LSE-07

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

TAXONOMY AND EVOLUTION

Valid from 1st January, 2026 to 31st December, 2026

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
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(2026)

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, 2026 to December 31, 2026**. 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-07
Assignment Code: LSE-07/TMA/2026
Max. Marks: 100

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1. (a) Define classification. What are the aims, objectives and importance of taxonomy? Describe briefly plant taxonomy in ancient India. (1+2+2)
   (b) Describe the merits and demerits of Linnaeus and Bentham and Hooker's system of classification. (5)

2. a) Explain taxonomic hierarchy with example. (2)
   b) Explain the term homology and analogy with proper examples. (2)
   c) Give the full form of (2)
      (i) ICZN
      (ii) 1UBS
      (iii) ICBN
      (iv) ICNCP
   d) What are the keys? (2)
   e) What is the role of Botanical garden? (2)

3. (a) What were the main problems in having two kingdoms system of classification of living organisms? Discuss how five kingdom system of classification was able to cope up with main problems of two kingdom system of classification. (6)
   (b) Describe with examples how morphological, paleobotanical and anatomical, evidences can become a tool for a taxonomist. (4)

4. (a) Differentiate between Alpha and Omega taxonomy. (2)
   (b) List the principles of Numerical taxonomy. (3)
   (c) Describe the procedures adopted in numerical taxonomy. (5)

5. (a) Discuss how biochemical approach can be utilized for identification of organisms. (4)
   (b) Write notes on (1½×4)
      (i) Herbarium ethics
      (ii) Punch card
      (iii) Type specimens
      (iv) Importance of national parks

6. Compare between Lamarckism and Darwinism with the help of examples. (5)

7. (a) Give an account of geological time scale citing the biological features. (5)
   (b) Discuss the role of Cytochrome C in establishing the evolutionary relationship among various species. (5)

8. (a) Discuss the sources and expression of variability. (5)
   (b) With the help of an example explain how interspecific competition results in evolution of co adapted communities. (5)

9. (a) Describe the mechanisms of speciation. (6)
   (b) Explain how genetic repatterning can occur during isolation. (4)

10. (a) Discuss the trends in human evolution. (6)

(b) Describe two specific skills of *Homo erectus* that make the species stand apart from all the predecessors. (4)

(c) Explain the role of language in evolution of human culture. (5)