24
9.	Study of any five biodiversity hotspots, bio reserves of India	17/02/24
10.	Study of any four effects of global warming and climate change	24/02/24
11.	Study of ANN chart and statistical model.	02/03/24
12.	Study the role of environmental organizations and agencies	09/03/24


 Teacher Incharge


 Head of the Department

**K. M. E. Society's
G. M. Momin Women's College-Bhiwandi**
IV Semester Unit Plan

Name: Dr. Sumaiya Mohaddis Khatib
Class: S.Y.B.Sc

Academic Year: 2023-24
Subject: Zoology-II (Theory)

Sr. No.	Topic	Tentative Date of Completion
Unit-I	Cell Biology	10/01/24
	1.1 Introduction to cell biology	
	1.2 Nucleus	
	1.3 Plasma membrane	
	1.4 Transport across membrane	
	1.5 Cytoskeletal structures	
Unit-II	Endomembrane System	15/02/24
	2.1 Endoplasmic reticulum	
	2.2 Golgi complex	
	2.3 Lysosome	
	2.4 Mitochondria	
Unit-III	Biomolecules	15/03/24
	3.1 Biomolecules	
	3.2 Carbohydrates	
	3.3 Amino acids and proteins	
	3.4 Lipids	
	3.5 Vitamins	

Teacher Incharge

Head of the Department

K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
IV Semester Unit Plan

Academic Year: 2023-24
 Subject: Zoology-II (Practical)

Name: Dr. Sumaiya Mohaddis Khatib
 Class: S.Y.B.Sc

Sr. No	Practical	Tentative Date of Completion
1.	Study of permeability of cell through plasma membrane	02/12/23
2.	Measurement of cell diameter by oculometer	09/12/23
3.	Qualitative tests for carbohydrates	16/12/23
4.	Qualitative tests for protein	23/12/23
5.	Qualitative test for lipids	06/01/24
6.	Study of rancidity of lipid by titrimetric method	13/12/24
7.	Ultra-structure of cell organelles Mitochondria, Golgi apparatus, Lysosomes	20/01/24
8.	Ultra-structure of cell organelles Nucleus, Endoplasmic reticulum (Smooth and rough)	27/01/24
9.	Study of clinical disorders Hyperglycemia, Hypoglycemia, Marasmus	03/02/24
10.	Study of clinical disorders Kwashiorkor, Anemia, Fatty liver	10/02/24


 Teacher Incharge


 Head of the Department

K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
IV Semester Unit Plan

Name: Dr. Sumaiya Mohaddis Khatib
 Class: S.Y.B.Sc

Academic Year: 2023-24
 Subject: Zoology-I (Practical)

Sr. No	Practical	Tentative Date of Completion
1.	Study of population density by Line transect method & Quadrant method and calculate different diversity indices.	16/12/23
2.	Study of prokaryotic cells (bacteria) by Crystal violet staining technique	23/12/23
3.	Study of eukaryotic cells (WBCs) from blood smear by Leishman's stain	06/01/24
4.	Identification and study of fossils:	13/12/24
5.	Identification of speciation	20/01/24
6.	Bibliography/ Abstract writing	27/01/24
7.	Preparation of Power Point Presentation based on research paper.	03/02/24

Teacher In Charge

Head of the Department

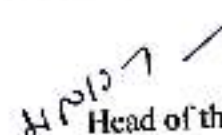
K. M. F. Society's
G. M. Momin Women's College-Bhiwandi
III Semester Review of Unit Plan

Name of Faculty: Dr. Sumaiya Khatib
Class: S.Y.B.Sc

Academic Year: 2023-24
Subject: Zoology-II.(Theory)

Sr. No.	Topic	Tentative Date of Completion	Date of Completion
Unit- I	Study of Nutrition and Excretion	31/07/2023	31/07/2023
	1.1-Comparative study of Nutritional Apparatus		
	1.2-Physiology of digestion in man		
	1.3-Comparative study of Excretory and Osmoregulation		
	1.4-Categorization of animals based on principle nitrogenous excretory products		
	1.5-Structure of kidney, Uriniferous tubule and physiology of urine formation in man.		
Unit-II	Study Respiration and circulation	31/08/2023	04/09/2023
	2.1-Comparative study of Respiratory organs		
	2.2-Structure of lungs and physiology of respiration in man		
	2.3-Comparative study of circulation		
	2.4-Types of circulating fluids	30/09/2023	30/09/2023
	2.5-Comparative study of Hearts		
Unit-III	2.6-Structure and mechanism of working of heart in man	30/09/2023	30/09/2023
	3.1-Control and coordination		
	3.2- Movement and Locomotion		
	3.3- Structure of Striated muscle fiber in human and Sliding filament theory		
	3.4- Reproduction		


