LSE-10

ASSIGNMENT BOOKLET
Bachelor's Degree Programme (B.Sc.)

ANIMAL DIVERSITY-II

Valid from 1st January 2021 to 31st December 2021

It is compulsory to submit the Assignment before filling in the Term-End Examination Form.

Please Note

- **You can take electives '56 to 64' credits from a minimum of TWO and a maximum of FOUR science disciplines, viz. Physics, Chemistry, Life Sciences and Mathematics.**
- **You can opt for elective courses worth a MINIMUM OF 8 CREDITS and a MAXIMUM OF 48 CREDITS from any of these four disciplines.**
- **At least 25% of the total credits that you register for in the elective courses from Life Sciences, Chemistry and Physics disciplines must be from the laboratory courses. For example, if you opt for a total of 64 credits of electives in these 3 disciplines, at least 16 credits 'out of those 64 credits' should be from lab courses.**
- **You cannot appear in the Term-End Examination of any course without registering for the course. Otherwise, your result will not be declared and the 'responsibility will be yours'.**

School of Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110068

(2021)

Dear Student,

We hope you are familiar with the system of evaluation to be followed for the Bachelor's Degree Programme. At this stage you may probably like to re-read the section on assignments for Elective Courses in the Programme Guide that we sent you after your enrolment. A weightage of 30 per cent, as you are aware, has been earmarked for continuous evaluation which would consist of **one tutor-marked assignment (TMA)** for this course.

Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully.

1) On top of the first page of your TMA answer sheet, please write the details exactly in the following format:

ENROLMENT NO.: ……

NAME : ……

ADDRESS ……...

……...

COURSE CODE : …….

COURSE TITLE : …….

ASSIGNMENT NO.: ……..…

STUDY CENTRE : ……..….. DATE: ……...

PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.

2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
3) Leave 4 cm margin on the left, top and bottom of your answer sheet.
4) Your answers should be precise.
5) While solving problems, clearly indicate the question number along with the part being solved. Be precise.
6) **This assignment will remain valid for one year from January 1, 2021 to December 31, 2021**. However, you are advised to submit it within **12 weeks** of receiving this booklet to accomplish its purpose as a teaching-tool. Answer sheets received after the due date shall not be accepted.
7) **You cannot fill the exam form for this course until you have submitted this assignment.**

We strongly feel that you should retain a copy of your assignment response to avoid any unforeseen situation and append, if possible, a photocopy of this booklet with your response.

We wish you good luck!

ASSIGNMENT
(Tutor Marked Assignment)

Course Code: LSE-10
Assignment Code: LSE-10/TMA/2021
Maximum Marks: 100

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1. a) List any *two* characters each of cyclostomes that are primitive, specialized and degenerated. (2+2+2)

   b) List any *four* primitive features of the tuatara. (4)

2. a) Dental formulae of some mammals are given below. Identify the mammal to which the formula belongs from among the names of mammals. (4)

   i) $\frac{1-0-0-6}{0-0-0-6} = 26$ (cat, elephant, cow)

   ii) $\frac{3-1-4-2}{3-1-4-3} = 42$ (elephant, man, dog)

   iii) $\frac{2-1-2-3}{2-1-2-3} = 32$ (elephant, horse, man)

   iv) $\frac{3-0-1-3}{3-0-1-3} = 28$ (cow, dog, cat)

   b) State the function of Weberian ossicles in teleosts. (2)

   c) Give the examples of following: (Biological names) (4)

      i) Flying fish

      ii) Flying reptile

      iii) Lung fish

      iv) Aquatic mammal

3. Differentiate between the following: (2½×4=10)

   a) Scales of Reptiles and Fishes

   b) Uropygial and Salt Glands of birds

   c) Monogastric and Digastric Stomach

   d) Homcercal and Diphycercal tail

4. a) Name the type of accessory respiratory organ in each of the following fishes: (1×5=5)

      i) *Amphipnous*

      ii) *Anabas*

      iii) *Ophiocephalus*

      iv) *Saccobranchus*

      v) *Clarias*

   b) Explain the rhythmicity of heart beat in mammals. (3)

   c) What is the role of ductus arteriosus in bird's circulatory system? (2)

5. a) What are intromittent organs? Describe the reptilian intromittent organ. (4)

b) Describe the specialized sensory organs in fish and snakes. (3+3)

6. a) Define "Fixed Action Pattern" (FAP) and give its *two* suitable examples. (5)

b) What is imprinting? State the importance of imprinting with suitable examples. (5)

7. a) Explain migration in fishes. (5)

b) Discuss echolocation in bats. (5)

8. Give one example each of protective, warning, alluring and conscious mimicry and mention the purpose for mimicry in each case. (10)

9. a) Names of some bones are given in column A and the part of the skeleton in which these bones occur in column B. Match them. (6)

Column A		**Column B**	
a.	Parietal	A.	Pectoral girdle
b.	Vomer	B.	Cranium
c.	Maxilla	C.	Olfactory capsule
d.	Dentary	D.	Upper jaw
e.	Clavicle	E.	Pelvic girdle
f.	Pubis	F.	Lower jaw

b) Draw a neat and labelled diagram of human eye. (4)

10. a) How does the respiratory system of cartilaginous fishes differ from that of bony fishes? (4)

b) Briefly describe the structure and functions of adrenal cortex and medulla. (6)