

**Learning Outcomes based Curriculum Framework (LOCF)**

**For**

**Archaeology (MA)**

**Post-Graduate Programme**

**2019**



**UNIVERSITY GRANTS COMMISSION**

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# Learning Outcomes based Curriculum Framework

## M.A. Archaeology

### **PREAMBLE**

The UGC Committee constituted for Learning Outcomes based Curriculum Framework for M.A. Archaeology is pleased to submit its report.

The Committee suggests that the following remarks may be taken into account by those faculty and research members of Departments/Schools, Boards of Studies in Archaeology, Institutes and Universities, while considering the recommendations for their use:

- i. The learning outcomes are designed to help learners understand the objectives of studying MA Archaeology, that is, to analyze, appreciate, understand and critically engage with tangible, non-tangible, literary and material sources, approaching them from various perspectives.
- ii. It is significant to mention here that the MA Archaeology syllabus under CBCS remains the point of reference for the LOCF recommendations. However, stakeholders (respective departments or Universities or Institutions) may make suitable alternations with justifications while selecting course, finalizing objectives keeping in view global, national and regional contexts of analysis and appreciation.
- iii. To this end, the texts mentioned in the LOCF document are indicative. Similarly, the organization of divisions/ themes/ genres/ periods/ authors/ areas, etc. is specific to contexts identified in the course(s) and does not pre-empt further rethinking or selection with clear justification for the choices exercised therein.
- iv. The organization of the courses/papers may be worked into semesters keeping in consideration the credit load with the ultimate end of outcomes of the course/programme. Learning outcomes are modifiable with due justification in view of contexts, texts selected in the course and requirements of the stakeholders, which are as diverse as are regions in the country.
- v. The overarching concern of the LOCF committee in Archaeology is to have definite and justifiable course outcomes and their realization by the end of the course/programme.
- vi. The Department/Institute/University is expected to encourage its faculty concerned to make suitable pedagogical innovations, in addition to teaching/learning processes suggested in the LOCF Recommendations, so that the Course/Programme learning outcomes can be achieved.

# M.A. ARCHAEOLOGY

## **PART I**

### **1.1 INTRODUCTION:**

Outcome based learning is the principal end of pedagogical transactions in higher education in today's world in the light of exponential changes brought about in science and technology, and the prevalent utilitarian world view of the society. Archaeology as a discipline falls within the special category of social science but with a multidisciplinary approach.

Scientific study of past human society and social relationships forms the core of Ancient Indian History and Culture and Archaeology (AIHC). Because of advances in methods and theory, archaeology now addresses issues central to debates in the social sciences in a far more sophisticated manner than ever before. Coupled with methodological innovations, multiscalar archaeological studies around the world have produced a wealth of new data that provide a unique perspective on long-term changes in human societies, as they document variation in human behavior and institutions before the modern era. Scholars and the public typically think of archaeology as an endeavor to find earliest examples of such things as the domesticated horse or writing or cities. All too often, articles with archaeological themes in the popular media focus solely on our recovery of things associated with the particularities of history. This emphasis misrepresents archaeology, a scientific discipline that has advanced greatly in recent decades. We argue that archaeology can now make significant contributions to the broader social sciences. This advance results from two major trends: the accumulation of considerable new fieldwork data from around the world and the development of new methods and concepts that transform our evidence into reliable reconstructions of past social dynamics. In recent decades, scientifically minded archaeologists from both the anthropological and the classics traditions have found common ground in the rigorous analysis of past human societies and their changes through time. Archaeological data have several advantages for studying past societies. First, they are the only source of information about the human past before the invention of writing and the development of historiographic traditions. Thus, archaeology gives scholars access to the full range of the human experience, including social forms unlike any that have existed in modern or historical times. Second, archaeology can inform about all segments of society, including commoners, peasants, the underclass, slaves and other subaltern groups often left out of early historical accounts. Third, archaeological findings provide a long-term perspective on changes,

documenting the origins of agriculture, the Urban Revolution, and other transformational social changes. Indeed, archaeology is crucial to a renewed interest in the past. The relevance of AIHC and Archaeology lies in the fact that this is the discipline through, which, we can learn the history of Indian Knowledge System. Our ancestors have laid down path for holistic development but unfortunately, we are not following them. The discovery that the Earth is spherical is credited to Aristotle, who was born in 383 BCE. However, very few people know that a man from ancient India established the idea of “spherical earth” during the 8<sup>th</sup> to 9<sup>th</sup> century BCE. The Man was called Yajnavalka, who first discovered that the earth was round. He was the first to propose the heliocentric system of the planets. In his work *Shatapatha Brahmana*, he proposed that the earth and other planets move around the Sun. He also calculated the period of one year as 365.24675 days. This is only 6 minutes longer than the current established time of 365.24220. Take the example of Kung Fu. The whole world knows about the martial art. The person who founded Kung Fu was none other than a prince of the Pallava Dynasty from Kanchipuram, Tamil Nadu, who visited China during the 5<sup>th</sup> century CE. He became the 28<sup>th</sup> patriarch of Buddhism and established the Shaolin temple and founded the martial art, which is world famous today. That Prince is called Bodhidharma. But how many people know that Kung Fu and Shaolin temple was founded by an Indian? Precisely if Indians are unaware of their heritage, why should they expect that someone else will know about their history and achievements? The achievements of Ancient India are lost in obscurity. Ancestors of India had invented many ways, which eased the basic life of a common man. These inventions may seem primitive today but we cannot ignore the fact that these were revolutionary achievements during their era. The Indus Civilization is known for the broad and sanitized drainage system, which was no less than a miracle during those ancient time. But how many people know that the ancient Indian from the Indus valley were the first to invent a flush toilet? The people around the world use rulers to measure everything. How many people know that the Indus valley was the first to invent the measuring instruments? A measuring rods has been found at Lothal, which is 4450 years old. Not only this, the people of Indus valley were the first to invent buttons. The World knows that the Chinese discovered the art of silk weaving. How many know that the people from Indus Valley were the first to weave dresses made of cotton? The people of the ancient Civilization were the first to invent weighing scales. Archaeologists have discovered weights and measuring units from excavation sites at Harappa, Mohenjodaro, Lothal etc. These scales were extensively used for trading. Ancient India has given Yoga to the World, which is widely practiced now. Aryabhata, Brahmagupta and Bhaskaracharya were the three eminent mathematicians from ancient India, who established the concept of zero as a mathematical value in different eras. Brahmagupta was the first to invent a

symbol for the value *shunya* (zero). Bhaskaracharya was the first to use it in algebra. The oldest inscription of Zero can be found at the Chaturbhuj Temple in Gwalior fort. Ancient Indians were pioneers in the field of chemistry too. The LOCF for Archaeology is prepared on the contours and curricular structure provided by the UGC, and may be modified without sacrificing the spirit of CBCS and LOCF.

## **1.2 LEARNING OUTCOMES-BASED APPROACH TO CURRICULAR PLANNING:**

The main goal to develop this curriculum is for students to develop skills in the following learning elements--problem, approach, theory, analysis, and application. These learning outcome-based elements will give them the ability to apply archaeology to societal issues and work towards making a better India.

**Problem** - problems are identified through reading texts, reviewing articles, writing synopses, freewriting, developing abstracts, journaling, observing behaviors, reviewing books and evaluating other research.

**Approach** - apply qualitative and quantitative methods to a problem, use ethnographic data, oral tradition, linguistic, archaeological, human biology methods. The ethical issues associated with gathering data about humans and their social systems will be covered in classes.

**Theory** - set the problem within a theoretical tradition such as materialism, cultural determinism, structuralism, feminism, post-modernism, processual archaeology, post-processualism, etc. Relate research to issues of cultural identity and change, globalization, cultural ecology, gender, caste, class and ethnicity

**Analysis** - be familiar with qualitative, statistical, systems, linguistic, human biology, and archaeological, historical, cross-cultural analytical approaches.

**Application** - relate research findings and analysis to real problems through fieldwork, internships, projects, and advocacy by developing collaboration with stake holders.

### **1.2.1 Nature and extent of MA programme**

Students enrolling for the programme will be provided with a broad knowledge of not only Indian history and cultural heritage but also global understanding, archaeological theory and research methods. Students will build their research and writing skills in their Post-Graduate courses,



culminating in the preparation of a significant piece of scholarly writing, which will constitute their MA dissertations. The MA in Archaeology is based upon a combination of teaching, coursework and research leading to the development of thesis. Interdisciplinary contacts will be encouraged, and links should be maintained with other departments in the country as well as international Institutes and projects. The nature of the curriculum will be as such that students can learn as well as demonstrate through quizzes, exams, papers, essays, class discussions, collaborative projects, journals, portfolios, scrapbooks, annotated bibliographies, thesis and dissertation writing and applied projects.

### **1.2.2 Aims of Masters Degree Programme**

- To have a broad knowledge of theory and research across archaeology and the sub-disciplines of archaeology.
- To get an overview of archaeological and textual sources in a way that reveals a comprehensive understanding and a critical perspective.
- To be able to present critical analyses of research in public forums.
- To demonstrate the ability to collect and analyze archaeological data.
- To successfully master appropriate archaeological research methods, including statistical analysis.
- To collect, analyze, and interpret archaeological data in a way that adds to the understanding of cultural heritage in proper context
- To provide with an archaeologically informed description and understanding of commonalities and differences of human ways of life and thinking.
- To demonstrate a mastery of the design and administration of anthropological research.
- To develop ability to critically question seemingly universal models of thought, value orientations, and practices.

### **1.3 Post- Graduate Attributes**

- a. Disciplinary Knowledge: broad understanding of historical development of human culture approached through the material remains of the past
- b. Understanding relation between human and environment that has impacted development of human culture in different ecological zones
- c. Gain an understanding of the major theoretical perspectives and debates within archaeology, how these have affected our views of the past, and how they may be applied to research in this field.
- d. Demonstrate knowledge of the formation of the archaeological record and acquire skills to conduct archaeological excavation: how to record, investigate, analyze and interpret archaeological remains.
- e. Develop a professional ethos in archaeology that is engaged and integrative and that will enhance the operationalization of responsible scientific research.
- f. Identify and distinguish the steps involved in carrying out quantitative and qualitative research by using available library and internet resources, as well as primary materials, including literary, historical and archaeological sources.
- g. Understand and appreciate the legacy of archaeology on modern cultures.
- h. The study of Ancient Indian Knowledge system will enable prediction of future course of action.

#### **Communication Skills:**

- a) Effectively communicate arguments, analyses and research results orally.
- b) Produce and express coherent, persuasive and innovative written studies (using relevant tangible and intangible data) with attention to academic integrity and respect for diverse, including contrary opinions and ideas.

#### **Critical Thinking:**

- a) Acquire an understanding of the concept of stewardship in archaeology: preserving non-renewable cultural resources through policy, law and public education.
- b) Acquire, digest and critically evaluate scholarly arguments, the assumptions behind them, and their theoretical and empirical components.

#### **Problem Solving:**

- a) An ability to generate fresh insights into a subject.
- b) Exceptional practical problem-solving skills.

Analytical Reasoning:

- a) Understanding context behind the analysis of the past world through processes, systems and models
- b) Developing objectivity and subjectivity in historical analysis.

Research-Related Skills:

- a) Develop a research design, which has an appropriately humanistic goal but may incorporate some scientific methods, ability to plan and write a research paper

Self and Time Management:

Self management, the most important skill to learn and there will be a session on time management, but doing a piece of research is largely about work autonomously and having the will to succeed!

Team Work:

- a) To cooperate, using their individual skills and providing constructive feedback, despite any personal conflict between individuals.
- b) Crucial part of a research, as it is often necessary for colleagues to work well together, trying their best in any circumstance.

Scientific Reasoning:

Developing and testing hypotheses to describe and explain behavioral changes in the prehistoric past applying scientific methods

Digital Literacy:

- a) ability of advanced Word skills and advanced GIS, statistics, databases, spreadsheets, digital drawing through online workbooks and workshops
- b) ability to use digital resources for presentations

Multicultural Competence:

- a) ability to engage with and understand Archaeology and history from various parts of the World

- b) Gaining experience through research in a museum, archive, laboratory, heritage management, conservation, etc.

Moral and Ethical Values:

The degree to which every student engages with these themes will vary but it is important that all think especially about ethical issues

Leadership Readiness:

- a. ability to lead cultural heritage education
- b. high quality professional development to teach cultural values and understanding.

Life-long Learning:

- a) ability to blend academic and practical skills
- b) ability to transfer such skills to other domains of one's life and work

Global Competency

After completing course in Archaeology, the student is expected to be fully knowledgeable about the subject and not only from the point of view of examination. He/She will be ready to accept challenges and stand in competition at a national and global level.

#### **1.4 Qualification descriptors for a Masters degree in Archaeology**

The qualification descriptors for the MA programme in Archaeology shall be five learning attributes such as understanding, use, communication, expansion, and application of subject knowledge with a clear understanding of one's location. This also involves an awareness on the students' part of differences pertaining to class, caste, gender, community, region, etc. in order that they can transcend these differences with transparency of purpose and thought. The key qualification descriptor for MA Archaeology shall be clarity of communication as well as critical thinking and ethical awareness. Each Graduate in Archaeology should be able to:

- a) *Demonstrate* a coherent and systematic knowledge and understanding of the field of literary and theoretical developments in this field in the world context. This would also include the student's ability to identify, speak and write about genres, forms, periods, movements and conventions of writing as well as the ability to understand and engage with critical concepts, theories and categories
- b) *demonstrate* the ability to understand the role of cultural heritage in a changing world from the disciplinary perspective as well as in relation to its professional and everyday

use. While the aspect of disciplinary attribute is covered by the ability of the students to read data with close attention to themes, conventions, contexts and value systems, a key aspect of this attribute is their ability to situate their reading, their position(s) in terms of community, class, caste, religion, language, region, gender, politics, and an understanding of the global and the local

- c) *Demonstrate* the ability to think and write critically and clearly about one's role as a located Indian citizen of the world through a reading of Ancient Indian History, Culture and Archaeology
- d) *Communicate* ideas, opinions and values—both traditional values and values of life in all shades and shapes—in order to expand the knowledge of the subject as it moves from the classroom to life and life-worlds
- e) *Demonstrate* the ability to share the results of academic and disciplinary learning through different forms of communication such as essays, dissertations, reports, findings, notes, etc, on different platforms of communication such as the classroom, conferences, seminars, workshops, the media and the internet
- f) *Recognize* the scope of Ancient Indian Knowledge and Values in terms of career opportunities, employment and lifelong engagement in teaching, publishing, translation, communication, media, soft skills and other allied fields
- g) *Apply* subject-specific skills in society to foster a larger sense of ethical and moral responsibility among fellow humans in order to see and respect differences in and among various species and life-forms and learn to transcend them

The programme will strengthen the student's ability to draw on narratives that alert us to layers and levels of meaning and differences in situations and complexities of relations. Linguistic and Cultural competence should help the students identify, analyze and evaluate keys issues in the text and around in the world—thematic, contextual, professional, processual—and think of ways to find acceptable and sustainable solutions. Students will have the ability to understand and articulate with clarity and critical thinking one's position in the world as an Indian and as an Indian citizen of the world.

Since the subject is not taught at Under Graduate level in the country the student has option to pursue it only at Post-Graduate degree in Archaeology level where the fundamentals of the subject and academic achievements are understood and conceived by him. Also the teachers will benefit as they will have to keep abreast with latest developments, discoveries, research methodologies and application of various other disciplines in the subject. This course will

thus fulfill the objective set by University Grants Commission for the sustainable developments in the chosen field.

### **1.5 Programme Learning Outcomes (M.A. Archaeology)**

The programme learning outcomes are as follows:

- an overview of major developments in human history, including basic sciences and technologies with the help of textual and archaeology sources
- advanced analysis of the archaeological, historical and cultural legacies, Peopling of the World and global movements
- origin and development of complex societies
- origin and development of agriculture system
- understanding in ancient material culture
- understanding of current theoretical debates across a broad range of archaeology, Civilization as well as Religious developments in the context of South Asia
- developing a deep sense of past and understanding the rich cultural heritage of India
- contributions made in the history of the nation and world and relevance of knowledge system to the contemporary world
- heritage management and scientific conservation of the rich cultural elements of the country for understanding future and posterity

### **1.6 THE TEACHING LEARNING PROCESS:**

Learning is a challenging, engaging, and enjoyable activity. Learners should be encouraged to engage in a rigorous process of learning and self-discovery by adopting a highly focused and yet flexible approach to education as opposed to rote learning. Each day learners should be encouraged to focus on key areas of the course and spend time on learning the course fundamentals and their application in life and society. In teaching and learning pedagogy, there should be a shift from domain or conclusions-based approach to the experiential or process/es-based approach.

