

UNIVERSITY OF JAMMU

SYLLABI AND COURSE OF STUDY IN ZOOLOGY

For the Examination to be held in Year 2022, 2023 & 2024

SKILL ENHANCEMENT COURSE

ZOOLOGY

(USEZO)

UG SEMESTER-I & II

UNDER NEP-2020

UNIVERSITY OF JAMMU
SYLLABI AND COURSE OF STUDY IN ZOOLOGY
For the Examination to be held in Year 2022, 2023 & 2024
(SKILL ENHANCEMENT COURSE)
UG SEMESTER-I
UNDER NEP-2020

SKILL ENHANCEMENT COURSE NO.	:	USEZO-101
SKILL ENHANCEMENT COURSE TITLE	:	INTRODUCTION TO CLINICAL BIOCHEMISTRY
CREDIT	:	02
MAXIMUM MARKS	:	50
I) External (University Exam)	:	40
II) Internal Assessment	:	10
MINIMUM PASS MARKS	:	
I) External	:	14
II) Internal	:	04
DURATION OF UNIVERSITY EXAM	:	02 Hours

Objectives and Expected Learning Outcomes

To acquaint the students with basic understanding of the biological techniques, Clinical pathology and practical biochemistry. The course also gives an account of the health and disease surveillance, health interventions, and implementation of disease prevention strategies. After completing this course the learners will be able to increase their skill, attitudes and knowledge towards causes of diseases and Understand about the importance and scope of biochemistry.

UNIT-I: Fundamentals of Biological Techniques (7 Hrs.)

- 1.1. Microscopy: Principle & Types (Simple, Compound, Phase contrast)
- 1.2. Ultracentrifugation: Principle & Types
- 1.3. Spectrophotometry: Principle & Types
- 1.4. Electrophoresis: Principle & Types (Agarose Gel electrophoresis & Polyacrylamide Gel electrophoresis)

Unit-II: Basic Clinical Pathology (8 Hrs.)

- 2.1. Clinical Pathology: Definition and Scope
- 2.2. Common Metabolic Disorders: Diabetes, Hypertension, Obesity
- 2.2. Importance of CSF Examination
- 2.3. Renal Function Test
- 2.4. Liver Function Test
- 2.5. Urine Examination
- 2.6. Physiology of Blood
 - 2.6.1. Clotting Factors
 - 2.6.2. Haemostasis

Unit-III: Practical Biochemistry (30 Hrs.)

- 3.1. Solution/Strengths of Chemicals: Percentage, Normality, Molarity, Molality, Osmolarity, ppm, ppb
- 3.2. Blood Glucose level by using Glucometer.
- 3.3. Recording of Blood Pressure and Pulse rate.
- 3.4. Differential staining of Human blood corpuscles using Leishman stain

- 3.5. Counting of WBC in blood using Hemocytometer
- 3.6. Counting of RBC in blood using Hemocytometer
- 3.7. Clotting time and its significance
- 3.8. Determination of Blood Group
- 3.9. Blood Sample Collection and Preservation

NOTE FOR CONDUCTING EXAMINATION IN USEZO-101 & PAPER SETTERS

Total Marks of the USEZO is 50. 20% marks shall be reserved for internal assessment (10 marks). 80% of the marks (40 marks) shall be reserved for external examination to be conducted by the University/Colleges.

Internal Assessment Test (10 Marks)

Internal Assessment Paper of 10 Marks shall consist of Theory Question/s of 5 Marks from Unit I/II and 5 Marks of Practical Exercise from Unit III.

External End semester University / College Examination

1. External Theory Exam shall be of 30 Marks and consist of 2 sections:
 - a. Section A shall be of 10 Marks and comprise of 5 short answer type questions of 02 Marks each, from Unit I and II (All compulsory).
 - b. Section B shall be of 20 Marks and will comprise of Four Long answer type questions, of 10 Marks each, Two from Unit I and two from Unit II. A candidate has to attempt One question from each Unit.
2. External Practical Exam shall be of 10 Marks to be conducted by the College with practical exercise/s from Unit-III of 5 Marks and Viva voce of 5 Marks.

