



## MAHATMA GANDHI UNIVERSITY, KERALA

### Abstract

Bachelor of Science (Honours) Zoology - Fourth Semester - Modifications to the Course Outcomes, Course Content and pattern for End Semester Evaluation - Approved - Orders Issued.

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### ACA 16

No. 323/ACA 16/2026/MGU

Priyadarshini Hills, Dated: 12.01.2026

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Read:-1. U.O.No.5797/AC A16/2024/MGU, dated.27.06.2024.

2. Minutes of the meeting of the Expert Committee on Zoology (UG)
4. Orders of the Vice Chancellor under Section 10 (17), Chapter III of the Mahatma Gandhi University Act 1985, dated 09.01.2026.

### ORDER

The syllabi of various Honours Under Graduate Programmes coming under The MGU-UGP (Honours) Regulations, 2024, have been approved vide paper read as (1) above and published on the website of the University.

The Expert Committee on Zoology (UG), deliberated on modifying the Course Outcomes, Course Content and the pattern for End Semester Evaluation of the DSC, DSE, SEC and VAC type courses in the Fourth Semester syllabus of Bachelor of Science (Honours) Zoology programme and has submitted recommendations, vide paper read as (2) above.

**(Recommendations are attached as Annexure).**

Considering the urgency of the matter, sanction has been accorded by the Vice Chancellor, in exercise of the powers of the Academic Council vested upon him under Section 10(17), Chapter III of the Mahatma Gandhi University Act 1985, vide paper read as (3) above, to approve the aforementioned recommendations.

Hence, the **Course Outcomes, Course Content and the pattern for End Semester Evaluation** of the said courses in the Fourth Semester of Bachelor of Science (Honours) Zoology programme stands modified to this extent.

Orders are issued accordingly.

SUDHA MENON J

ASSISTANT REGISTRAR III  
(ACADEMIC)  
For REGISTRAR

Copy To

1. PS to VC
2. PA to Registrar/CE
3. Convenor, Expert Committee, Zoology (UG)
4. JR 2 (Admin)/DR 2, AR 3 (Academic)
5. JR/DR/AR (Exam)
6. Tabulation/Academic Sections concerned
7. AC C1/AC C2 Sections
8. IT Cell 3/OQPM1Sections
9. PRO/IQAC/Records Sections
10. Stock File/File Copy

File No. 86607/AC A16-1/2025/AC A16

Forwarded / By Order

Section Officer

## ANNEXURE

### SEMESTER IV

**Course Name : Animal Diversity - Chordata- I**

**Course Code : MG4DSCZGY200**

#### **Course Outcomes**

CO.No	Expected Course Outcome (Modified)	Learning Domains (Modified)	PO.No.	Page No.
1	Describe general characters and classification of Chordata up to Class Reptilia	U		
2	Explain different organ systems of frog	U		
3	Discuss the general topics in Superclass Pisces and Class Reptilia	U,A	No Change	80
4	Demonstrate expertise in the laboratory in mounting scales & and other practicals.	U,A		
5	Removed			

#### **Course Content**

##### **Content for Classroom transaction (Units)**

Module	Units	Course Description	Hours	CO.No (Modified)	Page No.
1	1.1	No change	No change	1	81, 82
	1.2				
	1.3				
	1.4				
	1.5				
2	2.1				

	2.2			1	
	2.3				
3	3.1			1	
	3.2				
	3.3			2	
	3.4			1	
	3.5			3	
	Practicals			4	

### **Mode of Assessment**

Assessment Type	B. End Semester Examination (Modified)			Page No.
	Type of Questions	No. of Questions to be Answered	Total Marks	
	Short Essays	4 out of 6	$4 \times 5 = 20$	
	Short Answer Questions	6 out of 8	$6 \times 3 = 18$	
	Multiple Choice Questions	12 out of 12	$12 \times 1 = 12$	
	<b>Theory</b> <b>Total Marks = 50</b>		<b>Duration: 1.5 hrs</b>	
	<b>Practical</b> <b>Total Marks = 35</b>		<b>Duration: 2 hrs</b>	83
	Dissection – 10 marks (Identify- 1, sketch- 5 and label (any eight parts) – 4 marks) OR Identification of Labelled parts (any five) and mention its function -10 marks Mounting -5 marks Scientific drawing/section – 5 marks Spotter identification/ Osteology/Taxonomic identification – 5 marks			

**Course Name : Biological Chemistry**  
**Course Code : MG4DSCZGY201**

### Course Outcomes

CO.No	Expected Course Outcome (Modified)	Learning Domains (Modified)	PO.No (Modified)	Page No.
1	Illustrate the structure and function of the chemical building blocks of life -carbohydrates, proteins, lipids, and nucleic acids	U	2	
3	Explain how energy is released into high-energy compounds capable of driving biochemical reactions.		1	85