The faculty should promote learning on a proportionate scale of 20:30:50 principle, where lectures (listening/hearing) constitute 20 percent of the delivery; laboratory (scientific analysis and experiments) 30 percent of the learning methods and field-based (collecting/participating) 50

percent. This ratio is subject to change as per institutional needs. In order to achieve its objective of focused process based learning and holistic development, the Institution/University may use a variety of knowledge delivery methods:

### **1.6.1 Lectures**

Lectures should be designed to provide the learners with interesting and fresh perspectives on the subject matter. Lectures should be interactive in a way that students work with their teachers to get new insights in the subject area, on which they can build their own bridges to higher learning and not spoon feeding.

### **1.6.2 Discussions**

Discussions are critical components of learning, and can be used as a platform for students to be creative and critical with old and new ideas. Besides developing critiquing skills, arriving at consensus on various issues and discussion groups lead to innovative problem solving and, ultimately to success.

### **1.6.3 Simulations**

Simulations provide students opportunities to understand real life situations and scenarios, and solve challenges in a controlled environment or make use of them in simulating cultural experiences by locating/transposing them in new (local, regional, national and international) situations.

### **1.6.4 Case Studies**

Real case studies, wherever possible, should be encouraged in order to challenge students to find creative solutions to complex problems of individual, community, society and various aspects of knowledge domain concerned.

### **1.6.5 Role Playing**

Assuming various roles, as in real life, is the key to understanding and learning. Students are challenged to make strategic decisions through role-plays, and to analyze the impact of these decisions. For this purpose, incidents from literary texts and material sources may also be used.

### **1.6.6 Team Work**

Intended results can be achieved in subjects like Archaeology only by collective efforts. Positive collaboration in the form of team work is critical, for which, it is necessary to transcend one's prejudices and predilections so as to achieve the desired outcomes. In the process of team work, learners will acquire the skills of managing knowledge acquisition and other collaborative

learners, thereby understanding, how to incorporate and balance personalities.

### **1.6.7 Study Tours/Field Visits**

Majority of the primary sources in Archaeology are collected through field survey and excavations. Study Tours/ Field trips provide opportunities to the learners to test their in-class learning in real life situations as well as to understand the functional diversity in the learning spaces. These may include visits to sites of knowledge creation, preservation, dissemination and application. Institutions may devise their own methods to substitute/modify this aspect.

## **1.7 ASSESSMENT METHODS:**

### **1.7.1 Alignment of Programme Learning Outcomes and Course Learning Outcomes:**

The assessment of learners' achievement in MA in AIHC and Archaeology will be aligned with the following:

- a) programme learning outcomes (graduate descriptors)
- b) course learning outcomes (qualification descriptors)
- c) academic and professional skills suggested in the graduate learning descriptors in the LOCF recommendations (indicated and illustrated in the Learning Outcomes in respect of select courses)

**1.7.2 Assessment priorities:** Universities/Institutions will be required to prioritize formative assessments (in-semester activities including tests done at the Department or Instructor level) rather than giving heavy and final weightage to summative assessments (end-semester and/or mid-semester tests traditionally done centrally). Progress of learners towards achieving learning outcomes may be assessed making creative use of the following, either independently or in combination: time-constrained examinations (say 1-hour or 2-hour tests); report writing/preparing essays based on data collected from the field; problem based assignments; real life simulations; observation of practical skills (speaking, listening, problem solving within a peer group or a class); individual project reports (case-study or term papers within a given word limit); team project reports; oral presentations, including seminar presentation; viva voce, interviews; computerised adaptive testing for MCQ; peer and self-assessment etc., and any other pedagogic approaches as may be relevant keeping in view the learners' level, credit load and class size.



**1.7.3 Diversity in Assessment Methods:** Allowing for the diversity in learning and pedagogical methods adopted by different universities and institutions, stakeholders (Academic Councils, Boards of Studies or statutory bodies) are expected to ensure that the objectives of the course(s) are clearly aligned to learning outcomes. It is expected that the curricula developed by institutions will maintain a transparent roadmap of (a) pedagogical methods and priorities and (b) learning outcomes that reflect the weightage points given to different aspects of skills and achievements identified in the recommendations.

**1.7.4 Learning Outcome Index:** While devising assessment modes and criteria, institutions may look to gridlock course learning outcomes and programme learning outcomes as indicated in the LOCF, and work out ways to assign credit loads and distribute weightage points for each.

<b>Programme outcomes</b>	<b>Core courses</b>														
	Cou rse 1	Cou rse 2	Cou rse 3	Cou rse 4	Cou rse 5	Cou rse 6	Cou rse 7	Cou rse 8	Cou rse 9	Cou rse 10	Cou rse 11	Cou rse 12	Cou rse 13	Cou rse 14	Cou rse 15
Outcomes 1	X	X			X	X	X	X			X	X	X	X	
Outcomes 2	X	X			X	X			X	X	X				
Outcomes 3	X		X	X						X	X				
Outcomes 4	X		X	X					X		X				
Outcomes 5		X		X					X		X	X		X	
Outcomes 6		X	X		X	X	X	X	X	X		X	X	X	
Outcomes 7		X	X	X			X	X				X	X		X
Outcomes 8						X	X	X	X	X			X	X	X
Outcomes 9	X	X			X				X				X	X	X

<b>Programme outcomes</b>	<b>Elective courses</b>																		
	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	C ou r r	

	se 1	se 2	se 3	se 4	se 5	se 6	se 7	se 8	se 9	se 10	se 11	se 12	se 13	se 14	se 15	se 16	se 17	se 18	se 19
Outcome 1	X	X			X	X					X		X		X				X
Outcome 2	X	X		X	X	X		X	X	X	X	X	X				X	X	X
Outcome 3			X	X		X	X		X	X	X		X		X				
Outcome 4			X			X	X		X										
Outcome 5			X							X						X	X	X	
Outcome 6					X	X				X	X				X				
Outcome 7	X	X		X					X			X			X	X			X
Outcome 8							X	X	X				X			X	X	X	X
Outcome 9								X		X		X				X			

**Table 3**

<b>Programme out comes</b>	<b>Ability Skill Enhancement Courses</b>				
	Course 1	Course 2	Course 3	Course 4	Course 5
Outcome 1	X				
Outcome 2	X				
Outcome 3			X		
Outcome 4		X			
Outcome 5	X	X		X	
Outcome 6		X			

Outcome 7	X		X	X	X
Outcome 8		X	X	X	X
Outcome 9			X	X	X

**1.7.5 Weightage Distribution:** An institution may, for example, opt for a 60:40 weightage distribution system while assessing in-semester and end-semester activities. In such a case, in-semester activities may be accorded different weightage points (say, 20: 10: 10: 15: 5 out of 60 percentage points), in terms of activities such as single or group level oral components (20), individual project (10), group project (10), library and research work (15), and punctuality and regularity or any other responsibility indicator (5). Similarly, end-semester or summative assessment methods may include written tests, either written or in combination with oral components, as may be necessary, keeping in view the class size and the credit load in a given semester. Questions set in the end semester examinations may be a combination of essay type questions, short notes and objective MCQ (multiple choice questions). The credit hour distribution (L-T-O) has to be rationalized accordingly.

**1.7.6 Innovation and Flexibility:** Within each category, institutions are expected to encourage instructors to bring in innovative and flexible methods to guarantee the fullest realization of Learning Outcomes outlined in the document. All such instructional and assessment requirements must be clearly communicated to all stakeholders at the time of course registration. Any subsequent change or minor modification necessary for fuller realization of learning outcomes must be arranged with due notice and institutional arrangement at the relevant level.

**1.7.7 Freedom and Accountability:** Freedom and accountability of the stakeholder are key attributes that determine the success of the Learning Outcome Framework. For example, in research work, learners may be asked to pay attention to library work or field and laboratory-based work, originality of ideas, formulation of arguments, and creativity. Components may be assigned weightage points accordingly (say, out of 15 points). The excellence of institutions will be increasingly determined by Learning Outcomes rather than programme or course objectives. Hence it is necessary to innovate continually in learning and assessment in order to ensure meaningful and socially relevant learning (with transparent Learning Outcomes indices) rather than rote learning.

**1.7.8 Clustering of Activities:** Each cluster of activity may be assigned weightage points in accordance with the priorities of the institution without diluting the principles given in the LOCF. So, an institution may choose to have any or all of the following in its in-semester activities with clear and transparent methods of communication to learners: open viva voce, group quiz or individual, classroom simulations and problem-solving activities, library or field visits, term papers, individual and group reports, poster presentations. Credit hour and L-T-P distribution shall be crucial to any such clustering.

**1.7.9 Review and Amendment:** It is important for institutions to review, periodically and without fail, the efficacy of any method adopted to meet the learning outcomes proposed in the LOCF recommendations. Institutions are also required to make statutory provisions to adapt/modify/amend rules and clauses as may be necessary without violating the spirit of the larger programme outcomes outlined by the UGC in the CBCS guidelines.

**1.7.10 Spirit Rather than Letter of the LOCF:** The guidelines for assessment given here and elsewhere in the LOCF recommendations are indicative rather than exhaustive. So, institutions are expected to frame assessment modes and criteria relevant to their situation and context, in keeping with the spirit of the LOCF. The basic idea of LOCF is that learners at this level should understand their position(s) in the light of regional, national and global perspectives—must find a true and transparent reflection in the assessment.

## **1.8 Keywords**

Archaeology, research-methodology, cultural heritage, global understanding, prehistory, protohistory, digital archaeology, ethnoarchaeology, historical archaeology, medieval archaeology, numismatics, palaeography and epigraphy.

## PART II

### 2.1 STRUCTURE OF MA IN ARCHAEOLOGY

**Note:** *For the structure of MA Archaeology, the Committee has followed the number of credits per course as suggested in the CBCS document, that is, four credits per core course, three credits per elective course, two credits per soft skill course and two credits for internship course.*

*So, a two-year Masters Programme will have minimum of 91 credits.*

*However, School/Board of Studies/University should feel free to decide the number of credits to be assigned to each course. Ultimately, what matters the most is the quantum of academic transaction assigned to each credit, not the number. The Institutions can assign and calculate the credits accordingly.*

Suggested credit system is as follows:

Core papers minimum 60 credits

Elective papers minimum 21 credits

Soft skill minimum 8 credits

Internship minimum 2 credits

Total suggested credit is 91 credits

<b>A. CORE COURSES (15)</b>			
Serial No	Title of the Course		
1.	INTRODUCTION TO ARCHAEOLOGY	4	
2	METHODS IN ARCHAEOLOGY	4	
3	HUMAN EVOLUTION AND PREHISTORIC ARCHAEOLOGY	4	
4	BEGINNING OF AGRICULTURE AND PROTOHISTORIC ARCHAEOLOGY	4	
5	APPLICATION OF SCIENCES IN ARCHAEOLOGY	4	
6	HISTORIOGRAPHY AND RESEARCH METHODOLOGY	4	
7.	POLITICAL HISTORY OF INDIA I - 600 BCE – 600 CE	4	
8.	POLITICAL HISTORY OF INDIA II - 600 CE - 1300 CE	4	
9	INDIAN EPIGRAPHY AND PALAEOGRAPHY	4	
10.	INDIAN NUMISMATICS	4	
11.	SOCIETY AND ECONOMY IN ANCIENT INDIA	4	
12.	RELIGIONS AND THEIR IDEOLOGY OF ANCIENT INDIA	4	
13.	ANCIENT INDIAN ARCHITECTURE	4	
14.	ICONOGRAPHY AND ICONOLOGY	4	
15.	HERITAGE MANAGEMENT AND	4	

	CONSERVATION		
<b>B. ELECTIVES</b>			
	Course title	Credits	Credit Hours Distribution L T P
1	Ancient Science and Technology	3	
2	Archaeometry	3	
3	Bioarchaeology	3	
4	Biological Anthropology	3	
5	Early Iron Age	3	
6	Ethnoarchaeology	3	
7	Experimental Archaeology	3	
8	Geoarchaeology	3	
9	Harappan Civilization	3	
10	Historical Archaeology	3	
11	Stone Tools and Technology	3	
12	Marine Archaeology	3	
13	World Civilization	3	
14	World Prehistory	3	
15	Archaeology and Literature	3	
16	Community Archaeology	3	
17	Quantitative Methods	3	
18	Digital Archaeology	3	
19	Regional History	3	

<b>C. ABILITY/SKILL ENHANCEMENT COURSES</b>			
	<b>PAPER TITLES</b>	Credits	Credit Hours L T P
1	Museology	2	
2	Project Participation/Internship/Report writing	2	
3	Tourism Management	2	
4	Tourism guide course	2	
5	Heritage Impact Assessment	2	
<b>D.</b>	<b>INTERNSHIP</b>	2	

**Note:**

1. *Universities/Institutions/Departments may wish to add more courses against categories marked B and C, depending on the availability of specialists and other required resources.*

2. *Any major deviation from category A is likely to impact the very philosophy of LOCF in Archaeology*

3. *Departments/Board of Studies/ Universities should have freedom to arrange papers in the order they deem fit with justification.*

4. *Whenever stakeholders seek to introduce modifications or alterations in the LOCF or CBCS guidelines, they are (a) expected to have adequate and transparent justifications to do so and (b) to notify the UGC regarding the changes and the justifications thereof.*



## **2.2 Suggested Sample Courses with Course Level Learning Outcomes (CLLOs)**

### **M.A. IN ARCHAEOLOGY**

#### **A. CORE COURSES**

##### **PAPER 1: INTRODUCTION TO ARCHAEOLOGY**

###### **Course Objective:**

This course introduces the student's concepts and practical approaches in archaeology, highlighting their applications in interpreting the human past. The definition, aims and scope of archaeology and its development as a discipline is introduced to the students. The nature of the archaeological record and the unique role of science in archaeology is explained. The course also provides understanding cultural development and diversity from human origin to civilizational development. Legislation related to archaeology and the role of archaeology in heritage management are also discussed in this course

###### **Course Outcome:**

On the successful completion of Introduction to Archaeology students will develop a strong foundation on the basic understanding of the nature, development and value of archaeology as a discipline

###### **UNIT 1:**

- a. Definition, Aims, Scope and Relevance of Archaeology
- b. Archaeological Methods
- c. Key Archaeological Findings and their significance
- d. Relation between archaeology and other disciplines
- e. Relevance of Archaeology to contemporary Society

## **UNIT 2:**

- a. Development of Archaeology in Europe and America
- b. Development of Archaeology in West Asia
- c. Development of Archaeology in East Asia
- d. Development of Archaeology in South- East Asia
- e. Development of Archaeology in India

## **UNIT 3:**

- a. Definition for Culture
- b. African origin
- c. Development of Early Stone Tool making
- d. Environmental changes and hunting-gathering adaptation around 10,000BCE
- e. Transition from hunting gathering to agriculture
- f. Origin of Neo/Chalco- Neolithic Revolution and other competing theories
- g. Rise of civilizations

## **UNIT 4:**

- a. Theoretical Foundations in Archaeology
- b. Antiquarian period to Traditional Archaeology
- c. Kinds of Archaeology
- d. New Archaeology/ Processual Archaeology
- e. Post Processual Archaeology
- f. Contemporary approaches
- g. Cultural Heritage, monuments and archaeological legislations
- h. Public Archaeology
- i. Relevance of Archaeology

## Reference Books:

- Binford, L.R. 1972 Introduction. *An Archaeological Perspective*, pp. 1–14. Seminar Press, New York.
- Chakrabarti, D.K. 1988. *A History of Indian Archaeology: From the Beginning to 1947*. New Delhi: Munsiram Manoharlal.
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Shanks, M. 2008 Post-Processual Archaeology and After. In *Handbook of Archaeological Theories*, edited by R.A. Bentley, H.G. Maschner, and C. Chippindale, 133-144.

Shinde, Vasant 2018. *Ancient Indian Knowledge System: Archaeological Perspective*, Pune

## **PAPER 2: METHODS IN ARCHAEOLOGY**

### **Course Objectives:**

It is a course that involves practical work in the field. This course introduces students to the process of archaeological investigation from the discovery of sites to their excavation and analysis of the recovered archaeological evidence. This course includes training in field methods including excavation techniques. Students learn the practical methods of doing Archaeological work.

