



## 1.1.2

### List of Employability/ Entrepreneurship/ Skill Development Courses with Course Contents

Colour Codes		
Employability Contents	Green	
Entrepreneurship Contents	Light Blue	
Skill Development Contents	Pink	
Name of the Subjects/Related to all three Components (Employability/ Entrepreneurship/ Skill Development)	Yellow	



### List of Revised Courses

Department : **Zoology**

Programme Name : **B. Sc**

Academic Year : **2021-22**

### **List of Revised Courses**

Sr. No.	Course Code	Name of the Course
1.	LS/ZOO/SEC-401L	Medical Diagnostics

*A. V. K. Khosla*

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जन्तु विज्ञान विभाग  
Department of Zoology  
गुरु घासीदास वि.वि., बिलासपुर  
Guru Ghasidas Vishwavidyalaya, Bilaspur



**Minutes of Meetings (MoM) of Board of Studies (BoS)**

**Academic Year : 2021-22**

**School : School of Studies in Life Sciences**

**Department : Zoology**

**Date and Time : 18 Aug 2020 - 11:30 AM**

**Venue : Department of Zoology**

The scheduled meeting of member of Board of Studies (BoS) of Department of Zoology, School of Studies of Life Sciences, Guru Ghasidas Vishwavidyalaya, Bilaspur was held to design and discuss the B. Sc. scheme and syllabi.

The following members were present in the meeting:

1. Prof. Shivkant Kumar Prasad (External Expert Member BoS, Dept. of Biosciences, Pandit Ravishankar Shukla University).
3. Prof. LVKS Bhaskar (HOD, Dept. of Zoology.-cum Chairman, BOS)
4. Dr. Rohit Seth (Member BoS, Associate Professor, Dept. of Zoology)
5. Dr. Sushant Kumar Verma (Member, Assistant Professor, Dept. of Zoology)

Following points were discussed during the meeting

1. In B.Sc. syllabus 6 core papers are revised with less than 20% change.
2. 01 DSE paper and 01 GE and are also revised with less than 20% change. 01 SEC paper was revised.

The committee discussed and approved the scheme and syllabi. The following courses were revised in B. Sc. Zoology (III to VI Semesters):

**Sr. No. Course Code Name of the Course**

1. LS/ZOO/SEC-401L Medical Diagnostics

*L.V.K.S. Bhaskar*

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Signature & Seal of HoD

गुरु घासीदास विश्वविद्यालय  
(केन्द्रीय विश्वविद्यालय अधिनियम 2009 क्र. 25 के अंतर्गत स्थापित केन्द्रीय विश्वविद्यालय)  
कोनी, बिलासपुर - 495009 (छ.ग.)



Guru Ghasidas Vishwavidyalaya  
(A Central University Established by the Central Universities Act 2009 No. 25 of 2009)  
Koni, Bilaspur - 495009 (C.G.)

## Scheme and Syllabus

# Scheme and Syllabus

For

B.Sc. Honours Zoology

Under

Choice Based Credit System (CBCS)

Applicable from Session 2020-2021 to onwards

Department of Zoology

School of Life Sciences

Guru Ghasidas Vishwavidyalaya, Bilaspur (CG)









