Course Type	Course Code	Name of Course	L	T	P	Credit
DC	GLC206	**Introduction to Stratigraphy and Paleontology**	3	0	0	9

Course Objective

The primary objective of the course is to introduce fundamental aspects of stratigraphy and palaeontology. Also the designed course will act as a bridge to complement both the subjects.

Learning Outcomes

Upon successful completion of this course, students will be able to:

- Basics of stratigraphy
- Historical development of stratigraphic units
- Origin, evolution and phylum wise development of organism
- Fossil as a tool to complement stratigraphy

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Introduction to Stratigraphy (Litho-, bio- and chronostratigraphy), Stratigraphic units, Geological time scale, stratigraphic breaks.	**6**	This will help the student to understand basic concepts of startigraphic principles and units and correlate the geological history.
2	Introduction to different periods of geologic time scale.	**4**	Basic concepts of geological time scale and their determination methods.
3	Kinds of fossils, process of fossilization, Elementary ideas about origin of life, elementary ideas of evolution.	**4**	To make the student understand the process of fossilization, evolution of life from unicellular to multicellular organisms.
4	Identification of fossils: methods of description and illustration; Binomial nomenclature of organism, Systematic classification of organisms – their characters.	**3**	Description and identification of fossils based on their morphology and their modification with time.
5	Morphology, environment and geological distribution of brachiopoda, mollusca, echinodermata, arthropoda, and anthozoa.	**21**	Distribution of different fossil assemblages in geological history.
6	Introduction to Palynology and paleobotany; morphology of typical Gondwana flora.	**3**	Deals with the fundamental concepts of paynology and paleobotany.

Text Books:

1. Brookfield, M. E., 2004. Principles of Stratigraphy. Blackwell Publishing Ltd, pp. 1-340.
2. Dasgupta, A. (2005). An Introduction to Paleontology. World Press, Kolkata.

Reference Books:

1. Koutsoukos, E. A. M., 2005. Applied Stratigraphy. Springer, pp. 1-488.
2. International Commission on Stratigraphy (Website: http://www.stratigraphy.org/)
3. Moore, R. C., Lalicker, C. G., and A. G. Fischer (1997). Invertebrate fossils. CBS Publishers & Distributors, New Delhi.
4. Roy, A. K. (2008). Fossils in Earth Sciences. Prentice-Hall of India Pvt. Ltd., New Delhi.
5. Jain, P. C., and Anantharaman, M. S. (2012). Paleontology: Evolution and animal distribution. Vishal publishing Co., New Delhi.
6. Clarkson, E. N. K., (1983). Invertebrate paleontology and evolution. London.
7. Shrock,R.R and Twenhofel,W.H. 1987. Principles of Invertebrate Paleontology. McGraw Hill, New York.
8. Laboratory Manual