### **Course Outcome:**

Upon successful completion of the course, the student will be able to identify and classify archaeological materials; create scale maps of regions, archaeological sites, features, and/or excavation units using appropriate methodology; use archaeological field methods to discover and reveal information about archaeological sites; use archaeological recording methods to document site locations, features, and artifacts

### **UNIT 1:**

- a. Development of Field Archaeology in India
- b. Exploration Techniques
- c. Geo-physical Methods of Survey
- d. Antiquity and history of the Regions
- e. Excavation method, Harris Matrix Method

- f. 3-D recording and contextual approach
- g. Stratigraphy

**UNIT 2:**

- a. Field work methodology and Excavation Techniques, Stratigraphy, 3D Recording
- b. Selection of Site
- c. Lay out of Trench
- d. Trench Layout

**UNIT 3:**

- a. Recording methods
- b. Section Drawing
- c. Structure Drawing
- d. Elevation and Plan
- e. Pottery Drawing
- f. Stone Tool Drawing
- g. Photographic documentation

**UNIT 4:**

- a. Different dating methods - relative and absolute
- b. Ceramic Analyses
- c. Total Station Utility
- d. Antiquity Registration
- e. Report writing

### **Reference Books:**

Atkinson, R.J.C. 1953. *Field Archaeology*. London: Longmans.

Barker, P. 1982. *Techniques of Archaeological Excavation*. London: Batsford.

Crawford, O.G.S. 1953. *Archaeology in the Field*. London: Phoenix.

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Rajan, K. 2002. *Archaeology: Principles and Methods*. Thanjavur: Manoo Pathippakam,

Raman K. V. 1991. *Principles and Methods in Archaeology*. Madras: Parthajan Publication.

## **PAPER 3: HUMAN EVOLUTION AND PREHISTORIC ARCHAEOLOGY**

### **Course Objectives:**

This course deals about the Prehistory of South Asia from the early Palaeolithic to Mesolithic period. Besides, Quaternary environmental changes in reference to Indian Subcontinent are also taught, so that, the students are familiarized to the basic outline of the Prehistory of South Asia and the changing environments of the Quaternary.

### **Course outcome:**

Students will be familiarized to the basic outline of human evolution, Prehistory of South Asia and the changing environments of the Quaternary.

### **UNIT 1:**

- a. Background of human evolution: Inter-relationship between biological and cultural factors.
- b. Skeletal adaptations leading to erect posture. Dietary adaptations.

- c. Early monkeys and apes. Dryopithecus group.
- d. Australopithecines, Homo erectus, Neanderthals, Homo Sapiens Sapiens.
- e. Genus Homo in the light of recent discoveries
- f. Genetic basis for human evolution. Origin of modern Homo. Mitochondrial Eve.
- g. Spread of Anatomically Modern Homo sapiens (AMHS)
- h. Open session: Discussions on latest findings/researches in the field of human evolution

## **UNIT 2:**

- a. Beginning and main stages of cultural developments
- b. Scope, aims and principle approaches
- c. Introduction to the Quaternary and Quaternary environments in India
- d. Nature of Prehistoric records and Archaeological Terminology
- e. Biological remains
- f. Methods of studying stone tools
- g. Geological context of prehistoric sites

## **UNIT 3:**

### **South Asian Stone Age Sequence**

- a. The Lower Palaeolithic—Acheulian
  - Nature and significance of the technology
  - Distribution and Variation
  - Important areas and sites
  - Chronology
  
- b. The Middle and Upper Palaeolithic
  - Nature and significance of the technology
  - Distribution and Variation
  - Important areas and sites
  - Associated Fauna
  - Chronology

- c. Microlithic and Mesolithic
  - Nature and significance of the technology
  - Distribution and Variation
  - Important areas and sites
  - Associated Fauna
  - Chronology

#### **UNIT 4:**

- a. Prehistoric Rock Art of India
- b. Faunal and Bioanthropological background to Indian Prehistory
- c. Current Trends in South Asian Prehistory

#### **Reference Books:**

- Chakravarty, K. K., and R. G. Bednarik. 1997. *Indian Rock Art in Global Context*. Delhi: Motilas Banarasidass & IGRMS.
- Corvinus, G.1983. *A Survey of the Pravara River System in Western Maharashtra, India, Vol2: The Excavations of the Acheulian Site of Chirki-on-Pravara*, India. Tubingen: Institute for Urgeschichte.
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- Sankalia, H.D. 1974. *The Prehistory and Protohistory of India and Pakistan*. Pune: Deccan College Postgraduate and Research Institute.

## **PAPER 4: BEGINNING OF AGRICULTURE AND PROTOHISTORIC ARCHAEOLOGY**

### **Course Objectives:**

The course will cover aspects of the archaeology of the South Asia from the Mesolithic / Neolithic, through the Chalcolithic till the emergence of iron in the late second, to early first millennium BCE. It traces the development and spread of agriculture during the Neolithic, through to the rise of Harappan urbanism in the third to second millennium BCE. The focus then shifts to the Western India, Gangetic valley, central India, and the South, with an examination of the chalcolithic cultures that co-existed with Harappan urbanism and continued after its decline, and the developments that led to the emergence of the 'second urbanization' during the first millennium BCE.

### **Course Outcome:**

On the successful completion of Protohistory of South Asia, students will develop a strong foundation and critical understanding of the subject and will be able to situate South Asian materials within wider archaeological debates.

### **UNIT 1:**

- a. Introduction - Protohistory: definition, scope and terminology
- b. Various Theories of origin of agriculture in West Asia, East Asia and South Asia

**UNIT 2:**

- a. South Asian Neolithic Perspectives - Neolithic Cultures of Afghanistan and Pakistan
- b. Neolithic cultures of Kashmir Valley
- c. Neolithic cultures of Vindhya and Ganga Plains
- d. Neolithic cultures of East and North east India
- e. Neolithic cultures of South India
- f. Animal Subsistence pattern during the Neolithic
- g. Plant subsistence pattern during the Neolithic

**UNIT 3:**

- a. Harappan Civilization – Terminology, various phases, origin and decline
- b. Early Harappan period
- c. Mature Harappan period
- d. Late Harappan period

**UNIT 4:**

- a. South Asian Chalcolithic Perspectives - Chalcolithic cultures of East and North-East India
- b. Chalcolithic culture of Rajasthan: Ahar and Ganeshwar Jodhpura
- c. Chalcolithic culture of Ganga Plain: OCP, Copper Hoard, Narhan Culture
- d. Chalcolithic culture of Central India: Kayatha and Malwa
- e. Chalcolithic culture of Deccan: Savalda, Daimabad, Malwa and Jorwe
- f. Animal Subsistence pattern during the Chalcolithic
- g. Plant subsistence pattern during the Chalcolithic
- h. Painted Grey ware Culture: Origin, extent and cultural material
- i. Chalcolithic Interaction Network

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## **PAPER 5: APPLICATION OF SCIENCES IN ARCHAEOLOGY**

### **Course Objective:**

In this course students are introduced to the various scientific disciplines applied in archaeological research. They are familiarised with the application of different methods being adopted for different types of objects based on its raw material such as lithic, pottery, plant fossils, human remains, rocks and minerals, sediments, map reading, etc.

### **Course outcomes:**

Students are familiarized with basic descriptive technique and preliminary study of various categories of objects studied by archaeologists, such as lithics, pottery, plant fossils, human remains, rocks and minerals, sediments, map reading.

### **UNIT 1:**

- a. Role of various Sciences in Archaeological Research, Identification and Study of Stone Tools
- b. Identification and Study of Pottery

## UNIT 2:

Archaeobotany and Palynology - Different types of plant fossils found in archaeological contexts - Identifying charred grains

- a. Use of microscope for palaeobotanical studies
- b. Archaeozoology and Palaeontology - Brief introduction to the scope and objectives of animal skeletal studies - Animal classification - Mammalian osteology - Study of Osteology of domestic animals
- c. Fossil Preparation - Identification and Systematic Palaeontology of Fossil Vertebrates.

## UNIT 3:

- a. Human Osteology – Identification, Methods of Cleaning, Reconstruction - Sex Determination - Age Estimation - Demography - Pathology

## UNIT 4:

- a. Minerals and Rocks - Soils and Sediments - Geological Sections
- b. Toposheet Reading
- c. Satellite Imagery
- d. Conservation and Cleaning of organic and inorganic Objects

## Reference Books:

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Age. London: Routledge Romer, A.S. 1967. *Vertebrate Paleontology*, Chicago: University of Chicago press.

## **PAPER 6: HISTORIOGRAPHY AND RESEARCH METHODOLOGY**

### **Course objectives:**

The primary objective of this course is to introduce the major theories and research methodology being adopted in historical research. Besides, the need for the application of synthesis and positive criticism in an archaeological research are taught in detail. This will serve as a base for the students intending to pursue search degrees in the discipline.

### **Course Outcome:**

By the end of the course students will be able to understand basic features of various theories and thoughts used in archaeological interpretations; formulate a research proposal and decide on appropriate materials and methods of analysis; present the findings and the process of conducting research in written and verbal formats.

### **UNIT 1:**

- a. Introduction to trends in archaeological theory
- b. Importance of theory in archaeology
- c. Changes in archaeological theory: from culture-historical perspective
- d. New archaeology and related developments
- e. Middle Range theory, Behavioural archaeology and ethnoarchaeology

### **UNIT 2:**

- a. Epistemology and Philosophy of science
- b. Knowledge theories before emergence of science
- c. Nature and types of knowledge:
- d. Rationalism, positivism, empiricism and critical theory
- e. Realism and relativism

### UNIT 3:

- a. Post-Processual Archaeology: Catalhauk as a model, Structuralism, Post-structuralism: Deconstructionism, Marxist archaeology, Gender archaeology: Feminism, Post-modernism
- b. Fundamentals of Logic, Induction and Deduction, Hypothetico-Deductive Method, Inductive-Statistical Method, Analogy, Fallacies

### UNIT 4:

- a. Research process - Seven Stages of research process -Types of research designs - Variables and sampling - Virtues of a researcher
- b. Writing a Research proposal - Structure of proposals - Statement of research problem - Rules and funding agencies
- c. Report Writing and Presentation - Types of presentations - Structure of dissertation and thesis - Style of writing: what to do and what not to do - Poster Presentation - . Public/Oral Presentation

### Reference Books:

Beall, J.C. 2010. *Logic: The Basics*. Oxford: Routledge.

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## **PAPER 7: POLITICAL HISTORY OF INDIA: I (FROM 6<sup>TH</sup> CENT. B.C.E. TO 6<sup>TH</sup> CENT. C.E.)**

### **Course Objective:**

It is a base paper for the student of archaeology. All the archaeological discoveries are made based on the historical inputs. Without historical chronology, archaeological objects can not be dated. At the same time for all the historical writing archaeological data are very much essential. By learning this paper, the archaeology students gain historical back ground for his archaeological research.

### **Course Outcome:**

After completing this course students will have a familiarity with the sources and political settings of India upto 700 C.E. Student will also be well versed with different analytical approaches and models of interpretation.

### **UNIT 1:**

- a. Sources: Archaeology, literature and foreign accounts
- b. India during 6<sup>th</sup> century BCE
- c. The growth of Janapadas and kingdoms
- d. The rise of Magadha: Bimbisar, Ajatasatru, Mahapadma Nanda
- e. Achaemenian and Macedonian invasions

### **UNIT 2:**

- a. The Mauryan Empire- Mauryan Polity and administration, Asoka's Dhamma
- b. Decline of the Mauryan Empire
- c. The Sungas and Indo-Greeks
- d. Kharavela of Kalinga: Achievements
- e. Sakas- Kushanas- Expansion, Administration

### UNIT 3:

- a. The Guptas- origin, expansion, polity and administration
- b. Decline of the Gupta Empire
- c. The Western Kshatrapas
- d. Vakatakas

### UNIT 4:

- a. Sanagam dynasty of ancient Tamilagam
- b. Satavahanas, Expansion, Administration
- c. Early Pallavas, Early Pandyas and Early Cheras

### Reference Books:

Basam, A. L.: *The Wonder that was India*, London, 1954.

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Singh, Upinder: *A History of Ancient and Early Medieval India*. Delhi, 2008.

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-----: *Early India: From the Origins to AD 1300*, London, 2002.

Tripathi, R. S.: *History of Ancient India*

K.A. Nilakantha Sastri, *The Colas*, University of Madras, Chennai

G. Yazdani (ed) , *Early History of Deccan*, 2 Vols.

R.S. Sharma, *Urban Decay in India*, c. A.D. 300 – 1000

Kesavan Veluthat, *The Political Structure of Early Medieval South India*.

## **PAPER 8 POLITICAL HISTORY OF INDIA: II (FROM 6<sup>TH</sup> CENTURY TO 13<sup>TH</sup> CENTURY C.E.)**

### **Course Objective:**

This paper is aimed to familiarize the core historical political development of India for the student of archaeology, so that it would help the student in developing medieval archaeology.

### **Course Outcome:**

After completing this course students will have a familiarity with the sources and political settings of India from 6<sup>th</sup> to 13<sup>th</sup> cent CE. Student will also be well versed with different analytical approaches and models of interpretation.

### **UNIT 1:**

- a. Historiography and recent debates; sources and their interpretation, epigraphy, numismatics and literature.
- b. Emerging Regional Power: (South India and Deccan)
  - i) The Chalukyas of Badami
  - ii) The Pallavas of Kanchi
  - iii) The Rashtrakutas of Deccan
- c. The Pushyabhus of Thanjavur and Gauda under Sasanka.

### **UNIT 2:**

- a. Emerging Regional Power: (Western and Central India)
  - i) Gurjara- Pratihara
  - ii) Kalachuris, Chandellas, Paramaras and Chahamanas

- b. Emerging Regional Power: (Eastern India)
  - i) Palas and Senas
  - ii) Hoysalas
  - iii) Imperial Gangas: Expansion and achievements
- c. The Imperial Cholas: Political Expansion, Naval Expeditions, Chola State and administration

### UNIT 3:

#### Other Regional Powers

- a. East
- b. West
- c. North
- d. South

### Reference Books:

Basam, A. L.: *The Wonder that was India*, London, 1954.

Chattopadhyaya, B. D.: *Studying Early India: Archaeology, Texts and Historical Issues*, New Delhi, 2003.

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K.A. Nilakantha Sastri, *The Colas*

G. Yazdani (ed), *Early History of Deccan, 2 Vols.*

H. Kulke, *State in India (1000-1700A.D.)*

R.S. Sharma, *Indian Feudalism*

R.S. Sharma, *Urban Decay in India, c. A.D. 300 – 1000*

Kesavan Veluthat, *The Political Structure of Early Medieval South India.*

B.D. Chattopadhyaya, *Making of Early Medieval India.*

D.N. Jha, *Feudal Social Formation in Early India.*

Minakshi, C., *Social Administration Under the Pallavas*

## **PAPER 9: INDIAN EPIGRAPHY AND PALAEOGRAPHY**

### **Course Objective**

It is a study of the origin and development of scripts in India. It deals with the various scripts from the Vedic period to medieval period. The paper discusses elaborately on the ancient scripts such as Brahmi, Kharoshti, Tamil-Brahmi, Grantha and Indian scripts – their origin and development of writing and their use as a primary source for understanding the ancient past.

### **Course Outcome:**

Students will be successfully able to decipher and read scripts; and date inscriptions with the help of paleographic features of the script. Students will also understand the different usages of language. After the successful completion of the course student will be able to interpret the inscription in its socio-politico- religio and economical context.