Teacher Incharge


Head of the Department

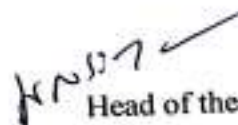
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
III Semester Review of Unit Plan

Name of Faculty: Dr. Sumaiya Khatib
Class: S.Y.B.Sc

Academic Year: 2023-24
Subject: Zoology-II (Practical)

Sr. No	Practical	Tentative Date of Completion	Date of Completion
1.	Urine analysis—Normal and abnormal constituents	01-05/08/2023	01-05/08/2023
2.	Detection of uric acid from excreta of Birds Detection of ammonia in water excreted by fish	07-12/08/2023	07-12/08/2023
3.	Study of striated and non- striated muscle fiber	14-19/08/2023	14-19/08/2023
4.	Study of nutritional Apparatus	21-26/08/2023	21-26/08/2023
5.	Study of respiratory structures	02-08/09/2023	02-08/09/2023
6.	Study of locomotory organs	09-15/09/2023	09-15/09/2023
7.	Study of structure of hearts	16-22/09/2023	16-22/09/2023
8.	Study of permanent slides of reproductive organ	23-30/09/2023	23-30/09/2023


Teacher Incharge


Head of the Department

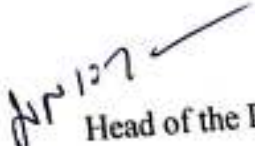
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
III Semester Review of Unit Plan

Name of Faculty: Dr. Sumaiya Khatib
Class: S.Y.B.Sc

Academic Year: 2023-24
Subject: Zoology-I (Practical)

Sr. No	Practical	Tentative Date of Completion	Date of Completion
1.	Extraction and detection of DNA	01-05/08/2023	01-05/08/2023
2.	Extraction and detection of RNA	07-12/08/2023	07-12/08/2023
3.	Mounting of Barr bodies Problems based on molecular biology	14-19/08/2023	14-19/08/2023
4.	Study of polytene chromosome	21-26/08/2023	21-26/08/2023
5.	Study of mitosis- temporary squash preparation of Onion root tip	02-08/09/2023	02-08/09/2023
6.	Detection of blood groups and Rh factor Pedigree analysis	09-15/09/2023	09-15/09/2023
7.	Problems in Genetics a) Monohybrid/ Dihybrid Cross: b) X- linked inheritance: c) Multiple Alleles	16-22/09/2023	16-22/09/2023
8.	Chromosome morphology: (photograph to be provided)	23-30/09/2023	23-30/09/2023


Teacher Incharge


Head of the Department

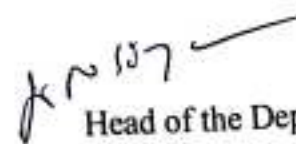
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
V Semester Review of Unit Plan

Name of Faculty: Dr. Sumaiya Khatib
Class: T.Y.B.Sc

Academic Year: 2023-24
Subject: EVS (Practical)

Sr. No	Practical	Tentative Date of Completion	Date of Completion
1.	Study of Physico-chemical properties of sewage/ effluent water	23-24/06/2023	23-24/06/2023
2.	Estimation of Pollution: BOD & COD	30/06/2023 01/07/2023	30/06/2023 01/07/2023
3.	Microbiological parameters: MPN and Gram staining	07-08/07/2023	07-08/07/2023
4.	Study of air micro flora	14-15/07/2023	14-15/07/2023
5.	Measurement of intensity of light by Lux meter	21-22/07/2023	21-22/07/2023
6.	Study of application of alternative energy resources	04-05/08/2023	04-05/08/2023
7.	Bioassay studies using water hyacinth or any suitable material	11-12/08/2023	11-12/08/2023
8.	Study of product derived by application of green chemistry	18-19/08/2023	18-19/08/2023
9.	Study of types of pollution	25-26/08/2023	25-26/08/2023
10.	Study of applications of various Spectroscopy	01-02/09/2023	01-02/09/2023
11.	Study of logistic services for medical and toxic waste	08-09/09/2023	08-09/09/2023
12.	Study of indoor plants for reduction of pollution	15-16/09/2023	15-16/09/2023


Teacher Incharge


Head of the Department

K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
VI Semester Review of Unit Plan

Name: Dr. Sumaiya Mohaddis Khatib
 Class: T.Y.B.Sc (Practical)

