

M.A. IInd year
Discipline Specific Elective (DSE-6)
Code-MHS-404
Archaeology and applied Science

Semester – IVth
Max. Marks – 70
Time – 3 hours

Course Objectives:

This course deals with the origin and development of Ancient Indian sciences and technologies, their continuity till the present and their contemporary relevance. This course will enable students to understand provenance of various raw materials and manufacture activities at archaeological sites.

Course Outcome:

Attainment in understanding and appreciating a spectrum of analytical tools applied to the study of ancient materials. Its inculcating the realisation of the difference between the methods used by the archaeologists, experts of heritage management on one hand while the scientists practicing geoarchaeology, anthropology, environmental archaeology, archaeozoology and archaeobotany on the other. Syllabi helping students develop ability to determine the appropriate tools needed to address in seeking answers of ancient technology, conservation and preservation, reconstruction of ecology, diet, pathology and provenance of ancient materials.

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| Unit-I | Application of Geoarchaeology | (15 Lect.) |
| | <ul style="list-style-type: none">a. Meaning, definition, concept and scope of Geoarchaeologyb. Study of Rocks- Igneous Rock, Sedimentary Rock, Metamorphic Rock and Weathering of Rocksc. Minerals- Definition, Types and Physical Characteristics; Main Minerals used in manufacture of ancient objects- Quartz, Feldspar, Mica, Chalcedony, Agate, Jasper, Flint, Carnelian. | |
| Unit-II | Anthropology | (15 Lect.) |
| | <ul style="list-style-type: none">a. Contribution of Anthropology in Archaeologyb. Place of Man in animal Kingdom, Evolution of Man: Australopithecus, Homo habilis, Homo erectus, Neanderthal, Homo sapiens | |
| Unit-III | Environmental Archaeology | (15 Lect.) |
| | <ul style="list-style-type: none">a. Meaning, definition and Elements of Environmental Archaeologyb. Methods of Study of Environmental Archaeologyc. Climate and early man, Climate cycles of Pleistocene and Holocene | |

Unit-IV Archaeozoology (15 Lect.)

- a. Application of Archaeozoology in reconstructing the past
- b. Study of Faunal and Human remains and their significance in Archaeological context
- c. Human Osteology: Study of bones to determine Age, Sex, Palaeo-Pathology and causes of death

Unit-V Archaeobotany(15 Lect.)

- a. Application of Floral remains in reconstructing the past
- b. Method of collection of botanical remains at Archaeological site, Study of Macro and Micro remains to study the Archaeological Culture
- c. Study of Archaeobotanical remains of some important Archaeological sites

Suggested Readings

1. Chattopadhyaya, B. D., History of Science and Technology in Ancient India.
2. Pandey, D.K., Basics of Earth Science.
3. Mahapatra, S., Basics of Geology.
4. Paddayya, K., Piaget, Scientific method and Archaeology.
5. Paddayya, K., Ecological Archaeology & the Ecology of Archaeology: The Archaeologist's viewpoint.
6. Singh, G., Geography of India.
7. Singh, I., Human Geography (Hindi)
8. Sharma, P., Human Geography the land.
9. Renfrew, C., and Bahn Paul, Archaeology: Theories Methods and Practice.
10. Katzenberg Anee & Saunders Shelley (ed), Biological Anthropology of the human skeleton.
11. Reitz, E.J. & Wing, E.S. , Zoo-archaeology.
12. Pearsall Deborah M., Paleoethnobotany: A handbook of procedures.
13. James, D., Hurlbit, Corndius, S. Klein, Cornells (eds), Manual of Mineralogy.
14. Hegde, K.T.M., An Introduction to Ancient Indian metallurgy.
15. Butzer, K., Archaeology as Human ecology
16. Shackley, Myra, Environmental Archaeology
17. Singh, R. P., Agriculture in Protohistoric India
18. Evan, J.C., An Introduction to Environmental Archaeology
19. Zeumer, E.F. Pleistocene Period
20. Zoological Survey of India report
21. Botanical Survey of India report
22. Relevant articles of Men and Environment Journal
23. प्रकाश, एस०, प्राचीन भारत में रसायन का विकास ।
24. यादव, अच्छेलाल, प्राचीन भारत में कृषि ।
25. मजूमदार, जी० पी०, वनस्पति विज्ञान ।
26. ओझा, रामप्रकाश, पुरातत्त्व विज्ञान, प्रथम खण्ड ।
27. शुक्ल, बी० आर० के०, मानव उद्विकास
28. सिंह, सविन्द्र, भौतिक भूगोल