### **UNIT 1:**

- a. Epigraphy as an archaeological source, Structure of an inscription - importance of epigraphy
- b. Origin of writing in general, ancient system of writing
- c. History of decipherment, Academic bodies connected with epigraphy

- d. Materials and Techniques of Writing
- e. Indus Script, its significance and importance – a detail study on the different theories advanced by different schools of thoughts

**UNIT 2:**

- a. Brahmi and Kharoshti Scripts: Orthography and Decipherment of letters and Numerals
- b. Theories of Origin of Brahmi and Kharoshti Scripts  
Theory of Indigenous origin - Theory of divine origin - Theory of pictographic-acrophonic - Theory of origin from the Indus valley script  
Theory of non-indigenous origin - Theory of origin from the Greek script - Theory of origin from the South Semitic script - Theory of origin from the Phoenician script - Theory of origin from the Aramaic script
- c. Selective study of Rock edicts - Pillar edicts
- d. Nagari script – Other north Indian scripts

**UNIT 3:**

- a. Origin of writing in South India
- b. Tamil-Brahmi, Vatteluthu and Grantha and other scripts of South India – decipherment, palaeography and chronology
- c. Terminology
- d. Eras

**UNIT 4:**

- a. Field study – reading method inscription, stampage
- b. Detail study of inscriptions  
Important Rock Edicts and Pillar Edicts  
Besnagar Garuda Pillar Inscription of Heliodorus  
Hathigumpha Inscription of Kharavela  
Naneghat Inscription of Naganika  
Nasik Cave Inscription of Vasithiputa Pulumavi, 19th Regnal Year  
Junagarh Inscription of Rudradamana  
Allahabad Prashasti of Samudragupta  
Mathura Inscription during the Reign of Chandragupta II, GE 61  
Indore Plates of Pravarasena II, 23rd Regnal year

Aihole Inscription of Pulakesin II  
Bansakheda copper plate of Harshavardhana  
Mangulam Inscription (Tamil Brahmi)  
Sittannavasal Inscription (Tamil Brahmi)  
Pulankurichi Inscription  
Battiprolu Inscription  
Velvikkudi Copper plate Pandyas  
Uttramerur Inscription of of Parantaka Chola I

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## **PAPER 10: INDIAN NUMISMATIC**

### **Course Objective:**

The study deals with the origin and development of coinage and monetary system in ancient India upto the medieval times. It deals with the Early history and evolution of Coinage from the punch marked variety. It studies the development of coins issued by various dynasties and their historical importance. The coin issues of the Indo-Greeks, Guptas, Satavahanas, Chola, Chera, Pandya and Vijayanagar rulers and the foreign issues are also studied.

### **Course Outcome:**

Students will be able to identify and decipher the coins. They will also be able to understand the socio-political background that accure through the coinage of that time; thus getting holistic picture of that economic system prevalent in ancient India.

### **UNIT 1:**

- a. Sources, origin and antiquity of numismatics as a discipline, different academic bodies connected with the numismatics and noted numismatists
- b. Terminology, Scope and Importance in the Reconstruction of socio-cultural and economic History
- c. Provenance of Coin: Findings from Archaeological excavations and Stratigraphic relevance, Stray findings, Hoards, Private and Public Collections

### **UNIT 2:**

- a. Early coins of India - Punch marked coins, Indo-Bactrian coins, Indo-Scythian and Indo-Parthian dynasties, Tribal coins, Local Coins, Coins of City States
- b. Coins of Kushans, Satavahanas, Ikshavaku – Coins of Sangam age – Feudatory coinage – Western Kshatrapas, Kshaharata and Kardamaka Rulers - Salient features and distribution

### **UNIT 3:**

- a. Gupta, Pallava, Imperial Chola and Vijayanagara coinage
- b. Roman coin and other contemporary coins
- c. Soc-economy as gleaned from coinage

#### UNIT 4:

- a. Knowledge of metallurgy - ancient mints and technology
- b. Museum visit - Identification of coins, preparation of coin catalogue and report writing
- c. Coin cleaning treatment and preservation
- d. Identification of coins, preparation of coin catalogue and report writing

#### Reference Books:

Allan, J. 1935. *Catalogue of Coins of Ancient India*. London: British Museum.

Altekar, A.S., 1937. *Catalogue of Coins of the Gupta Empire*. Varanasi: Numismatic Society of India.

Bhandarkar, D.R., 1921. *Carmichael Lectures on Ancient Indian Numismatics*. Calcutta: Calcutta University.

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- Krishnamurti, R. 1997. *Sangam Age Tamil Coins*. Madras: Garnet Publishers. Lahiri, A.N. 1965. *Corpus of Indo-Greek Coins*. Calcutta Journal of the Numismatic Society of India, Varanasi.
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- Narasimha Murthy, A.V., *Coins of Karnataka*, Geetha Book House, Mysore,
- Parameshwarilal Gupta, *Coins*, National Book Trust, New Delhi, 1969.
- Rajgor, Dilip 2001. *Punch-Marked Coins of Early Historic India*. California: Reesha Books International.
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## **PAPER 11: SOCIETY AND ECONOMY IN ANCIENT INDIA**

### **Course Objective:**

This paper deals with the development of social and economic organizations from early times to the Early Medieval period in India. Students will clearly understand how the simple society and economy attained complex forms and how they contributed to the development of cultural elements in India.

**Course Outcome:**

Upon successful completion, students will have a clear understanding of how the simple society and economy attained complex forms and how they contributed to the development of cultural elements in India.

**UNIT 1:**

Social and Economic History (From 6<sup>th</sup> century B.C.E. to 3<sup>rd</sup> century C.E.)

- a. Sources: Archaeological and literary
- b. Society and Economy during the early Vedic period—Pastoralism and Agriculture
- c. Origin of the Varna order in the Vedic and Later Vedic Periods, Development of Varna and Caste system in the post-Vedic period
- d. Concept of Varna-Jati- social classes and their functions
- e. Significance of Samskaras in Ancient India
- f. Concept and place of Ashramas in ancient Indian society

**UNIT 2:**

Use of iron and expansion of agriculture

- a. Society and economy after 6<sup>th</sup> century BCE: Trade and commerce and Traders and Craftsmen
- b. Second Urbanisation
- c. Society and economy under the Mauryas
- d. Maritime trade and economy—Inland and external trade and trade routes- Guild organizations
- e. Society and economy in the far south as reflected in early Tamil texts and inscriptions
- f. Salient features of Social structure in the post Mauryan period
- g. Position of women – Forms of marriage and modes of education

### UNIT 3:

Social and Economic History (3<sup>rd</sup> century CE to 13<sup>th</sup> century CE)

- a. Change in the socio-economic history and the making of the early medieval phase
- b. Changing patterns in trade and commerce from third to seventh century
- c. Trading groups and guilds, currency and medium of exchange
- d. Growth of regional economy, society and political centers
- e. Spread of agrarian economy and rural society
- f. Proliferation of Jatis- Changing position of women
- g. Forms of servitude

### UNIT- 4:

- a. Inland and Maritime trade and trade-routes
- b. Agrarian expansion—ownership of land, land revenue and taxation
- c. Social economic role of temple institutions
- d. Perspective on early medieval society—feudalism and de-urbanization debate

### Reference Books:

R.S.Sharma, *Rethinking of India's Past*, New Delhi, 2011

R.S.Sharma, *Economic History of Ancient India*

A.K.Majumdar, *Concise History of Ancient India*, Vol.III, New Delhi, 1983

Romila Thapar, *Ancient Indian Social History: Some Interpretations*, New Delhi, 2010

P.H.Prabhu, *Hindu Social Organisations*

A.L.Bhasham, *Wonder that was India*

A.S.Altekar, *The Position of Women in Hindu Civilization*

-----, *Education in Ancient India*

D.D.Kosambi, *Introduction to the Study of Indian History*

J.N.Banerjee, *Comprehensive History of India*, Vol.II

R.N.Saletone, *Early Indian Economic History*

H.Chakraborti, *Trade and Commerce in Ancient India*

V.K.Thakur, *Urbanisation in Ancient India*

N.K.Dutta, *Origin and Growth of Castes in India*, Vol.II

Ranabir Chakraborty, *Prachin Bharater Arthanaitik Itihaser Sandhane*

D.R.Chanana, *Slavery in Ancient India*

Sudhakar Chattopathyaya, *Social Life in Ancient India*

R.C.Majumdar, *The Age of Imperial Unity*

-----, *Corporate Life in Ancient India*

R.S.Sharma, *Early Medieval Society*

Sukla Das, *Socio-economic Life in North India (550 AD to 650 AD)*

K.A.Nilakanta Sastri, *A History of South India*

## **PAPER 12: RELIGIONS AND THEIR IDEOLOGY OF ANCIENT INDIA**

### **Course Objective:**

This paper deals with the origin and development of various religions and religious ideologies and their teachings. The students get to know symbolic meaning behind these religious ideologies and their relevance to the modern societies.

### **Course Outcome:**

After completion of this course students will be familiar with the different religious traditions of the Indian subcontinent

### **UNIT 1:**

- a. Vedic Traditions: characteristic features and changing trends
- b. Nature worship and cult worship
- c. Upanishadic Traditions: concept of Brahma

### **UNIT 2:**

- a. Origin and Evolution of Vaishnavism: Avataravada, Cult of Jagannatha, Bhaktivada and Alvars
- b. Origin and Evolution of Saivism: Pasupatas, Kapilakas, Kalamukas, Nayanars, Virasaivas, Kashmir Saivas and Natha cult
- c. Origin and Evolution of Saktism: Cult of Sakti, Saktapithas and Tantric influence
- d. Worship of minor deities: Surya, Ganapati, Kartikeya

### UNIT 3:

- a. Emergence of Buddhism and Sramana sects
- b. Life and Teaching of Mahavira
- c. Jaina Sangha: Hierarchy, Functions, Schism, Monastic organizations
- d. Jaina sub-sects: the Svetambaras and the Digambaras
- e. Spread of Jainism in India

### UNIT- 4:

- a. Life and teaching of the Buddha
- b. Buddhist Councils
- c. Buddhist Sangha: organization, function and missionary activities
- d. Buddhist sub-sects: Mahayana school, Tantrayana Buddhism
- e. Spread of Buddhism: within India and outside India

### Reference Books:

Barth, A: *The religion of India*

Keith, A.B: *Religion and Philosophy of the Vedas and Upanishads*

Ayyar, C.V.N: *Origin and Early History of Saivism in South India*

Hopkins, E.W: *The Religions of India*

----- : *Origin and Evolution of Religion*

Raychaudhuri, H.C: *Materials for the study of The Early History of the Vaishnava Sect*

Banerjee, J.N: *Pauranik and Tantric religion*

Bloomfield M: *The religion of the Vedas*

Monier M Williams: *Religious thought and life in India*

Venkataramanayya,N: *Rudra Siva*

Jash,P: *History of Saivism*

-----, *History and Evolution of Vaishnavism in Eastern India*

Bhandarkar, R.G: *Vaishnavism and minor religious systems*

Chattopadhyaya, S: *Evolution of the Hindu Sects*

Jayaswal Suvira: *Origin and Development of Vaishnavism*

Majumdar, R.C: *The Vedic age: Chapters XVIII,XXII,XXVII*

Bapat,P.V ( ed.): *2500 years of Buddhism*

Bagchi, P.C, *Studies in the Tantras*

Dutt, N: *Early Monastic Buddhism*  
-----, *Buddhist sects*  
-----, *Mahayana Buddhism*  
Dutt, S: *Early Buddhist Monasticism*  
Mitra, Debala: *Buddhist Monuments*  
Rhys Davids, T.W: *Early Buddhism*  
Verma, V.P: *Early Buddhism and its origin*  
Warder, A.K: *Indian Buddhism*  
Buhler,J: *On the Indian Sects of the Jains*, London,1903  
Basham, A.L: *History and Doctrines of the Ajivikas*, London,1951  
Bool Chand: *Lord Mahavira- a study in historical perspective*, 1948  
Chatterjee, AK: *A Comprehensive history of Jainism*, Calcutta, 1978  
Gopalan, S: *Outlines of Jainism*, New Delhi, 973  
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Law, B.C: *Some Jaina canonical sutras*, Calcutta,1924  
Sangave,V.A: *Jaina community: a social syrvey*,Bombay,1959  
Shah, C.J: *Jainism in north India*, London, 1932  
Shah, U.P: *Studies in Jaina Art*, banaras,1955  
Stevenson, S, *Heart of Jainism*. New Delhi, 1971  
Thakur, U: *Studies in Jainism and Buddhism*, Varanasi, 1964

## **PAPER 13: ANCIENT INDIAN ARCHITECTURE**

### **Course Objectives:**

The objective of the paper is to teach the students the salient features of Indian architecture commencing from the Mauryan period. It helps them to identify and fix the chronology of the secular and religious monuments.

### **Course Outcome:**

Students will able to understand the architectures in their religious, regional and stylistic context.  
Students will be able to prepare plans of the monuments.

## **UNIT 1:**

### **Stupa and Rock-cut Architecture**

- a. Significance of Indian architecture: background
- b. Origin and evolution of Stupa architecture
- c. Early Rock-cut architecture: Mauryan architecture
- d. Viharas and Chaityas
- e. Jaina caves: Udayagiri, Khandagiri, etc.
- f. Brahmanical caves: Udayagiri (MP), Badami, Aihole, Mahabalipuram, Ellora, Elephanta, etc.

## **UNIT 2:**

### **Temple Architecture**

- a. Origin and types of Indian Temple styles
- b. Gupta Temples: Types and characteristics
- c. Nagara temple style: definition, variations:
  - i. Eastern India- Kalinga architecture - Bhubaneshwar, Puri, Konarka, etc.
  - ii. Central India- Khajuraho and others
  - iii. Western India- Gop, Modhera, etc.

## **UNIT 3:**

- a. Dravida style- definitions, features and variations
- b. Beginnings- Rock cut architecture - Pallavas and Early Pandyas – Mahabalipuram and Southern Tamilnadu
- c. Beginning of structural temples – Kanchipuram

## **UNIT 4:**

- a. Expansion of Dravida style- Tanjavur, Gangaikondacholapura, Darasuram etc. Variations on the west coast- Chera temples
- b. Vesara style: Temples of later Chalukyas and Hoysalas
- c. The culmination- Vijayanagara



## Reference Books:

- Fergusson, J.: *History of Indian and Eastern Architecture*, 1876
- Coomaraswamy, A.K.: *History of Indian and Indonesian art*, 1972 (reprint)
- Brown, Percy: *Indian Architecture (Hindu and Buddhist periods)*, 1959
- Balaji, P.D., *Rock cut temples of Early Pandyas of Tamilnadu*, 2012
- Rowland, B.: *The Art and Architecture of India*, 1967
- Meister, M.W. (ed.): *Encyclopaedia of Indian Temple Architecture: South India, lower Dravidadesa, BC 200-1324 A.D.*, 1983
- Meister, M.W. Dhakey, MA and Krishna Deva (eds.): *Encyclopaedia on Indian Temple Architecture: North India, foundations of N. Indian styles (250 BC-1100 A.D.)*, 1988.
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- Bhattacharya, T.: *The Canons of Indian Art or A Study on Vastuvidya*, 1963
- Dhaky, M.A.: *The Indian Temple Forms*, 1977
- Majumdar, R.C. (ed.): *The History and culture of the Indian people*, Vol-III, the Classical Age, Vol-V, *The Struggle for Empire* (Chapters on Architecture)
- Krishna Deva: *Temples of North India*, 1069
- Srinivasan, K.R.: *Temples of south India*, 1971
- Dubruil, Jouveau,: *Dravidian architecture*, reprint, 1972
- Donaldson, T.E.: *Hindu Temple art of Orissa*, 3 Vols, 1985
- Soundarajan, K.V.: *Indian Temple Styles*, 1972
- Harle, James, C.: *Temple Gateways in south India*, 1961

## PAPER 14: ICONOGRAPHY AND ICONOLOGY

### Course Objectives:

The objective of this course is to introduce students to the iconography of the images of the different religious traditions of Saivism, Vaishnavism, Buddhism and Jainism. The development of iconographic depictions in each of these traditions is also outlined.

Students learn about the different iconographic traditions in the Indian Subcontinent with concern to the religious ideas and trends.

**Course Outcome:**

Students learn about the different iconographic traditions in the Indian Subcontinent with concern to the religious ideas and trends.