Academic Year: 2023-24

Subject: Environmental Science & Pollution

Sr. No	Practical	Date of Completion
1.	Study of moisture and texture of soil	16/12/23
2.	Study of soil microflora	23/12/23
3.	pH of soil	06/01/24
4.	Organic matter and Calcium carbonate	13/01/24
5.	Zinc, Cadmium, Lead in soil	20/01/24
6.	Population analysis by Quadrant method & Line transect method	27/01/24
7.	Observation & study of indicator species	03/02/24
8.	Study of air & noise pollution monitoring device, geospatial instrument.	10/02/24
9.	Study of any five biodiversity hotspots, bio reserves of India	17/02/24
10.	Study of any four effects of global warming and climate change	24/02/24
11.	Study of ANN chart and statistical model.	02/03/24
12.	Study the role of environmental organizations and agencies	09/03/24

Teacher Incharge

Head of the Department

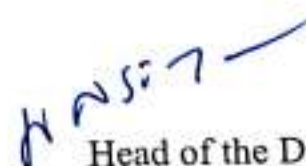
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
IV Semester Review of Unit Plan

Name: Dr. Sumaiya Mohaddis Khatib
 Class: S.Y.B.Sc

Academic Year: 2023-24
 Subject: Zoology-II (Theory)

Sr. No.	Topic	Date of Completion
Unit-I	Cell Biology	10/01/24
	1.1 Introduction to cell biology	
	1.2 Nucleus	
	1.3 Plasma membrane	
	1.4 Transport across membrane	
	1.5 Cytoskeletal structures	
Unit-II	Endomembrane System	15/02/24
	2.1 Endoplasmic reticulum	
	2.2 Golgi complex	
	2.3 Lysosome	
	2.4 Mitochondria	
Unit-III	Biomolecules	15/03/24
	3.1 Biomolecules	
	3.2 Carbohydrates	
	3.3 Amino acids and proteins	
	3.4 Lipids	
	3.5 Vitamins	


 Teacher Incharge


 Head of the Department

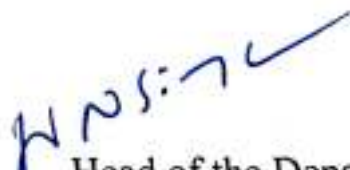
K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
IV Semester Review of Unit Plan

Name: Dr. Sumaiya Mohaddis Khatib
 Class: S.Y.B.Sc

Academic Year: 2023-24
 Subject: Zoology-II (Practical)

Sr. No	Practical	Date of Completion
1.	Study of permeability of cell through plasma membrane	02/12/23
2.	Measurement of cell diameter by oculometer	09/12/23
3.	Qualitative tests for carbohydrates	16/12/23
4.	Qualitative tests for protein	23/12/23
5.	Qualitative test for lipids	06/01/24
6.	Study of rancidity of lipid by titrimetric method	13/12/24
7.	Ultra-structure of cell organelles Mitochondria, Golgi apparatus, Lysosomes	20/01/24
8.	Ultra-structure of cell organelles Nucleus, Endoplasmic reticulum (Smooth and rough)	27/01/24
9.	Study of clinical disorders Hyperglycemia, Hypoglycemia, Marasmus	03/02/24
10.	Study of clinical disorders Kwashiorkor, Anemia, Fatty liver	10/02/24


 Teacher Incharge


 Head of the Department

K. M. E. Society's
G. M. Momin Women's College-Bhiwandi
IV Semester Review of Unit Plan

Name: Dr. Sumaiya Mohaddis Khatib
 Class: S.Y.B.Sc

Academic Year: 2023-24
 Subject: Zoology-I (Practical)

Sr. No	Practical	Date of Completion
1.	Study of population density by Line transect method & Quadrant method and calculate different diversity indices.	16/12/23
2.	Study of prokaryotic cells (bacteria) by Crystal violet staining technique	23/12/23
3.	Study of eukaryotic cells (WBCs) from blood smear by Leishman's stain	06/01/24
4.	Identification and study of fossils:	13/12/24
5.	Identification of speciation	20/01/24
6.	Bibliography/ Abstract writing	27/01/24
7.	Preparation of Power Point Presentation based on research paper.	03/02/24