Core Course-7 Practical	LS/ZOO/CC-303 P	Lab Course	2	4	30 (15+15)	70
Generic Elective-3 Theory	LS/ZOO/GE-301 L	Food Nutrition and Health	4	4	30 (15+15)	70
Generic Elective-3 Practical	LS/ZOO/GE-301 P	Lab Course	2	4	30 (15+15)	70
Skill Enhancement Course-1	LS/ZOO/SEC-301 L	Scripture	2	2	30 (15+15)	70
Skill Enhancement Course-1	LS/ZOO/SEC-301 P	Lab Course	2	4	30 (15+15)	70
<b>TOTAL</b>			<b>18</b>	<b>34</b>	<b>30</b>	<b>70</b>
<b>SEMESTER IV</b>						
Core Course-8 Theory	LS/ZOO/CC-401 L	Comparative anatomy of vertebrates	4	4	30 (15+15)	70
Core Course-8 Practical	LS/ZOO/CC-401 P	Lab Course	2	4	30 (15+15)	70
Core Course-9 Theory	LS/ZOO/CC-402 L	Physiology: Life Sustaining Systems	4	4	30 (15+15)	70
Core Course-9 Practical	LS/ZOO/CC-402 P	Lab Course	2	4	30 (15+15)	70
Core Course-10 Theory	LS/ZOO/CC-403 L	Biochemistry of Metabolic Processes	4	4	30 (15+15)	70
Core Course-10 Practical	LS/ZOO/CC-403 P	Lab Course	2	4	30 (15+15)	70
Generic Elective-4 Theory	LS/ZOO/GE-401 L	Insect Vectors and Diseases	4	4	30 (15+15)	70
Generic Elective-4 Practical	LS/ZOO/GE-401 P	Lab Course	2	4	30 (15+15)	70
Skill Enhancement Course-2	LS/ZOO/SE-401	Medical Diagnostics	2	2	30 (15+15)	70
Skill Enhancement Course-2	LS/ZOO/SE-401	Lab Course	2	4	30 (15+15)	70
<b>TOTAL</b>			<b>28</b>	<b>34</b>	<b>30</b>	<b>70</b>
Summer Internship: 15 days	Swayam Swachhita / NSS / Industrial/ others		2	61/day	--	100
<b>SEMESTER V</b>						
Core Course-11 Theory	LS/ZOO/CC-501 L	Molecular Biology	4	4	30 (15+15)	70
Core Course-11 Practical	LS/ZOO/CC-501 P	Lab Course	2	4	30 (15+15)	70
Core Course-12 Theory	LS/ZOO/CC-502 L	Principles of Genetics	4	4	30 (15+15)	70
Core Course-12 Practical	LS/ZOO/CC-502 P	Lab Course	2	4	30 (15+15)	70
Discipline Specific Elective-1 Theory	LS/ZOO/DSE-501(A) L	*A. Biology of Insect (MOOCS)	4	4	30 (15+15)	70
	LS/ZOO/DSE-501(B) L	*B. Immunology (MOOCS)				
Discipline Specific Elective-1 Practical	LS/ZOO/DSE-501(A) P	Lab Course A	2	4	30 (15+15)	70
	LS/ZOO/DSE-501(B) P	Lab Course B				
Discipline Specific Elective-2 Theory	LS/ZOO/DSE-502(A) L	A. Basics of Neuroscience	4	4	30 (15+15)	70
	LS/ZOO/DSE-502(B) L	B. Reproductive Biology				
Discipline Specific Elective-2 Practical	LS/ZOO/DSE-502(A) P	Lab Course A	2	4	30 (15+15)	70
	LS/ZOO/DSE-502(B) P	Lab Course B				
<b>TOTAL</b>			<b>24</b>	<b>32</b>		

*(Signature)* *Signature* *Signature* *Signature*



Department of Zoology, School of Life Sciences, GGV, Bilaspur (CG)

**SKILL ENHANCEMENT COURSES**

**LS/ZOO/SEC-401 L**

**MEDICAL DIAGNOSTICS**

**THEORY**

**(Credits 4)**

**Unit 1: Introduction to Medical Diagnostics and its Importance 10**

Functional components of Chemical Laboratories, Identification of common equipment, principle and care of laboratory instruments. Basic needs of clinical laboratory technician, awareness of soft skills. NABL and SOP. Basic causes of accidents in laboratories.

**Unit 2: Collection of Specimen and Disposal of waste 10**

General principles, containers, rejection. Samples-Urine, Faeces, Sputum, Pus, Body Fluids, Swab, Blood. Importance of biomedical waste. Disposal of laboratory/hospital waste. Non-infectious waste, infected sharp waste disposal, infected non-sharp waste disposal.

**Unit 3: Basic Haematological Techniques 10**

Preparation of blood collection-Basic steps for drawing blood by vein, capillary and artery puncture. Complications during and after blood collection. Specimen rejection criteria for blood. Anticoagulants-types and concentration. Transport of blood sample. Effect of storage on blood cell morphology. Universal precautions.

**Unit 4: Diagnostic Methods Used for Analysis of Blood 10**

Blood composition, Preparation of blood smear and Differential Leukocyte Count using Leishman's stain, Platelet count using haemocytometer, Erythrocyte Sedimentary Rate, Packed Cell Volume.

**Unit 5: Diagnostic Methods Used for Urine Analysis 10**

Urine analysis: Physical characteristics; Abnormal constituents, Urine culture. Urinary tract infection, Kidney Disease and diabetes

**Unit 6: Clinical Microbiology, Culture and Staining 10**

Culture media: Definition, uses, basic requirements, classification, Agar, Peptone; Transport, Sugar and Anaerobic media, Containers and forms of media. Staining methods: Simple, Gram staining, Zeil-Neelsen staining or AFB staining, Negative impregnation, Antibiotic sensitivity test

**Course Objective:**

To impart adequate knowledge on the diagnostics methods used for analysis of blood and urine. To understand the fundamental principles and applications of medical imaging using X-Ray, PET, MRI and CT Scan

**Course Outcomes:**

Students will learn how doctors diagnose patients using diagnostic tools and resources. Students will be aware of different methods and machines doctors use every day to diagnose patients.

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