**UNIT 1:**

- a. Significance of iconographic studies
- b. Sources of Studies in Iconography
- c. Concept and symbolism of icon and image worship
- d. Origin and Antiquity of image worship in India
- e. Introduction to Relation and Influence of non-indigenous divinities over the indigenous deities
- f. Iconometry: Methods of Prescription and study of its practical application
- g. Text and image: Brief review of Ancient Indian Shilpa Texts and their usage in studies in iconography
- h. Introduction to Iconology: Meaning and Scope
- i. Introduction to Iconological Approaches

**UNIT 2:**

- a. Emergence and development of Iconography of Vishnu: Sadharan murtis, incarnations, other important representations of Vishnu, Regional traits of Vaishnava iconography
- b. Emergence and development of Iconography of Shiva: Anugraha murtis, Samhara murtis, Vishesha murtis, Regional traits of Shaiva iconography
- c. Brahma, Ganesha, Surya,
- b. Composite forms – Harihara, Ardhanariswarar, Sarabeswarar
- c. Karttikeya: Forms and Regional Traits of Kartikeya Images
- d. Development of Iconography of Goddesses: Saptamatraka, Durga, Lakshmi, Saraswati, Mahishsuramardini, Chamunda, Bhairavi, Regional traits of Shakta iconography
- e. Other Important divinities: Ashtadikpalas, Navagrahas

### **UNIT 3:**

- a. Origin and development of Buddhist imagery
- b. Aniconic representation of the Buddha: Concept and meaning
- c. Origin of the Buddha image, various theories of the origin of Buddha image, Different iconographic forms
- d. Manushi and Dhyani Buddhas
- b. Bodhisattvas: Concept and symbolism, emergence and development of Bodhisattva images, Avalokiteshvara, Vajrapani, Maitreya, Manjushri
- c. Female Buddhist deities: Origin and development, Tara, Pradnyaparamita, Chunda, Bhrukuti, Marichi, Vasudhara, Mahamayuri, Hariti
- d. Important Buddhist Deities: Trilokyavijaya, Aparajita, Shambara, Jambhala

### **UNIT 4:**

- a. Origin and development of Jain imagery
- b. Form and Meaning of Ayagapatta in Jain Tradition
- c. Iconography of Jaina Tirthankaras
- b. Iconographic Differences between Digambar and Shvetambar Jain Images
- c. Forms of Tirthankara images: Kayotsarga/Khadagasana, Dhyamudra
- d. Sarvatobhadra, Chaturvinshati
- e. Jaina Yakshas and Yakshinis: Ambika, Chakreshvari, Padmavati,
- f. Saraswati, Jvalamalini, Kubera

### **UNIT 5:**

- a. Minor iconographic forms - Role and significance of minor deities in ancient religious setting
- b. Pastoral Deities
- c. Goddesses of Fertility
- d. Yakshas, Nagas

- e. Vidyadharas, Gandharvas, Kinnaras
- f. Surasundaris and Mithun Shilpas
- g. Hero stones and Sati stones
- h. Composite animals
- i. Syncretic and Composite Iconic Forms: Origin, development and significance

### Reference Books:

Agrawala, P.K.1994. *Studies in Indian Iconography*. Jaipur: Publication Scheme.

Agrawala, Urmila. 1995. *North Indian Temple Sculpture*. New Delhi: Munshiram Manoharlal.

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## **PAPER 15: HERITAGE MANAGEMENT AND CONSERVATION**

### **Course Objectives:**

The objective of course is to introduce basic concepts of heritage management including definition, terminologies, scope and present scenario; as well as its significance and relevance in archaeology. The course, hence, intend to introduce historical background and struggle of heritage management along with its concerned organizational efforts and legal provisions. Students are trained in conceptual understanding of heritage management. Students aware with current problems and issues of heritage management

### **Course Outcome:**

Students are prepared in this course with the issues related to Heritage management

### **UNIT 1:**

- a. Introduction of Heritage Management - Definition, Need and Scope
- b. Terminology: Preservation, Restoration and Conservation
- c. Cultural Heritage and Human Rights
- d. Introduction to Cultural Resource Management
- e. Cultural Heritage Management as Applied Archaeology and Applied Anthropology
- f. Historical Development of Cultural Heritage Management, Recognition of Heritage based on Value, Memory and Respect, Restoration Approaches of 19<sup>th</sup> Century and influence of Viollet-le-Duc

## **UNIT 2:**

- a. Conservation Approach and Movement of 19<sup>th</sup> Century and Influence of John Ruskin and William Morris
- b. Restoration and Conservation Approaches and contribution of scholars like Gustavo Giovannoni
- c. Modern Conservation and Restoration Approach and approach of Ecological Conservation
- d. Heritage Protection Movement and Conservation Movement in India
- e. Doctrine in Heritage Protection and Conservation-International and National level.
- f. Early Attempts in Protection (League of Nations and Associated Organization).
- g. Post WWII initiatives (UNESCO, ICOMOS, ICCROM)
- h. World Heritage: Criterion of Outstanding Universal Value (OUV) and its Framework
- i. Asiatic Society, Indian Museum, National Archives of India, Archaeological Survey of India, Anthropological Survey of India, Indian Council for Cultural Relations (ICCR)

## **UNIT 3:**

Heritage Tourism: Definition, Scope and Nature

- a. Development of Tourism in India and International and National Tourist Organizations (IATA, PATA, TAAI, IATO, WTO)
- b. Heritage Tour Guide Program
- c. Efforts initiated by various state Government (Case study of Madhya Pradesh Tourism Department, Rajasthan Tourism Department and Gujarat Tourism Department)
- d. Threat to Heritage and laws to protect, Armed Conflict, Natural Disaster, Industrialization and Urbanization, Illicit Practices and Smuggling

## **UNIT 4:**

- a. Public Participation and Social Responsibility, Problems and Solutions, Role Corporate Institution, Role of Government Agencies, Role of Non-Governmental Organization, Heritage and Education



- b. Present State of Protected Monuments: Case Study, UNESCO protected monuments in India- Bhimbetaka, Ajanta, Ellora, Taj Mahal, CST Station  
ASI protected Monument Bibi Ka Makbara, Charminar, Aihole,
- c. Heritage Adoption Policy: Problems and Solution

### **Reference Books:**

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- Batra, M. L. 1996. *Conservation: Preservation and Restoration of Monuments*. New Delhi: Aryan Books International.
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- Timothy, D. J., and Boyd, S. W. 2003. Heritage Tourism. London: Pearson
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## **B. DISCIPLINE CENTRIC ELECTIVES**

### **PAPER 1: ANCIENT SCIENCE AND TECHNOLOGY**

#### **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; inculcating the realisation of the difference between the methods used by the archaeologists, experts of heritage management on one hand while the scientists practicing Archaeological Chemistry on the other; 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.

#### **UNIT 1:**

- a. Origin and development of basic crafts
- b. Case studies in Indian context

#### **UNIT 2:**

- a. Techniques of Stone tools and other artefacts
- b. Copper metallurgy in Ancient India
- c. Iron metallurgy in ancient India
- d. Zinc and Brass in Archaeological Perspective in India

#### **UNIT 3:**

- a. Clay, Pottery and other ceramic artefacts
- b. The Provenance of Pottery, physical methods of ceramic analysis

- c. Ancient technology of pottery production
- d. Ancient Glass objects and their manufacture techniques

#### **UNIT 4:**

- a. Ancient Indian Agriculture technology
- b. Ancient Indian water harvesting and management methods
- c. Continuity of the ancient crafts and technologies in the contemporary society
- d. Relevance of the study of Ancient Science and Technology

#### **Reference Books:**

Agrawal, O.P. 2007. *Essentials of Conservation and Museology*. Delhi: Sundeep Prakashan.

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## **PAPER 2: ARCHAEOOMETRY**

### **Course Objectives:**

The purpose of this course is to provide an overview of applied natural sciences and laboratory techniques to the analysis of archaeological materials. Prominent topics in archaeometry include dating methods, artifact provenance, analysis, microscopy, stable isotope geochemistry, and residue analysis. At the end of the course, the student will have the basic knowledge of application of archaeometry in Archaeology as well as several physical methods for the characterization of materials of interest in the Cultural Heritage field.

### **Course Outcome:**

At the end of the course, the student will have the basic knowledge of archaeometry as well as the knowledge of several physical methods for the characterization of materials of interest in the Cultural Heritage field.

## **UNIT 1:**

- a. Introduction to Archaeometry
- b. Archaeological Materials

## **UNIT 2:**

- a. Prospecting (Location of ancient sites) - Aerial surveying
- b. Magnetic surveying
- c. Resistivity surveying
- d. Electromagnetic surveying

## **UNIT 3:**

- a. Dating Methods in Archaeology - Radio carbon dating
- b. Dendrochronology
- c. Thermoluminescence

## **UNIT 4:**

- a. Chemical Analysis of Artifacts - Provenance Analysis (ceramic, obsidian etc)
- b. Stable Isotope
- c. Residue Analysis

## **Reference Books:**

Aitken, M.J. (1997). Luminescence Dating. In *Chronometric Dating in Archaeology*, edited by R. E. Talyor and M. J. Aitken, pp. 183-216. Plenum Press, New York.

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Frahm, E. (2012). Evaluation of Archaeological Sourcing Techniques: Reconsidering and ReDeriving Hughes' Four-Fold Assessment Scheme. *Geoarchaeology: An International Journal* 27:166-174.

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Huckell, B.B., J.D. Kilby, M.T. Boulanger, and M.D. GlascocK (2011). Sentinel Butte: Neutron Activation Analysis of White River Group Chert from a Primary Source and Artifacts from a Clovis Cache in North Dakota, USA. *Journal of Archaeological Science* 38:965-976.

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### **PAPER 3: BIOARCHAEOLOGY**

#### **Course Objectives:**

The subject is an introduction to the study of biological remains of human, animals, and plants from archaeological sites and their application in the reconstruction of taphonomy, Palaeo-environment, Palaeodiet and Palaeoeconomy. The students will be acquainted with the various sub-branches of Archaeobotany, Quaternary Palaeontology and Archaeozoology and their applications. They will also be familiarised with the methods and scientific techniques used in each of these.

#### **Course Outcome:**

The students will be acquainted with the various sub branches of Archaeobotany, Quaternary Palaeontology and Archaeozoology and their applications. They will also be familiarised with the methods and scientific techniques used in each of these.

#### **UNIT 1:**

- a. Environmental Archaeology: Definition and scope
- b. Branches related to Environmental Archaeology
- c. Human ecology, Definition and Environmental System
- d. Plant and animal responses to changing environment

## **UNIT 2:**

- a. Palaeo botany and its study methods
- b. Role of palaeo botany in the reconstruction of palaeo environment
- c. Paleo botanical analysis: study of seeds, grains, phytoliths, pollens, coprolites
- d. Theories of Plant domestication and Origin of Agriculture
- e. Paleo botanical research in Indian subcontinent; Neolithic, Harappan, Chalcolithic, Iron age and Historic period.

## **UNIT 3:**

- a. Paleontology, definition, scope
- b. Palaeontology and past environmental interpretation
- c. Pleistocene vertebrate fauna from the Indian Subcontinent
- d. Taphonomy, definition and significance
- e. Study of Microvertebrate
- f. Dental and Bone Histology

## **Unit 4:**

- a. Introduction to human remains
- b. Introduction to Archaeozoology: definition and scope
- c. Reconstruction of Paleosubsistence, Paleoeconomy, Palaeoenvironment
- d. Approaches in Archaeozoological studies

## **Reference Books:**

Agrawal, D.P. and M. G. Yadav. 1995. *Dating the Human Past*, Pune: ISPQS Monograph Series1.

Andrews, Peter. 1990. *Owls, Caves and Fossils*. London: British Museum of Natural History.

Badam, G.L. 1979. *Pleistocene Fauna of India*, Pune: Deccan College.

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- Bruce Smith 2000. *Origins of Agriculture*, New York: Plenum publications.
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- Kermack, D.M. and K.A. Kermack. 1984. *The Evolution of Mammalian Characters*. London: Croom Helm.
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- Martin, Ronald E. 1999. *Taphonomy: A Process Approach*. Cambridge: Cambridge University Press.
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Zeuner, F.E. 1963. *A History of Domesticated Animals*. London: Hutchinson.

## **PAPER 4: BIOLOGICAL ANTHROPOLOGY**

### **Course Objectives:**

This course will provide a general introduction to a very complex discipline: the natural history of human kind and scientific evidence for human evolution. The course will cover the study of genetics and heredity, taxonomy, the study of primates, evolutionary theory, modern population adaptations and variations. The course will also introduce to students about the skeletal material from India and type of analysis conducted on them. The student will be able to define the sub-discipline of biological anthropology and apply the methods used by biological anthropologists to gather and interpret data in an independent research project.

**Course Outcome:**

The student will be able to define the sub-discipline of biological anthropology and apply the methods used by biological anthropologists to gather and interpret data in an independent research project.

**UNIT 1:**

- a. Evolution: Various theories and perspectives
- b. Concept of adaptation and evolution
- c. Order Primates - Place of order Primates in Animal Kingdom - Characteristic features of order Primate.
- d. Classification of living Primates (briefly) - Prosimian pattern - New and Old World Anthropoids - Hylobatid and Pongid pattern.
- e. Gibbon, Orang-utan, Chimpanzee and Gorilla. Comparison of anatomical features of man and anthropoid apes.

**UNIT 2:**

- a. Human Evolution through fossil record
- b. Genus Homo in the light of recent discoveries
- c. Genetic basis for human evolution. Origin of modern Homo. Mitochondrial Eve - Spread of Anatomically Modern Homo sapiens (AMHS) - Open session: Discussions on latest findings/researches in the field of human evolution

**UNIT 3:**

- a. Archaeological Human remains - Human antiquity in the Indian subcontinent from the Mesolithic to the Medieval period.
- b. Human and race variations - Theories regarding the formation of 'races'- Criteria for 'racial' classification and limitations of 'racial' discrimination in archaeological populations.
- c. Contemporary population diversities in South Asia - DNA to understand the population movements in past and in present - Ethical issues involved in DNA analysis (Both ancient DNA and present samples)

## UNIT 4:

### Practical

- a. Introduction to human skeleton. Identifying fragmentary bones. Side identification in bones.
- b. Age estimation and sex determination in skeletons.
- c. Measurements and morphological studies on human bones. Non-metric discrete traits.
- d. Dentition. Identification of dental elements. Morphometric studies on dentition.
- e. Palaeopathology: Skeletal and Dental pathology.
- f. Methods of cleaning and restoration in archaeological human skeletal collection
- g. Treatment of human material in the field and in the repository

### Reference Books:

Petraglia Michael D. and Bridget Allchin (Eds). 2007. *The Evolution and History of Human Populations in South Asia Inter-disciplinary Studies in Archaeology, Biological Anthropology, Linguistics and Genetics*. Springer: Cambridge, England

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## **PAPER 5: EARLY IRON AGE OF INDIA**

### **Course objective:**

The Early Iron Age is a formative period in Indian Civilization and so its archaeology is of great interest. In this course the data from different parts of India is reviewed. Students are introduced to the archaeological record of the Iron Age in India and some of the theoretical issues related to state formation and the development of complex societies

### **Course Outcome:**

Having successfully completed this paper student will be able to have a general knowledge of the archaeological evidence for the Iron Age in India and a detailed knowledge of some regions and key sites and be able to use this evidence to assess how archaeologists have attempted to reconstruct life in the Iron Age and explain social change.

### **UNIT 1:**

- a. Antiquity of Use of Iron
- b. Iron, Nature of Iron ore and major Iron ore locations/deposits in India.
- c. Beginning of Iron Age in India: Archaeological and Literary evidence
- d. Various theories regarding the introduction of iron in India.
- e. Concept of polycentric origin.

### **UNIT 2:**

- a. Early Iron Age Culture of India, Historiography of Early Iron Age
- b. Research in India.
- c. Emergence of various ideas of development and craft specialisation.
- b. Introduction of Iron: Emergence of Complex Societies
- c. Painted Grey Ware Culture: chronology, material Culture, distribution and
- d. Characteristic features.
- e. Iron in Gandhar Grave Culture of Swat Valley

### **UNIT 3:**

- a. Early Iron Age and Megalithic Traditions:(Distribution, typology, material culture, Art and craft specialisation, subsistence, trade and commerce, and Chronology)
- b. Evidence and nature of distribution of Megalithic culture in India.



- c. Settlement pattern of Early Iron age and Megalithic people
- d. Megalithic traditions/culture in Northern India
- e. Megalithic traditions/culture in Central India
- f. Megalithic traditions/ culture in South India
- g. Megalithic traditions/cultures in North-Eastern India

#### UNIT 4:

- a. Socio-Cultural- Economic Life of Early Iron Age People
- b. Role of Iron in emergence of Second Urbanisation: Various causes, processes and consequences.
- c. Society and Social life during Early Iron Age
- d. Living Megalithic traditions in India: An Ethno-archaeological Perspective
- e. Iron Smelting Processes and Metallurgy: Past and Present
- f. Herostones/*Viragal*
- g. Detailed study of important Excavated Sites:

Ataranjikhhera, Ahirachhatra, Burzhom, Megalithic Cultures of the Adwa Valley (Central Vindhya), Joythma (Nagaland), Mahurzhari, Naikund, Bhagimohiri, Takalghat-Khapa, Ramapuram, Hirebenekal, Brahmagiri, Chandravali, Adichanallur, Kodumanal, Ummichiipoyi

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- Agrawal, D.P. and D.K. Chakrabarty (ed.) 1979. *Essays in Indian Protohistory*. New Delhi: D.K Publishers.
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## **PAPER 6: ETHNOARCHAEOLOGY**

### **Course Objective**

The objective of this course is to become familiar with the ethnologies of different Communities in India and their relevance for understanding archaeological data. So that, students are familiarized with the importance of ethnographic data as a source to understand archaeological data.