Teacher Incharge



Head of the Department

G. M. Momin Women's College, Bhiwandi
Dept. Of Zoology

Dr. Kamran Abbas

Summary of Alloted and Conducted Lect./Practicals -2023-24

Month	No. of lectures/practicals allotted						No. of lectures/practicals conducted					
	F.Y		S.Y		T.Y.		F.Y		S.Y		T.Y.	
	L	P	L	P	L	P	L	P	L	P	L	P
June			-	-	13	02			-	-	12	02
July	07	04	-	-	15	09	05	04	-	-	14	09
August	11	06	-	-	06	04	11	06	-	-	06	04
September	08	08	-	-	12	06	08	08	-	-	14	06
October					-	-			-	-	-	-
Total	26	18	-	-	46	21	24	18	-	-	46	21
November	01	02	-	-	05	05	01	1	-	-	05	05
December	15	13	-	-	15	07	15	13	-	-	15	07
January	14	08	-	-	15	14	14	08	-	-	15	14
February	07	05	-	-	12	13	07	05	-	-	12	13
March	-	-	-	-	-	-	-	-	-	-	-	-
Total	47	28	-	-	47	34	47	28	-	-	47	34

Alloted
Conducted

Kamran

G.M. Momin Women's College
Department of Zoology
Statistics of lectures allotted and conducted 2023-24

Dr. Heena Momin

Month	No. of lectures/practicals allotted						No. of lectures/practicals conducted					
	F.Y		S.Y		T.Y.		F.Y		S.Y		T.Y.	
	L	P	L	P	L	P	L	P	L	P	L	P
	-	-	-	-	13	02	-	-	-	-	13	02
June	-	-	-	-	13	02	-	-	-	-	15	09
July	-	-	-	-	15	09	-	-	-	05	06	04
August	-	-	-	05	06	04	-	-	-	04	12	06
September	-	-	-	04	12	06	-	-	-	-	-	-
October	-	-	-	-	-	-	-	-	-	09	46	21
Total	-	-	-	09	46	21	-	-	-	03	05	-
November	-	-	-	03	05	-	-	-	-	04	07	06
December	-	-	-	04	07	06	-	-	-	04	14	09
January	-	-	-	04	14	09	-	-	-	01	12	04
February	-	-	-	01	12	04	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	12	33	19
Total	-	-	-	12	33	19	-	-	-	-	-	-

HP Momin



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Department of Zoology

Statistics of lectures allotted and conducted 2023-24

Dr. Sumaiya Khatib

Month	No. of lectures/practicals allotted						No. of lectures/practicals conducted					
	F.Y.		S.Y.		T.Y.		F.Y.		S.Y.		T.Y.	
	L	P	L	P	L	P	L	P	L	P	L	P
June	—	—	7	—	5	2	—	—	5	—	5	2
July	—	—	11	1	4	5	—	—	11	1	4	5
August	—	—	12	17	—	5	—	—	12	16	—	5
September	—	—	8	10	—	5	—	—	12	10	—	5
October	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	38	28	9	17	—	—	40	27	9	17
November	—	—	03	02	—	—	—	—	02	02	—	—
December	—	—	08	08	—	04	—	—	13	07	—	04
January	—	—	08	13	—	07	—	—	08	13	—	07
February	—	—	10	10	—	06	—	—	10	10	—	06
March	—	—	01	—	—	—	—	—	01	—	—	—
Total	—	—	30	33	—	17	—	—	34	32	—	17


Dr. Sumaiya Khatib

Dr. Sadaf Don

Month	No. of lectures/practical's allotted						No. of lectures/practical's conducted					
	F.Y		S.Y		T.Y.		F.Y		S.Y		T.Y.	
	L	P	L	P	L	P	L	P	L	P	L	P
June												
July	07	-	-	04	-	-	02	-	-	02	-	-
August	11	-	-	08	-	-	11	-	-	08	-	-
September	08	-	-	08	-	-	08	-	-	08	-	-
	06*	-	-	-	-	-	06*	-	-	-	-	-
October	15	-	-		-	-	15	-	-	-	-	-
Total												
November	-	-	-	-	-	-	-	-	-	-	-	-
December	15	-	09	04	-	-	15	-	07	04	-	-
January	14	-	13	04	-	-	14	-	13	04	-	-
February	07	-	17	04	-	-	07	-	17	04	-	-
March	05	-	06		-	-	05	-	06	-	-	-
Total												

• Extra lecture

G.M. Momin Women's College
Department of Zoology
Statistics of lectures allotted and conducted 2023-24
Dr. Ayesha Penbelli