### Course Content

#### Content for Classroom transaction (Units)

Module	Units	Course Description	Hours	CO.No. (Modified)	Page No.
1	1.1	No change	No change	1	86,87
	1.2				
	1.3				
	1.4				
3	3.1			3	
4	Practicals			1	

### Mode of Assessment

Assessment Type	B. End Semester Examination (Modified)			Page No.
	Theory	Total Marks = 50	Duration: 1.5 hrs	
Type of Questions	No. of Questions to be Answered	Total Marks		
Short Essay	4 out of 6	4 x 5 = 20		
Short Answer Questions	6 out of 8	6 x 3 = 18		
Multiple Choice Questions	12 out of 12	12 x 1 = 12		

**Course Name : General Toxicology**  
**Course Code : MG4DSEZGY200**

### **Course Outcomes**

CO.No	Expected Course Outcome	Learning Domains (Modified)	PO.No	Page No.
1	No change	U	No change	90
5		U,A		

### **Course Content** **Content for Classroom transaction (Units)**

Module	Units	Course Description	Hours	CO.No. (Modified)	Page No.
2	2.3	No Change	No Change	3	91,92
3	3.4			4	
	3.5				

### Mode of Assessment

<b>Assessment Type</b>	<b>B. End Semester Examination (Modified)</b>			<b>Page No.</b>
	<b>Theory</b>	<b>Total Marks= 70</b>	<b>Duration: 2 hrs</b>	
	Type of Questions	No. of Questions to be Answered	Total Marks	
	Short Essay	6 out of 8	$6 \times 5 = 30$	
	Short Answer Questions	10 out of 12	$10 \times 3 = 30$	
	Multiple Choice Questions	10 out of 10	$10 \times 1 = 10$	

**Course Name : Health, Nutrition and Wellness**  
**Course Code : MG4DSEZGY201**

### **Course Outcomes**

<b>CO.No</b>	<b>Expected Course Outcome</b>	<b>Learning Domains (Modified)</b>	<b>PO.No</b>	<b>Page No.</b>
2	No Change	A	No Change	93
4		U		
5		C		

### **Course Content** **Content for Classroom transaction (Units)**

<b>Module</b>	<b>Units</b>	<b>Course Description</b>	<b>Hours</b>	<b>CO.No. (Modified)</b>	<b>Page No.</b>
1	1.2	No change	No change	1	93

### Mode of Assessment

<b>Assessment Type</b>	<b>B. End Semester Examination (Modified)</b>			<b>Page No.</b> 95
	<b>Theory</b>			
	<b>Total Marks= 70</b>		<b>Duration: 2 hrs</b>	
	Type of Questions	No. of Questions to be Answered	Total Marks	
	Short Essay	6 out of 8	$6 \times 5 = 30$	
	Short Answer questions	10 out of 12	$10 \times 3 = 30$	
	Multiple Choice Questions	10 out of 10	$10 \times 1 = 10$	

**Course Name : Functional Zoology**  
**Course Code : MG4DSCZGY202**

### **Course Outcomes**

<b>CO.No</b>	<b>Expected Course Outcome (Modified)</b>	<b>Learning Domains (Modified)</b>	<b>PO.No</b>	<b>Page No.</b>
1	No Change	U	No Change	97
2				
4				
5	Test human blood groups, leukocytes, tonicity, lymphoid organs, estimate haemoglobin, monitor blood pressure and heart rate	No Change		

### **Course Content** **Content For Classroom Transaction (Units)**

<b>Module</b>	<b>Units</b>		<b>Course Description</b>	<b>Hours (Modified)</b>	<b>CO No.</b>	<b>Page No.</b>
	<b>(Existing)</b>	<b>(Modified)</b>				
4	1	No change	No change	10	No Change	99
	2	No change		5		