**Course Outcome:**

Students are familiarized with the importance of ethnographic data as a source to understand archaeological data.

**UNIT 1:**

Concepts in Ethnoarchaeology, Nature and interrelationship of archeological and ethnographic records: Role of analogy.

- a. Definition, scope and methods of ethnoarchaeology, brief review of the Ethnoarchaeological researches in India.
- b. Ethnoarchaeology and reconstruction of past material culture, settlement pattern, technology, ceramics, food processing, etc.
- c. Tribe and caste: The composition of Indian society, Origin and evolution of the caste system in India and its archaeological significance.

**UNIT 2:**

Ethnoarchaeological studies in Indian settings, Forager/collector model to Palaeolithic and Mesolithic societies: e.g. Andaman, Islanders

- a. Ethnoarchaeological researches on the living hunter-gatherers in central, western and southern regions of India. Pardhis, Van Vagris, Korkus, Gonds, Bastar, Birhors, Yanadis, Chenchus, and Musahars. Veddas of Sri Lanka
- b. Present day shifting cultivation practices and their relevance to the study of Mesolithic, Neolithic and Chalcolithic cultures of India.
- c. Ethnoarchaeology of the South Indian Neolithic culture
- d. Ethnoarchaeological research for reconstructing the early agro-pastoral Chalcolithic communities of central and western India; Mahadeo Kolis, Bhils and Dhangars.
- e. Living Megalithic tradition in India.
- f. Ethnoarchaeology of fishing (inland and coastal) economies, Ethnoarchaeology of marginal resource utilization (shell fishing)

### UNIT 3:

- a. Ethnoarchaeological studies outside India, Important ethnoarchaeological studies of living hunter-gatherer societies, Eskimos of Alaska, Bushmen of the Kalahari Desert and Australian Aborigines

### UNIT 4:

- a. Ethnoarchaeological applications for Sciences in archaeology
- b. Role of analogy in problems pertaining to the application of sciences in archaeology; biological anthropology, ethnobotany and archaeo-zoology.

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## **PAPER 7: EXPERIMENTAL ARCHAEOLOGY**

### **Course Objectives:**

Experimental archaeology is the use of modern-day experiments to test hypotheses about patterns observed in archaeological data. This course explores the theory behind experimental archaeology and will undertake well-designed lab experiments to cover a diversity of ancient technologies, such as stone, bone, ceramic, metal and a variety of processes than can affect archaeological assemblages.

**Course Outcome:**

Students will develop a sound practical and theoretical grounding in scientific use of experiments in archaeological research. The course will also impart practical experience of experiments related to archaeological and taphonomic processes.

**UNIT 1:**

Experimental Archaeology in flint knapping

**UNIT 2:**

- a. Experimental Archaeology in Ceramic
- b. Experimental Archaeology in Bone tool Production

**UNIT 3:**

- a. Experimental Archaeology in Lapidary
- b. Experimental Archaeology in Fire-making, Butchering and food preparation

**UNIT 4:**

- a. Dissertation in Experimental Archaeology (students will have to design and conduct a group experiment)

**Criteria for offering this course**

- knapping area - an outdoor space reserved for flintknapping and other activities best done in the fresh air
- pottery and kiln room, where students can work with clay, equipped with a potter's wheel and a large programmable electric kiln that can reach 1300 degrees Celsius
- Experimental land - a substantial area of land on campus for long-term outdoor experiments.
- material stocks - including clay, bones, horns, wood, different stone types and plant materials

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## **PAPER 8: GEO-ARCHAEOLOGY**

### **Course objectives:**

The objective of this course is to introduce students to the scope and methods of geo archaeology.

### **Course Outcome:**

Students learn about the different natural contexts and processes affecting archaeological sites.

### **UNIT 1:**

- a. Definition, concepts and development of Geo archaeology
- b. Landform Evolution
- c. Identifying the natural Processes, Slope, Fluvial, Glacial, Aeolian, Lacustral
- d. Post depositional features, Soil and Sediments, Calcrete formation, Ferricretes, Weathering

### **UNIT 2:**

- a. Methods, Field techniques (Physical and Chemical)
- b. Regional scale, GIS and Remote sensing, Map studies
- c. Site specific, Resistivity, Magnometry, Section description, Sampling  
Laboratory techniques, Grain size analysis, Soil characterization, Mineralogy, Phosphate analysis, Stable Isotope studies
- d. Absolute and Relative Dating methods

### UNIT 3:

- a. Cultural ecology
- b. Human responses to changing environment, Palaeo-landscape, Palaeo climate
- c. Sea level changes
- d. Origin, growth and decay of cultures
- e. Human Impact on landscape

### UNIT 4:

Regional Studies, India and Other countries

### Reference Books:

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## **PAPER 9: HARAPPAN CIVILIZATION**

### **Course Objectives:**

The objective of this course is to look at the detailed archaeological record of the Harappan civilization, the earliest in the Indian subcontinent. Students gain familiarity with the rise and decline of the Harappan Civilization, its regional extent, variation, the nature of its cities and material remains.

### **Course Outcome:**

Students gain familiarity with the rise and decline of the Harappan Civilization, its regional extent and variation and the nature of its cities and material remains.

### **UNIT 1:**

Civilization, Definition and various characteristic features

- a. Different old world civilizations, Introduction to Mesopotamia: Early Dynastic Period: Sumerian, Second Dynasty: Akkadian, Ur Dynasty, Third Dynasty: Isin and Larsa
- c. Introduction to Egyptian: Early Dynasty, Old Kingdom, Middle Kingdom, New Kingdom
- d. Researches on the Harappan Culture- Pre Independence and Post independence era a theoretical approach.

### **UNIT 2:**

- a. Pre/Early Harappan cultures in Indian Subcontinent

### **UNIT 3:**

- a. Mature Harappan, Geographical Distribution and Settlement Pattern
- b. Harappan Domains system

- c. Public and Private Architecture
- d. Trade Hinterland and overseas, trade mechanism, transport facility, craft specialization etc.
- e. Harappan script: various theories about the decipherment, and the present status.
- f. Social, Political, Religious and Economic organization
- g. Subsistence of the Harappans plant and animal diet, agriculture and agriculture system, water management, exploitation of natural resources, etc.

#### **UNIT 4:**

- a. Decline and the Late Harappan
- b. Various factors and theories about the Harappan Decline and consequences
- c. Late Harappan phase in Sindh, Cholistan, Haryana, Punjab, Gujarat and Western U.P.
- d. Harappan legacy

#### **Reference Books:**

Anindya Sarkar, Arati Deshpande Mukherjee, Navin Juyal, P. Morthekai, M. K. Bera, R.D. Deshpande, V. S. Shinde and L. S. Rao 2016. Oxygen isotope in archaeological bioapatites from India: Implications to climate change and decline of Bronze Age Harappan civilization, Nature Scientific reports 6.

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## **PAPER 10: HISTORICAL ARCHAEOLOGY**

### **Course Objectives:**

It delineates students' interface between history and archaeology and acquaint the students with the archaeological data and material culture of the historical period. By this, the students will become familiar with the day to day life style of the ancient culture.

## **Course Outcome:**

Upon successful completion of the course students will have a better understanding about the early processes for the development of urbanization.

## **UNIT 1:**

- a. Meaning and concept of Historical archaeology.
- b. Development of Historical archaeology in India.
- c. Tools of Historical archaeology - Written records both literary and epigraphic, excavations and explorations
- d. Material culture – structural evidence, pottery, coins, terracotta figurines, ornamental objects, objects of belief, and objects related to different kind of production system.
- e. Beginning of Historical period in India: A regional perspective.

## **UNIT 2:**

- a. Process of second urbanization and state formation in India: Historical and archaeological approaches.

## **UNIT 3:**

- a. Archaeological studies across India on Early Historical period: c. 6<sup>th</sup> century BCE to c. 4<sup>th</sup> century CE with reference to mentioned sites.

(For convenience these studies will be dealt on regional level)

- b. Northwest frontier
- c. Ganga-Yamuna Plain
- d. Western India: Gujarat and Rajasthan
- e. Central India and Deccan
- f. South India (south of river Krishna)
- g. Eastern India (Bihar, Jharkhand, Orissa, and West Bengal)
- h. Important sites:

Taxila, Noh, Dwarka, Somnath, Sonkh, Hastinapura, Ahichchatra, Atranjikhera, Kausambi Rajghat, Shringaverapura, Pataliputra (Kumrahar), Champa, Katragarh, Vaishali, Tamruk, Chandrakhetugarh, Shishupalgarh, Besnagar, Eran, Maheshwar-

Navdatoli, Malhar, Adam, Nasik, Bhokardan, Nevasa, Dharanikota, Dhulikata, Nagarjunkonda, Peddabankur, Satanikotta, Banavasi, Bragmagiri, Sannati, Kaveripattanam, Porundal, Vallam, Pattanam, Arikamedu, Uraiyur, Alagarai, Thirukkampuliyur.

#### **UNIT 4:**

- a. Archaeological studies of 4<sup>th</sup> century CE onwards with reference to mentioned sites.
- b. Archaeological studies of Gupta and Vakataka period (c. 4<sup>th</sup> to 6<sup>th</sup> century CE).
- c. Discussion on an issue of deurbanisation.
- d. Important sites:  
Bhitri, Eran, Mansar, Paunar, Mandhal, Vidisha, Mathura, Bhita, Sarnath, Dwarka, Sambar, Daulatabad, Pandarpur, Champaner, Kaveripattanam, Pattanam, Alagarai, Thirukkampuliyur
- e. Practical training
- f. Field trip to excavated/explored sites.
- g. Pottery analysis: Identification, classification, drawing, morphometric analysis.
- h. Antiquity description: Terracotta figurines, ornamental objects, coins, metal artifacts, etc.

#### **Reference Books:**

*Ancient India volumes, Memoirs of Archaeology, Indian Archaeology – A Review* published by the Archaeological Survey of India

Excavation Reports on respective sites, published by the Archaeological Survey of India, State Departments of Archaeology, Universities shall be consulted for details.

### **PAPER 11: STONE TOOLS AND TECHNOLOGY**

#### **Course Objectives:**

The course aims to introduce students the use of stone tools and the creation of them in a survival or primitive living environment.

## **Course Outcome:**

Students will learn the skill and experience of reducing a stone to a useful tool like handaxe, adze, arrowhead and scraper. More importantly students will develop a better understanding of prehistoric survival strategies.

## **UNIT 1:**

- a. Introduction to Stone Age - Palaeolithic culture and their tools
- b. Mesolithic Culture and their tools
- c. Neolithic Culture and their tools

## **UNIT 2:**

- a. Tool Technology - Lower Palaeolithic (Oldowan and Acheulian)
- b. Middle Palaeolithic (Prepared cores/levallois, retouched flake forms)
- c. Upper Palaeolithic and Mesolithic (Prismatic blades, backed geometric microliths)
- b. Neolithic (Edge-ground tools by grinding and polishing)

## **UNIT 3:**

- a. Practical -Practical on Shaping Stone tools and grinding and polishing
- b. Demonstration stone tool drawing/ Photographing stone tools
- c. Practical on documenting the tools: Measuring artefacts, types of attributes recorded

## **Reference Books:**

Chazan, M. 2008. *World Prehistory and Archaeology: Pathways through Time*. Addison-Wesley

Turber, Robert. 2013. *Flint Knapping: A guide to making your own stone age tool kit*. The History Press

Whittaker, John C. 1994. *Flint knapping: Making and Understanding Stone Tools*. University of Texas Press

## **PAPER 12: MARINE ARCHAEOLOGY**

### **Course Objectives:**

This Paper focuses on the origin and development of marine archaeology as a discipline in India; the underwater archaeological explorations; principles and methods in marine archaeology; technology involved; different equipments; and major underwater excavations in India.

### **Course Outcome:**

On completion of the course, students will be able to demonstrate a high-level knowledge of the history and practice of maritime and underwater archaeology; understand the nature of underwater cultural heritage management practice and theory, and be able to initiate, plan, implement and evaluate it in a maritime archaeological context; undertake their work as independent professional archaeologists or cultural heritage managers in an ethical manner.

### **UNIT 1:**

- a. Introduction, Definition and scope: Definitions of Nautical/ Underwater/Marine/maritime Archaeology, Pros and cons, why UWA studies.
- b. Development of underwater Archaeology in India, Achievements in underwater archaeology
- c. Maritime culture landscape, coastal archaeology, Submerged pre-historic site and harbours
- d. Shipyards, ship abandonment, Anchors and Anchorages, Navigational Investigations and instruments
- e. Maritime communities and ethno-archaeology
- f. Riverine archaeology, UWA in Global perspectives
- g. Geomorphology: Geomorphology of coast, seabed, Depth zones, Sea level fluctuations, Submergence of settlements, Application of paleontological studies to reconstruct the palaeo climate, coastal erosion

## UNIT 2:

- a. Methodology and Tools, Types of surveys, methodology techniques, use of maps, literature, instrumentation, trenches, interpretations and collection of data, Process and fixing survey strategy, Application of model, boring, and sampling.
- b. Integrated geo-scientiphic studies for underwater archaeological explorations.
- c. Geophysical and magnetic surveys for marine archeological explorations
- d. GPR Survey in coastal archaeological exploration
- e. Coastal processes: definitions, tides, waves, currents, flow types, coastal sediments, sediment transport, erosion/accretion processes,
- f. State-of-the-art technology for marine archaeology: Camera and Videography, Systems for short term monitoring of underwater documentation
- g. Underwater excavation
- h. Diving techniques: Basics physics of diving, Divers safety; tracking and guidance
- i. Digital library perspectives. Synthesis and storage, mapping and documentation of maritime archaeological data, spatial geomatics.

## UNIT 3:

- a. Ports and Harbour - Introduction, Definitions, scope and importance, Historical background, explorations and excavations. Some case histories in India
- b. Ports along the west coast: Gujrat (Dwarka, Bet-Dwarka, Somnath, Kodivar, Gulf of Khambat, Kucchch area); Maharashtra (Chaul, Sindhudurga, Vijayadurga, Kelshi, Dabhol, Palshet, Murud Janjira); Goa (Gopikapattanam); Tamilnadu (Mamallapuram, Rameswaram, Kaveripoompattinam) Karnataka (Karwar, Mangalore); Kerala (Kollam, Muzris, Cochin)
- c. Ancient Ports: Tamil Nadu, Andhra Pradesh, Orissa, Ports of Ganga and Indus delta
- d. The archaeology of shipwrecks, documentation and *in-situ* recording process, ship reconstruction
- e. Historical naval architecture practices as a guide to ship reconstruction.
- f. Early Traditional ship building, sea-faring activity, medieval and post-medieval ship building activity.

## UNIT 4:

Maritime trade and commerce, Introduction, Importance

- a. Harappan period
- b. Early Historic period
- c. Historic period
- d. Medieval period
- e. Colonial period

### Reference Books:

Barker, Philip, *Techniques of Archaeological Excavations*, B.T. Batsford Ltd., London, 1977

Bass, George, *A History of Seafaring Based on Underwater Archaeology*, Thames and Hudson, London, 1972

Dean, Martin, et.al.,(ed) *Archaeology Underwater – The NAS Guide to Principles and Practice*, Nautical Archaeology Society, Archetype Publications Ltd., London

Rao, S.R., *Progress and Prospects of Marine Archaeology in India*, First Indian Conference of Marine Archeology of Indian Ocean Countries, National Institute of Oceanography, Goa, 1987

Rao, S.R., *Marine Archaeology of Indian Ocean Countries*, National Institute of Oceanography, Goa, 1988

Rao, S.R., *Recent Advances in Marine Archaeology*, National Institute of Oceanography, Goa, 1991

Rao. S.R., *The Role of Universities and Research Instiutes in Marine Archealogy*, National Institute of Oceanography, Goa, 1994

Rao, S.R., *An Integrated Approach to Marine Archaeology*, National Institute of Oceanography, Goa, 1997

Taylor, Joan du Plat, *Marine Archaeology*, Hutchinson and Co., London, 1965



## **PAPER 13: WORLD CIVILIZATIONS**

### **Course Objectives:**

A comprehensive study on the various archaeological discoveries and civilization that flourished around world. It would provide bird's eye view of entire civilizations that flourished in various parts of the world, so that students of archaeology can understand and compare Indian civilization with other civilizations.