Month	No. of lectures/practicals allotted						No. of lectures/practicals conducted					
	F.Y		S.Y		T.Y.		F.Y		S.Y		T.Y.	
	L	P	L	P	L	P	L	P	L	P	L	P
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
August	-	15	-	-	-	-	-	11	-	-	-	-
September	-	10	-	-	-	-	-	09	-	-	-	-
October	-	10	-	-	-	-	-	05	-	-	-	-
Total		35	-	-		-	-	25	-	-		-
November	-	02	-	-	-	-	-	02	-	-	-	-
December	-	13	-	-	08	-	-	11	-	-	06	-
January	-	08	-	-	14	-	-	06	-	-	12	-
February	-	05	-	-	13	-	-	04	-	-	13	-
March			-	-		-	-		-	-		-
Total		28	-	-	35	-	-	23	-	-	31	-

G.M. Momin Women's College
Department of Zoology
Statistics of lectures allotted and conducted 2023-24
Dr. Tasmi Ansari

Month	No. of lectures/practicals allotted						No. of lectures/practicals conducted					
	F.Y		S.Y		T.Y.		F.Y		S.Y		T.Y.	
	L	P	L	P	L	P	L	P	L	P	L	P
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	02	-	-	-	-	-	01	-	-	-
August	-	04	13	03	-	-	-	04	11	03	-	-
September	-	04	08	02	-	-	-	04	07	02	-	-
October	-	-	-	-	-	-	-	-	-	-	-	-
Total		08	23	25	-	-	-	04	19	05	-	-
November	-	-	-	-	-	-	-	-	-	-	-	-
December	-	-	-	-	-	-	-	-	-	-	-	-
January	-	04	-	09	-	-	-	04	-	09	-	-
February	-	04	-	06	-	-	-	04	-	06	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	8	-	15	-	-	-	8	-	15	-	-



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Department of zoology
Alloted Conducted 2023-24

Dr. Ayesha Penbelli

Month	No. of lectures/practicals allotted						No. of lectures/practicals conducted					
	F.Y		S.Y		T.Y.		F.Y		S.Y		T.Y.	
	L	P	L	P	L	P	L	P	L	P	L	P
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-
August	-	15	-	-	-	-	-	11	-	-	-	-
September	-	10	-	-	-	-	-	09	-	-	-	-
October	-	10	-	-	-	-	-	05	-	-	-	-
Total		35	-	-		-	-	25	-	-		-
November	-	02	-	-	-	-	-	02	-	-	-	-
December	-	13	-	-	08	-	-	11	-	-	06	-
January	-	08	-	-	14	-	-	06	-	-	12	-
February	-	05	-	-	13	-	-	04	-	-	13	-
March			-	-		-			-	-		-
Total		28	-	-	35	-	-	23	-	-	31	-



K. M. E. Society's

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Department of zoology
Allotted Conducted 2023-24

Dr. Shabana Ansari

Month	No. of lectures/practicals allotted						No. of lectures/practicals conducted					
	F.Y		S.Y		T.Y.		F.Y		S.Y		T.Y.	
	L	P	L	P	L	P	L	P	L	P	L	P
June	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	4	4	-	-	-	-	1	-
August	-	-	-	-	5	8	-	-	-	-	4	6
September	-	-	-	-	5	10	-	-	-	-	3	10
October	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	14	22	-	-	-	-	8	16
November	-	-	-	-	1	-	-	-	-	-	1	-
December	-	-	-	-	4	10	-	-	-	-	4	10
January	-	-	-	-	5	8	-	-	-	-	5	8
February	-	-	-	-	4	8	-	-	-	-	4	8
March	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	28	48	-	-	-	-	22	42

23-24

Class	F.Y.		S.Y.		T.Y.		P.G.			Sign of Teacher	Sign of HOD
Month	No. of lectures/ practicals		No. of lectures/ practicals		No. of lectures/ practicals		No. of lectures/ practicals				
	Allotted	Conducted	Allotted	Conducted	Allotted	Conducted	Allotted	Conducted			
	L	P	L	P	L	P	L	P			
June	-	-	5	-	12	4	13	4			
July	-	-	12	-	16	8	23	8			
August	-	-	12	9	14	8	20	10			
September	-	-	9	3	12	4	9	4			
October	-	-									
Semester	-	-	38	12	54	24	65	26			
Sem-I Total	-	-									
November	-	-	0	1	-	-	-	-			
December	-	-	10	4	08	4	08	6			
January	-	-	11	3	14	8	17	8			
February	-	-	9	7	15	8	14	10			
March	-	-	8	3	4	-	4	-			
Semester	-	-	-	-	-	-	-	-			
Sem-II Total	-	-	32	9	30	12	41	24			