	3	Removed			
	4	3		4	No Change
	5	4		6	
	Removed				
	7	5		5	No Change

### Mode of Assessment

Assessment Types	B. End Semester Examination (Modified)			Page No.												
	Theory		Duration: 1.5 hrs													
	<b>Total Marks = 50</b>		<b>Duration: 1.5 hrs</b>													
	<table border="1"> <thead> <tr> <th>Type of Questions</th> <th>No. of Questions to be Answered</th> <th>Total Marks</th> </tr> </thead> <tbody> <tr> <td>Short Essay</td> <td>4 out of 6</td> <td><math>4 \times 5 = 20</math></td> </tr> <tr> <td>Short Answer Questions</td> <td>6 out of 8</td> <td><math>6 \times 3 = 18</math></td> </tr> <tr> <td>Multiple Choice Questions</td> <td>12 out of 12</td> <td><math>12 \times 1 = 12</math></td> </tr> </tbody> </table>		Type of Questions	No. of Questions to be Answered	Total Marks	Short Essay	4 out of 6	$4 \times 5 = 20$	Short Answer Questions	6 out of 8	$6 \times 3 = 18$	Multiple Choice Questions	12 out of 12	$12 \times 1 = 12$		
Type of Questions	No. of Questions to be Answered	Total Marks														
Short Essay	4 out of 6	$4 \times 5 = 20$														
Short Answer Questions	6 out of 8	$6 \times 3 = 18$														
Multiple Choice Questions	12 out of 12	$12 \times 1 = 12$														
	<b>Practical</b> <b>Total Marks = 35</b> <b>Duration: 2 hrs</b> <b>Record - 10 Marks, Examination - 25 Marks:</b> Spotter Identification: 1. Identification : lymphoid organs–4 marks, instruments - 4 marks 2. Blood group - 5 marks 3. Blood smear preparation and identification of leukocytes – 8 marks (Smear preparation – 4 marks, sketch any 2 leukocytes – 4 marks) 4. Tonicity/Hemoglobin – 4 marks		99													

**Course Name : Biological Basis of Behaviour-IV**  
**Course Code : MG4DSCZGY203**

### Course Outcomes

CO.No	Expected Course Outcome (Modified)	Learning Domains (Modified)	PO.No (Modified)	Page No.
1	No Change			
2				
3	Understand the physiological and hormonal control of sexual behavior, including the roles of androgens, estrogens, and love hormones.	No Change	No change	
4	Understand the concept of the biological clock in humans and its role in regulating biological rhythms	U	No change	101, 102
5	To evaluate the structure and function of the immune and reproductive systems, including identifying cells, organs and diseases through practical observation and models.	E	1,2,9	
6	Removed			

### Course Content

#### Content For Classroom Transaction (Units)

Module	Units	Course Description	Hours	CO.No. (Modified)	Page No.
2		<b>Physiology of Sexual Behaviour</b>	No change		102,103
	2.3	No Change		3	
3		<b>Biological rhythms</b>			

	3.1	No Change		4	
	3.2				
4		<b>Practicals</b>			
	1				
	2				
	3	No change			5
	4				
	5				
	6				

### Mode of Assessment

Assessment Type	B. End Semester Examination (Modified)			Page No.
	Theory	Total Marks = 50	Duration: 1.5 hrs	
	Type of Questions	No. of Questions to be Answered	Total Marks	
	Short Essays	5 out of 7	$5 \times 4 = 20$	
	Short Answer Questions	10 out of 12	$10 \times 2 = 20$	
	Multiple Choice Questions	10 out of 10	$10 \times 1 = 10$	103

**Course Name : Emergency Life Support and First Aid**  
**Course Code : MG4SECZGY200**

Programme Name	BSc (Hons) Zoology	Page No. 105
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## Course Outcomes

CO.No	Expected Course Outcome	Learning Domains (Modified)	PO.No	Page No.
1	No Change	U,S	No Change	105

## Course Content

### Content For Classroom Transaction (Units)

Module	Units	Course Description	Hours	CO.No. (Modified)	Page No.
3	3.4		No Change	5	107
		Activity		1,2	

### Mode of Assessment

Assessment Type	B. End Semester Examination (Modified)			Page No.
	Theory	Total Marks = 50	Duration: 1.5 hrs	
	Type of Questions	No. of Questions to be Answered	Total Marks	107
	Short Essays	4 out of 6	$4 \times 5 = 20$	
	Short Answer Questions	6 out of 8	$6 \times 3 = 18$	
	Multiple Choice Questions	12 out of 12	$12 \times 1 = 12$	

**Course Name : Comprehensive Fitness**  
**Course Code : MG4VACZGY200**

Programme Name	BSc (Hons) Zoology	Page No. 109
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**Course Outcomes**

CO.No	Expected Course Outcome	Learning Domains (Modified)	PO.No	Page No.
3				
4	No Change	U	No Change	109
5				

**Course Content**

**Content For Classroom Transaction (Units)**

Module	Units	Course Description	Hours	CO.No (Modified)	Page No.
1	1.2	No Change	No Change	1	110
3		Activity		1,4,5	

**Mode of Assessment**

Assessment Type	B. End Semester Examination (Modified)			Page No.
	Theory	Total Marks = 50	Duration: 1.5 hrs.	
	Type of Questions	No. of Questions to be Answered	Total Marks	
	Short Essays	4 out of 6	$4 \times 5 = 20$	
	Short Answer Questions	6 out of 8	$6 \times 3 = 18$	
	Multiple Choice Questions	12 out of 12	$12 \times 1 = 12$	111