### **Course Outcome:**

Upon successful completion of this course, the student will be able to identify and define the world's earliest civilizations, including the Neolithic Revolution, and describe how it shaped the development of these early civilizations; Identify, describe, and compare/contrast the first advanced civilizations in the world

### **UNIT 1:**

- a. Harappan Civilization, Development and decline
- b. Architectural and Trade evidence
- c. Contact with contemporary civilization

### **UNIT 2:**

- a. Egyptian Civilization, Early Dynasty,
- b. Old Kingdom,
- c. Middle Kingdom,
- d. New Kingdom

### **UNIT 3:**

- a. Mesopotamian Civilization, Early Dynastic Period: Sumerian,
- b. Second Dynasty: Akkadian, Ur Dynasty,
- c. Third Dynasty: Isin and Larsa

## UNIT 4:

- a. Neolithization, Emergence of Social Inequality and Early Complex Societies in China (7000 to 2000 BCE)
- b. Formation of Early States in Central Plain: Erlitou and Erligang (1900-1250 BCE)
- c. Bronze Cultures of Northern frontier (Early Second Millennium BCE)
- d. The Late Shang Dynasty and its neighbour (1230-1046 BCE)

## Reference Books:

Allchin, Bridget, and F. Raymond Allchin 1997. *Origins of a Civilization: The Prehistory and Early Archaeology of South Asia*. New Delhi:

Bahn, Paul G. 2009. *The Atlas of World Archaeology*, Brown Reference Book, London.

Bellwood, P. 2005. *First Farmers*. Blackwell Press, London.

Chazan, Michael, 2016. *World Prehistory and Archaeology*, Routledge, New York

Liu, Li and Xingcan Chen. 2012. *The Archaeology of China: From Late Palaeolithic to Early Bronze Age*. Cambridge University Press, New York

Lloyd Setan. 1984. *Archaeology of Mesopotamia from Old Stone Age to Persian Conquest*. Thames and Hudson. London

McIntosh Jane R. 2008. *Ancient Indus Valley: New Perspectives*. Abc Clio. California.

McHenry, Henry M. 2009. Human Evolution in *Evolution: The First Four Billion Years*, edited by M. Ruse and J. Travis. Cambridge, Massachusetts: Harvard University Press. Pp. 256-280

Murray Margaret A. 1949. *Splendor that was Egypt General Survey of Egyptian Culture and Civilization*. Sidwick and Jackson Ltd. London

Possehl, L Gregory. 2002. *The Indus Civilization: A Contemporary Perspective*. AltaMira Press, U.S

## **PAPER 14: WORLD PREHISTORY**

### **Course Objective**

The objective of this course is to provide an overview of the major developments in Prehistory in the different parts of the world.

### **Course Outcome:**

Students will gain a global perspective on Prehistoric studies and can better appreciate the role of India in the global context.

### **UNIT 1:**

- a. Background to the study of World Prehistory, World Prehistory: aims and scope
- b. Introduction: chronological phases and terminologies adopted for the study of various cultural phases in different regions, Background to the fossil and genetic evidence
- c. Introducing theories and debates related to hominin behavior
- d. Africa, background to the geography, palaeoenvironments, fossil and genetic record
- e. The Earliest Palaeolithic assemblage of Africa: The Oldowan, The Acheulian, The Middle Stone Age, The Late Stone Age

### **UNIT 2:**

- a. Europe, palaeoenvironments, Palaeolithic and Mesolithic evidences
- b. West and Central Asia, Palaeolithic, Epipalaeolithic evidences
- a. East Asia, Palaeolithic, Acheulian/Acheulian-like assemblages' evidences
- b. Middle Pleistocene assemblages in China, The Middle Palaeolithic, Upper Palaeolithic and Microblade assemblages and Earliest Pottery

### UNIT 3:

- a. Spread of humans to Australia, North and South America
- b. Recent theories and debates on human origins, dispersals and behavior, Origin and Spread of Modern Humans
- c. Early evidence in Africa
- d. Early Modern Humans in the Middle East, Archaic human

### UNIT 4: Indian Palaeolithic in the Global context

#### Reference Books:

Akazawa T., K. Aoki, and O. Bar Yosef (Eds.) 1998. *Neanderthals and Modern Humans in Western Asia*. New York: Plenum Press.

Barham, Lawrence and Mitchell, Peter Barham 2008. *The First Africans*. Cambridge. Cambridge University Press.

Bellwood, P. 2007. *Prehistory of the Indo-Malaysian Archipelago*, Revised edition. Canberra: ANU Press.

Burdukiewicz, J. M., A. Ronen, and International Union of Prehistoric and Protohistoric Sciences. 2003. Lower Palaeolithic small tools in Europe and the Levant. *BAR international series* ;. Oxford: Archaeopress.

Chazan, M. 2008. *World Prehistory and Archaeology: Pathways through Time*: Addison-Wesley

Debénath, A., and H. L. Dibble. 1994. *Handbook of Paleolithic typology - Vol. 1 : Lower and middle paleolithic of Europe*. Philadelphia: The University Museum.

Delson, Eric, Ian Tattersal, J. A. Van Couvering, and A. Brooks. 2000. *Encyclopedia of Human Evolution and Prehistory*. New York and London: Garland Publishing

Dennell, R. W. 2009. *Palaeolithic Settlement of Asia*. Cambridge: Cambridge University Press.

Gamble, C., and C. Gamble. 1999. *The Palaeolithic societies of Europe*. *Cambridge world archaeology*. Cambridge, U.K. ; New York: Cambridge University Press.

Gamble, Clive 1986 The palaeolithic settlement of Europe. Cambridge: *Cambridge world archaeology*. Cambridge University Press.

Meltzer, D. J. 2009. *First peoples in a new world: colonizing ice age America Berkely and Los Angles*: University of California Press.

Pearsall, Deborah M. 2007. *Encyclopedia of Archaeology*. New York: Academic Press. Schick K. D. and N. Toth (eds), 2006. *The Oldowan: Case Studies into the earliest Stone Age*. Gosport: Stone Age Institute.

Sharon, G. 2007. Acheulian Large Flake Industries: Technology, Chronology, and Significance. *BAR international series*. Oxford: BAR.

#### Research Papers

Bar Yosef, O. 1998. The Chronology of the Middle Palaeolithic of the Levant, in *Neanderthals and Modern Humans in Western Asia*. Edited by T. Akazawa, K. Aoki, and O. Bar Yosef, pp. 39-56. New York: Plenum Press.

Bar-Yosef, O. 2002. The Upper Paleolithic Revolution. *Annual Review of Anthropology* 31:363-393.

Bar-Yosef, O. and A. Belfer-Cohen 2013. Following Pleistocene road signs of human dispersals across Eurasia, *Quaternary International* doi:10.1016/j.quaint.2011.07.043

Bar-Yosef, O., and L. Meignen. 2001. The chronology of the levantine Midde Palaeolithic period in Retrospect. *Bulletin et Mémoire de la Societee d'Anthropologie de Paris*, 2, série 13:269-289.

Bar-Yosef, O., and S. L. Kuhn. 1999. The Big Deal about Blades: Laminar Technologies and Human Evolution. *American Anthropologist* 101:322-338.

Braun, D. R., J. C. Tactikos, J. V. Ferraro, S. L. Arnow, and J. W. K. Harris. 2008b. Oldowan reduction sequences: methodological considerations. *Journal of Archaeological Science* 35:2153-2163.

Braun, D. R., T. W. Plummer, P. W. Ditchfield, J. V. Ferraro, D. N. Maina, L. C. Bishop, and R. Potts. 2008a. Oldowan behavior and raw material transport: perspectives from the Kanjera Formation. *Journal of Archaeological Science* 35 2329-2345.

Bridgland, D. R., P. Antoine, N. Limondin-Lozouet, J. I. Santisteban, R. Westaway, and M. J.

- White. 2006 The Palaeolithic occupation of Europe as revealed by evidence from the rivers: data from IGCP 449. *Journal of Quaternary Science* 21:437-455.
- Diez-Martin, F. 2006. After the African Oldowan: The Earliest Technologies of Europe, in *The Oldowan: Case Studies in the Earliest Stone Age*. Edited by N. Toth and K. Schick, pp. 129-151. Gosport: Stone Age Institute.
- Dixon, J. E. 2001. Human colonization of the Americas: timing, technology and process. *Quaternary Science Reviews* 20:277-299.
- Goren-Inbar, N. and Sharon, G. 2006. Invisible handaxes and visible Acheulian biface technology at Gesher Benot Ya'aqov, Israel, in *Axe Age: Acheulian Tool-making from Quarry to Discard* edited by N. Goren-Inbar and G. Sharon. London: Equinox: 111–135.
- Goren-Inbar, N., Alpers, N., Kislev, M.E., Simchoni, O., Melamed, Y., Ben-Nun, A., Werker and E., 2004. *Evidence of hominin control of fire at Gesher Benot Ya'aqov, Israel*. *Science*, 304:725–727.
- Goren-Inbar, N., Feibel, C.S., Verosub, K.L., Melamed, Y., Kislev, M.E., Tchernov, E. and Saragusti, I., 2000. *Pleistocene milestones on the Out-of-Africa corridor at Gesher Benot Ya'aqov, Israel*. *Science* 289:944–974.
- Goren-Inbar, N., Grosman, L. and Sharon, G. 2011. The record, technology and significance of the Acheulian giant cores of Gesher Benot Ya'aqov, Israel. *Journal of Archaeological Science*, 38:1901–1917.
- Goren-Inbar, N., Lister, A., Werker, E. and Chech, M. 1994. *A butchered elephant skull and associated artifacts from the Acheulian site of Gesher Benot Ya'aqov, Israel*. *Paléorient* 20(1): 99–112.
- Goren-Inbar, N., Werker, E. and Feibel, C.S. 2002. *The Acheulian Site of Gesher Benot Ya'aqov: The Wood Assemblage*. Oxford: Oxbow Books.
- Goren-Inbar, N. 2011. Culture and cognition in the Acheulian industry – a case study from Gesher Benot Ya'aqov. *Philosophical Transactions of the Royal Society of London Series B*, 366:1038–1049.
- Meignen, L. 1995. Levallois Lithic Production Systems in the Middle Paleolithic of the Near East: the case of the Unidirectional Method, in *The Definition and Interpretation of Levallois Technology*. Edited by H. L. Dibble and O. Bar Yosef, pp. 361-379. Madison: Prehistory

Press.

Mishra, S. 2008. The Lower Palaeolithic: A Review of Recent Findings. *Man and Environment* 33:14-29.

Mishra, S., C. Gaillard, S. G. Deo, M. Singh, R. Abbas, and N. Agrawal. 2010. Large Flake Acheulian in India: Implications for understanding lower Pleistocene human dispersals. *Quaternary International*.

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Sahnouni, M. 2006. The North African Early Stone Age and the sites at Ain Hanech, Algeria, in *The Oldowan: Case Studies into the earliest Stone Age*. Edited by K. D. Schick and N. Toth, pp. 77-112. Gosport: Stone Age Institute.

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Semaw, S., M. J. Rogers, and D. Stout. 2009. The Oldowan-Acheulian Transition: Is there a "Developed Oldowan" Artifact Tradition?, in *Sourcebook of Paleolithic Transitions*. Edited by

Torre, I. d. I. Technological strategies in the Lower Pleistocene at Peninj (West of Lake Natron, Tanzania), in *Approaches to the Earliest Stone Age*. Edited by K. D. Schick and N. Toth. Bloomington, Indiana.

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White, and T. S. White. 2007. The British Pleistocene fluvial archive: East Midlands drainage evolution and human occupation in the context of the British and NW European record. *Quaternary Science Reviews* 26:2724-2737.

White, M., and N. Ashton. 2003. Lower Palaeolithic Core Technology and the Origins of the Levallois Method in North-Western Europe. *Current Anthropology* 44:598-609.

## **PAPER 15: ARCHAEOLOGY AND LITERATURE**

### **Course Objectives**

The objective of this course is to compare the historical and archaeological sources for the early history of India.

### **Course Outcome:**

Students develop an appreciation for the contrasting methods of history and archaeology and their contribution to a more holistic view of the past.

### **UNIT 1:**

- a. Early Literary Sources and Archaeological Records
- b. Early writing in India – Archaeological and Literary perspective
- c. Importance of archaeological and literary sources in India
- d. Limitations of Archaeological and Literary sources

### **UNIT 2:**

Early Vedic texts and Aryans issue

- a. Vedic texts and Harappans: theories and problems



- b. The Later Vedic Texts, Buddhist and Jain Texts
- b. PGW, Iron Age and Megalithic cultures India

### UNIT 3:

- a. The NBP and the Early Historical Classical texts (600-200 B.C.E)
- b. Brahmi and Kharosti scripts- origin and development
- c. The Great Epics and the problem of dating the epics
- d. Material culture of the epics

### Reference Books:

Allchin, F. R. 1995. *The Archaeology of Early Historic South Asia and Emergence of Cities and States*. Cambridge University Press, Cambridge.

Andren, Anders 1998. *Between Artifacts and Texts*. New York: Plenum press.

Bhattacharyi, Sukumari 1975. *Literature in the Vedic Age* (2 Vols). K.P. Bagehi and Co., Calcutta

Dymond, D. P. 1974. *Archaeology and History: A Plea for Reconciliation*. London: Thomas and Hudson

Erodsy, George 1988. *Urbanisation in Early Historical India*. Oxford: BAR. Dhavalikar, M.K. 1999. *Historical Archaeology of India*. New Delhi: Books & Books.

Kosambi, D.D. 1985. *An Introduction to the Study of Indian History*. (reprint). Mumbai: Popular Prakashan.

Kunhau Raja 1962 *Survey of Sanskrit Literature*. Mumbai: Bharatiya Vidya Bhavan. Lad, Gauri P. 1981. *Mahabharata and Archaeological Evidence*. Pune: Deccan College.

Sharma, R. S. 1996. *The State and Vasna formation in the Mid- Ganga Plains*. New Delhi: Manohar Publishers.

Roy, T. N. 1983. *The Ganges Civilization : A Critical Study of PGW & NBPW Periods of the Ganga Plains of India*. New Delhi: Ramanada Vidya Bhavan.

Thapar, Romila 1990. *From Lineage to State*. Delhi: Oxford University Press.

Tripathi, Vibha 1976. *The Painted Gray ware: An Iron Age Culture of North India*. Delhi: Concept Publishing House.

Tripathi, Vibha 2001. *Age of Iron in South Asia Legacy & Tradition*. New Delhi: Aryan Books International.

## **PAPER 16: COMMUNITY ARCHAEOLOGY**

### **Course Objectives**

The course aims to teach young minds about promotion of cultural resources and to convey the relevance of archaeology to the society.

### **Course Outcome:**

Upon successful completion of the course students are expected to develop and strengthen areas in cultural sensitivity, public speaking, leadership and responsibility, service-learning, engagement and outreach.

### **UNIT 1:**

- a. Community Archaeology: Definition, scope and objectives
- b. Public as the custodian of cultural heritage
- c. Categories of heritage sites and artifacts

### **UNIT 2:**

- a. Archaeological acts and statutes
- b. Need for preservation and protection of heritage remains
- c. Study and preservation of heritage remains: Various stake holders

### **UNIT 3:**

- a. Use and Abuse of the Past - Archaeology and Ethics
- b. Pseudo archaeology

- b. The Antiquities Market: Ebay, Metal Detector groups, etc
- c. Looting, vandalism and site destruction, treasure hunters, etc.
- d. Dealing with Issues of Conflict and Crisis

#### **UNIT 4:**

- a. Ways and means of communicating and Archaeological Knowledge
- b. Writing (and Speaking) for a General Audience
- c. Public Education and Outreach programmes: Distinction between the two approaches. School programs, Curriculum-related programs, Archaeology Week programs, Site-specific programs, public excavations, stewardship programs, interpretive exhibits/centers
- b. Archaeology and Museums: display strategies, new technologies
- c. Archaeology, the Media, and the Digital Age
- d. Archaeology and Cultural Tourism

#### **Reference Books:**

Arnold, B. 1990. "The Past as Propaganda: Totalitarian Archaeology in Nazi Germany," in *Histories of Archaeology*, p. 120-144.

Atalay, Sonya. 2012. *Community-Based Archaeology: Research with, by, and for Indigenous and Local Communities*. Berkeley: University of California Press.

Beale, Nicole. 2012. "How Community Archaeology Can Make Use of Open Data to Achieve Further Its Objectives." *World Archaeology* 44: 612–633.

Christensen, Kim. 2010. "Archaeology and Activism of the Past and Present." In *Archaeologists as Activists: Can Archaeology Change the World?*, edited by M. Jay Stottman, 19–35. Tuscaloosa: The University of Alabama Press.

Dietler, M. 1994. "Our Ancestors the Gauls: Archaeology, Ethnic Nationalism and the Manipulation of Celtic Identity in Modern Europe." *American Anthropologist* 96, 584-605.