SUGGESTED READINGS

1. Text book of Clinical Biochemistry by S.S. Haque.
2. Text Book of Biochemistry by Dr. Prasad R. Manjeshwar.
3. Practical Clinical Biochemistry by Rajni Chawla
4. Text Book of Clinical Biochemistry by Ramnik Sood
5. Clinical Biochemistry by Nanda Maheshwari.
6. Physiology & Biochemistry by W.K.Balwan WK and N Saba

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(SKILL ENHANCEMENT COUSE)

UG SEMESTER-II

SKILL ENHANCEMENT COURSE NO.	:	USECZO-201
SKILL ENHANCEMENT COURSE TITLE	:	MEDICAL PARASITOLOGY
CREDIT	:	02
MAXIMUM MARKS	:	50
I) External (University Exam)	:	40
II) Internal Assessment	:	10
MINIMUM PASS MARKS		
I) External	:	14
II) Internal	:	04
DURATION OF UNIVERSITY EXAM	:	02 Hours

Objectives and Expected Learning Outcomes

To introduce general parasitology and impart advanced knowledge on parasitological research Methods. After completing this course the learners will be able to develop and implement public health interventions, to engage with health systems and public health initiatives and to increase their skill, attitudes and knowledge towards causes of diseases.

UNIT-I: General Parasitology

(7 Hrs.)

- 1.1. Parasitology: Definition, History and Scope
- 1.2. Parasitism and Parasitoids
- 1.3. Present Status of Parasitic Diseases in India with special reference to Jammu & Kashmir
- 1.4. Emerging and Re-emerging infectious Diseases
 - 1.4.1. Covid-19
 - 1.4.2. Dengue
 - 1.4.3. Enteric Fever

Unit-II: Public Health Concerns

(8 Hrs.)

- 2.1. Public Health: Definition, Scope & Functions
- 2.2. Dimension & Determinants of Health
- 2.3. Public Health problems and issues
- 2.4. Health programs in India for AIDS, Leprosy, Tuberculosis, Malaria, Visceral Leishmaniasis and Filariasis
- 2.5. Antibiotic Resistance

Unit-III: Diagnostic Parasitology

(30 Hrs.)

- 3.1. Sampling Techniques
 - 3.1.1. Blood
 - 3.1.2. Stool
 - 3.1.3. Urine
 - 3.1.4. Sputum
 - 3.1.5. Swabs
- 3.2. Study of Parasites through Permanent Prepared Slide/Charts: *Plasmodium*, *Entamoeba*, *Leishmania*, *Schistosoma*, *Ascaris*, *Enterobius*, *Fasciola*, *Taenia solium* or any other available parasite.
- 3.3. Field survey on Common communicable diseases of respective areas.
- 3.4. Field survey on status of important vectors and reservoirs.
- 3.5. General methods of microscopic preparations (killing, fixing, washing, dehydration, staining, destaining, mounting) of any vertebrate parasite available.

NOTE FOR CONDUCTING EXAMINATION IN USEZO-101 & PAPER SETTERS

Total Marks of the USEZO is 50. 20% marks shall be reserved for internal assessment (10 marks). 80% of the marks (40 marks) shall be reserved for external examination to be conducted by the University/Colleges.

- i) Internal Assessment Paper of 10 Marks shall consist of Theory Question/s of 5 Marks from Unit I/II and 5 Marks of Practical Exercise from Unit III.
- ii) External Exam Theory shall be of 40 Marks and consist of 3 sections:
 - a. Section A shall be of 10 Marks and comprise of 5 very short answer type questions of 02 Marks each without choice (All compulsory).
 - b. Section B shall be of 15 Marks and will comprise of Three Medium answer type questions of 5 Marks each with Choice in each Unit (All compulsory).
 - c. Section C shall be of 15 Marks and will comprise of Three Long answer type question of 7.5 Marks each. A candidate will have to attempt only two questions.

SUGGESTED READINGS

1. Medical Parasitology by C P Baveja and V Baveja, Arya Publishing Company.
2. Parasitology (Protozoology & Helminthology) by K.D Chatterjee.
3. Medical Parasitology by D. R. Arora and Brij Bala Arora.
4. Applied Zoology by W.K. Balwan and A.K. Verma.
5. Medical Microbiology & Parasitology By B.S. Nagoba and Asha Pichare, Elsevier.