Ellick, Carol J. 2007. "Audience, Situation, Style: Strategies for Formal and Informal Archaeological Outreach Programs." In *Past Meets Present: Archaeologists Partnering with*

- Museum Curators, Teachers, and Community Groups*, edited by John H. Jr. Jameson and Sherene Baugher, 249-264. New York: Springer.
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- Joyce, Rosemary. 2008. "Critical Histories of Archaeological Practice: Latin American and North American Interpretation in a Honduran Context." In *Evaluating Multiple Narratives: Beyond Nationalist, Colonialist, Imperialist Archaeologies*, edited by Junko Habu, Clare Fawcett, and John M. Matsunaga, 56–68. New York: Springer.
- Lafrenz Samuels, Kathryn. 2009. "Trajectories of Development: International Heritage Management of Archaeology in the Middle East and North Africa." *Archaeologies: Journal of the World Archaeological Congress* 5: 68-91.
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- Little, Barbara J. 2012. "Envisioning Engaged and Useful Archaeologies." In *Archaeology in Society: Its Relevance in a Modern World*, edited by Marcy Rockman and Joe Flatman, 277–289. New York: Springer.
- McGuire, Randall H. 2008. *Archaeology as Political Action*. Berkeley: University of California Press. (Skim Ch. 4)
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- Stone, Gaynell. 2007. "Excavating the Past: 20 Years of Archaeology with Long Island, NY Students." In *Past Meets Present: Archaeologists Partnering with Museum Curators, Teachers, and Community Groups*, edited by John H. Jr. Jameson and Sherene Baugher, 281–298. New York: Springer.
- Stottman, M. Jay. 2014. "From the Bottom Up: Transforming Communities with Public Archaeology. In *Transforming Archaeology: Activist Practices and Prospects*, edited by Sonya Atalay, Lee Rains Clauss, Randall H. McGuire, and John R. Welch, 179-196. Walnut Creek, CA: Left Coast Press.

Watson, S. 2011. “‘Why can’t we dig like they do on Time Team?’ The meaning of the past within working class communities.” *International Journal of Heritage Studies* 17 4, 364-379.

Zimmerman, Larry J. 2008. “Unusual or ‘Extreme’ Beliefs About the Past, Community Identity, and Dealing with the Fringe.” In *Collaboration in Archaeological Practice: Engaging Descendant Communities*, edited by Chip Colwell-Chanthaphonh and T.J. Ferguson, 55–86. Lanham: Altamira.

## **PAPER 17: QUANTITATIVE METHODS**

### **Course objectives**

The objective of this course is to introduce basic statistical methods and GIS to archaeology students.

### **Course Outcome:**

By this, the students are familiarized with some computer and GIS applications and basic statistical methods.

### **UNIT 1:**

- a. Computing Fundamentals and Information Science: Development and scope
- b. Readymade software and programming languages
- c. Practical lessons of programming
- b. Managing Information, Excavation and Computers
- c. Archaeological Database management: What is database? What is archaeological data? Recording artefacts, Analyzing data, Data Security

### **UNIT 2:**

- a. Digital Landscapes, GIS, Remote Sensing, Digital Image Processing, Modelling and Simulation, Maps and GPS based cartography
- b. Preserving and managing evidence of the past, CRM and increasing computer usage

CRM at the regional level

- c. Museums, computers and archaeological collections
- d. Use of web resources for research
- e. E-Publication

**UNIT 3:**

- a. Communicating Archaeology, Interactive multimedia and the Internet
- b. Place of quantitative methods in archaeological research, Historical perspective, Importance of quantitative methods, Archaeological theory and quantitative thinking, Validity and reliability of quantitative analysis

**UNIT 4:**

- a. Basic Statistics, Classification and tabulation of data, Visual methods, Measures of central tendency, Concept of variability, Measures of association
- b. Relationship between variables, Chi square test and contingency tables, Ranking and Correlation tests, Regression Analysis
- c. Sampling techniques, Sample and population, Probability and non-probability methods, Sampling errors
- d. Advanced Statistical Methods, Multivariate methods, Comparing samples, Analysis of variance

**Reference Books:**

Anderssen, J., Madsen T. and Scollar I. (Eds). 1993. *Computing the Past: Computer Applications and Quantitative Methods in Archaeology*, CAA 92. Aarhus: Aarhus University Press.

Sushama G. Deo and P.P. Joglekar. 2008-09. Use of GPS-based field methods: An Introduction, *Bulletin of the Deccan College Research Institute* 68-69: 135-144.

Drennan R.D. 2009. *Statistics for Archaeologists: A Commonsense Approach*. New York: Plenum Press.

- Lock Gary and J. Moffett (eds.) 1992. *Computer Applications and Quantitative Methods in Archaeology 1991*. London: BAR International Series
- Lock Garry and Zoran Stancic (eds.) 1995. *Archaeology and Geographical Information Systems*. London : Taylor & Francis
- Lock, G. (2003). *Using computers in archaeology: Towards virtual pasts*. London and New York, Routledge.
- Reilly, P. and S. Rahtz. 1992 *Archaeology and the Information Age: A Global Perspective*. London and New York: Routledge.
- Richards, J. D. (1998). Recent Trends in Computer Applications in Archaeology. *Journal of Archaeological Research* 6(4): 331-382.
- Shennan, S. 1988 *Quantifying Archaeology*. Edinburgh: University Press.
- Sinha, P. 2009. *Cogitating Prehistoric Archaeological Landscape With Pattern Recognition, Computer Applications to Archaeology* Williamsburg, Virginia, USA. March 22-26, 2009.
- VanPool, T. L. and R. D. Leonard (2010). *Quantitative Analysis in Archaeology*, John Wiley & Sons.

## **PAPER 18: DIGITAL ARCHAEOLOGY**

### **Course Objectives:**

This course will deal with computer-based tools such as spatial analysis, 3D modelling, simulation, image analysis and others that have opened up new avenues for archaeological enquiry, significantly broadening our understanding of the human past.

### **Course Outcome:**

Upon successful completion the student will learn to collect digital data in the field using advanced surveying methods and to process, visualise, analyse, interpret, manage and present data in digital format.



## **UNIT 1:**

- a. Basic Knowledge
- b. Windows
- c. Excel
- d. Photoshop
- e. Adobe Illustrator
- f. CorelDraw

## **UNIT 2:**

### Spatial Analysis

- a. Geographic Information System (GIS)
- b. Remote Sensing

## **UNIT 3:**

- a. 3D Modelling and Simulation
- b. AutoCAD (Computer Aided Design)
- c. Digital Photography and Photogrammetry
- d. Use of Drones for Archaeology
- e. Using OpenSim, Multi-user 3D application
- f. Google Sketch up
- g. Arc GIS 3D Analyst, Software to view archaeological GIS data in three dimensions
- h. Using Open Sim

## **UNIT 4:**

- a. Digital Archiving
- b. Using tDAR (Approaches to Data Management, Curation and Preservation for Digital Archaeology)

- c. Dissertation

**Reference Books:**

Evans, Thomas Laurence and Patrick Daly, 2006 *Digital Archaeology: Bridging Method and Theory*. Psychology Press

Graves Michael W. 2013. *Digital Archaeology: The Art and Science of Digital Forensics*  
Addison-Wesley Professional

**PAPER 19: REGIONAL HISTORY**

**Course Objective:**

The Course aims to familiarize the students on the history of his own place.

**Course Outcome:**

Upon successful completion, the student will know full history of his/her own region

**UNIT 1:**

- a. Early history of the region
- b. Urbanization and expansion
- c. Ancient history of the region
- d. Major centres of historical importance

**UNIT 2:**

- a. Political history
- b. Different miles stones in the political history of the region

**UNIT 3:**

- a. Status of society
- b. Division in the society
- c. Law and justice
- d. Economy history
- e. Trade and Commerce
- f. Taxation

**UNIT 4:**

- a. Salient feature of administration
- b. Coinage – different types of coins
- c. Religious groups – religious customs and conventions
- d. Temples, Art and architecture and Secular architecture of the region – village goddess

**The broad outline of the regional History Syllabus is presented above. As the regional history varies region to region it is suggested that respective Departments shall formulate course for the syllabus.**

## **C. ABILITY/SKILL ENHANCEMENT COURSES**

### **PAPER 1: MUSEOLOGY**

#### **Course Objectives:**

The paper provides a detail study of Museum keeping. It deals with the origin and development of Museum and various aspects such as types of museums, display system, documentation, various laws passed time to time to preserve the cultural properties and methods of conservation and preservation of museum objects.

#### **Course outcomes:**

Students learn the basic functions of museums and their activities. Conservation, education, exhibition collection, documentation and research and legislation relating to museum are the major topics students learn about.

#### **UNIT 1:**

- a. Origin and development of Museum
- b. Types of museums: Central and State museums - Archaeological and special museums: Technological museum, Children Museum
- c. Role of Museum in education — Museum in Educational institutions
- d. Research activities; Cultural activities
- e. Museum Guide, guide books etc.

#### **UNIT 2:**

- a. Museum administration and establishment: Director and Curator; other staff
- b. Documentation: Types of documentation, Digitized documentation
- c. Registers and Index cards.

### **UNIT 3:**

- a. Display system – important principles in display, Composition, Light-Texture, Colour, Scale and Labelling
- b. Museum Architecture: Ventilation and lighting - other amenities
- c. New Museology – A fresh approach
- d. New Museology and the traditional museums
- e. New Museology for India

### **UNIT 4:**

- a. Preservation and conservation of organic and inorganic objects – various Methods of structural conservation
- b. Legal aspects of Conservation and Preservation of cultural properties
- c. Museum visit and report

### **Reference Books:**

Banerjee, N.R., *Museum and Cultural Heritage of India*

Singh, A.P., *Conservation and Museum Techniques*

Agrawal, O.P., *Care and Preservation of Museum Objects*

Nigam, M.L., *Fundamentals of Museology*

Aiyappan and Satyamurty, *Hand book of Museum Technique*

Baxi and Dwivedi, *Modern Museum*

Grace Morley, *Museum Today*

## **PAPER 2: PROJECT PARTICIPATION / INTERNSHIP/ REPORT WRITING**

### **Course Objective:**

The primary objective of this paper is to impart practical training to the students at archaeological sites, monuments, scientific laboratories, museums, field-based research projects, conservation work, etc.

The students shall also participate in the excavations/explorations conducted by the various organizations, including Archaeological Survey of India, State Departments of Archaeology, University Departments, Research Institutions, etc.

### **Duration:**

Not less than three weeks

On successful completion of the training a Report shall be submitted to the Department head by the candidate for evaluation and award of marks

## **PAPER 3: TOURISM MANAGEMENT**

### **Course Objectives:**

The scope, historical perspective, policies, and management of tourism in India. The course focuses on the study of archaeological monuments and their role in the promotion of cultural tourism. Various strategies to promote tourism to attract more visitors is also studied.

### **Course Outcome:**

Upon successful completion the student will be able to contextualize tourism within broader cultural, environmental, political and economic dimensions of society; interpret and evaluate tourism as a phenomenon and as a business system; develop and evaluate tourism policy and planning initiatives; apply principles of sustainability to the practice of tourism in the local and global context; work collaboratively in groups, both as a leader and a team member, in diverse environments, learning from and contributing to the learning of others.

## **UNIT 1:**

- a. Scope – Potential of tourism in India – Advantages
- b. Historical Perspective
- c. Tourism concept Evolution of Tourism

## **UNIT 2:**

- a. Tourism management – Personnel
- b. Tourism laws – Elements – Trend
- c. Policies, issues and strategies - Tourism impact assessment
- d. Types of tourism
- e. National organizations and International organizations – IUOTO, WTO, PATA, ATA, ICAO
- f. Tourism marketing – concept, products – market segmentation - processes and functions – marketing mix

## **UNIT 3:**

- a. Tourism promotion – advertising – publicity - public relations – travel literature
- b. Tourist Resorts – key factors to resort development – attraction of resort – other aspect of accommodation management
- c. Foreign exchange
- d. Laws relating to tourism

## **UNIT 4:**

- a. Tourism as an industry
- b. Tourism and economy
- c. Public relations –Information offices – Bulletins
- d. Tourist Guides – tourist psychology - Language and communication

## **Reference Books:**

- Bhatia, A.K., *Tourism Development Principles and Practices*
- Bijender, K., *Tourism Management: Problems and Prospects*
- Burkart, A. and Medliks, S., *Tourism Past, Present and Future*
- Sinha, P.C. (ed)., *International Encyclopedia of Tourism Management (12 volumes)*
- Kotler, P., *Marketing Management*, New Delhi, 2001
- Rictchie, J.R. Brent , *Travel Tourism and Hospitality Research*, New York
- Sourindranath Roy, *The Story of Indian Archaeology:1784-1947*.
- Chakrabarti, D. K., *History of Indian Archaeology*.
- Raman, K.V., *Principles and Methods of Archaeology*, Chennai, 1984.
- Wheeler, R.E.M. *Archaeology from the Earth*, London, 1954.
- Kenyon, K.M., *Beginning in Archaeology*, New York, 1961.
- Lavkush Mishra, *Religious Tourism in India*, New Delhi, 2005
- Lavkush Mishra, *Cultural Tourism in India*, New Delhi, 2005

## **PAPER 4: TOURIST GUIDE COURSE**

### **Course Objectives:**

This course is designed for the tourist guides. The students are enlightened on the duties of the tourist guides. So that, those who intend to enter in to the tourism can have a wide knowledge of the guideship in tourism

### **Course Outcome:**

Upon successful completion of the course the student will have good knowledge of his/her tourist destination and basic practical skills to conduct local excursion tour guiding professionally, reflecting high standards of tour guiding, customer service and operational best practice.



### **UNIT 1:**

- a. Definition and scope of tourism
- b. History of tourism in India
- c. Types of tourism
- d. Tourism as an industry
- e. Tourism and Foreign exchequer

### **UNIT 2:**

- a. Relation between tourism and archaeology
- b. Application of archaeology in tourism
- c. Cultural tourism
- d. Role of Archaeological Survey of India in Tourism
- e. Legal aspects connected with cultural properties

### **UNIT 3:**

- a. Heritage monuments in India
- b. Salient features art and architecture of India
- c. Scope of expanding Tourism, Festivals of India
- d. Responsibilities of Tourist Guides
- e. Importance of communication skill

### **UNIT 4:**

- a. Tourism management – Personnel
- b. Tourism laws – Elements – Trend
- c. Policies, issues and strategies
- d. National and international organizations – IUOTO, WTO, PATA, ATA, ICAO
- e. Importance of communication

### **Reference Books:**

Bhatia, A.K., *Tourism Development Principles and Practices*

Bijender, K., *Tourism Management: Problems and Prospects*

Burkart, A. and Medliks, S., *Tourism Past, Present and Future*

Sinha, P.C. (ed)., *International Encyclopedia of Tourism Management (12 volumes)*

Kotler, P., *Marketing Management*, New Delhi, 2001

Rictchie, J.R. Brent , *Travel Tourism and Hospitality Research*, New York

*Guide books published by the ASI*

## **PAPER 5: HERITAGE IMPACT ASSESSMENT**

### **Course Objective:**

As per the requirement of the National Monument Authority Heritage Impact Assessment is mandatory for those monuments around which developmental activities are proposed. The course aims to familiarize the student to identify the chronology of the monument/sites on the basis of available data and studying the cultural, natural and environmental impact.

### **Course Outcome:**

The student will learn to use archaeological, geological and environmental science and principles in the assessment studies.

### **UNIT 1:**

Statute of the Ancient Moonuments and Archaeological sites and various categoris of Monuments and Sites

### **UNIT 2:**

Role of Archaeological Survey of India and National Monuments Authorities

### **UNIT 3:**

- a. Geographical and ecological Impact Assesment
- b. Environmental Impact assessment
- c. Visibility impact assessment

Text books are not available but students can study various acts of the ASI and madates of National Monuments Authority.

## **D: INTERNSHIP**

Major sources of archaeological data are obtained by undertaking various field survey and detailed investigations. Field component is the backbone of archaeology, which needs to be properly understood. The committee has recommended each student of Archaeology undertakes minimum of 1-month internship in Archaeology Department and Museums. The Report of the Internship should be prepared in detail and submitted to the heads of the respective Department for evaluation. This will carry 2 credits. Committee has also recommended that internship is compulsory for all the students of Archaeology. They are free to undertake internship any time after the first semester during the Course. The faculty and teaching staff will provide proper guidance and direction to the students and help in the guidance of internship.