SEMESTER – I

INTRODUCTION TO ARCHAEOLOGY- (Core-I)

L T P C
7 0 0 5

a. 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, methods and its development as a discipline is introduced to the students. The course also provides understanding cultural development and diversity from human origin to civilization development.

b. Course Outcome:

	Course Outcome
CO-1	Students are able to evaluate the applications in terms of interpreting the human past life history through practical approaches in archaeology.
CO-2	Students can understand the cultural development and diversity from human origin.
CO-3	Students can learn the practical methods of doing Archaeological work in any site.
CO-4	Students can create a strong foundation on the basic understanding of the nature, development and value of archaeology

c. Course Outline

UNIT-I:

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

UNIT-II:

Development of Archaeology in Europe and America - Development of Archaeology in West Asia - Development of Archaeology in East Asia - Development of Archaeology in South- East Asia - Development of Archaeology in India.

UNIT-III:

Definition for Culture - African origin - Development of Early Stone Tool making - Environmental changes and hunting-gathering adaptation around 10,000 BCE - Transition from hunting gathering to agriculture.

UNIT-IV:

Origin of Neolithic/Chalcolithic culture- Neolithic Revolution and other competing theories - Rise of civilizations-Theoretical Foundations in Archaeology - Antiquarian period to Traditional Archaeology.

UNIT-V:

Kinds of Archaeology - New Archaeology/ Processual Archaeology - Post Processual Archaeology - Contemporary approaches - Cultural Heritage, monuments and archaeological legislations - Public Archaeology - Relevance of Archaeology.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	M	PSO1 to PSO8	M	K1-K4

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. 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.

Daniel, Glyn, E. 1975. *A Hundred and Fifty Years of Archaeology*. London: Duckworth.

Fagan, B. 1988. *In the beginning: An Introduction to Archaeology*. Glenview: Scott, Foresman and company.

Gardner, A. 2009 Agency. In *Handbook of Archaeological Theories*, edited by R.A. Bentley, H.G. Maschner, and C. Chippindale, pp. 95–108. AltaMira Press, Lanham, MD.

Glover Ian and Peter Bellwood. 2004. *Southeast Asia from Prehistory to History*. Routledge Curzon New York.

Granet Marcel. 1930. *Chinese Civilization*. Trench Tubner and Co. London

Hodder, Ian. 1992. *Theory and Practice in Archaeology*. London: Routledge.

Hodder, I. 1995. *Interpreting Archaeology: Finding Meaning in the Past*. New York: Routledge.

Hurcombe Linda 2007. Archaeological artefacts as material culture. New York: Routledge

Lie, Li and Xingcan Chen. *The Archaeology of China*. Cambridge University Press.

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

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

Paddayya, K. 1990. *New Archaeology and Aftermath*: *View from Outside the Anglo-American World*. Pune: Ravish Publishers.

Paddayya, K. 2014. *Multiple Approaches to the Study of India's Early Past: Essays in Theoretical Archaeology*. Aryan Books International.

Renfrew, Colin and Paul Bahn 2006 Archaeological: Theories and Methods and Practice. Thames and Hudson. London

Schiffer, M.B. 1995. *Behavioral Archaeology*: *First Principles*. Salt Lake City: University of Utah Press

Shanks, M. 2008 Post-Processual Archaeology and After. In *Handbook of Archaeological Theories*, editedby R.A. Bentley, H.G. Maschner, and C. Chippindale, 133-144.

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

INTRODUCTION TO ANTHROPOLOGY-(Core-II)

L T P C
7 0 0 5

a. 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 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 anthropology and apply the methods used by anthropologists to gather and interpret data in an independent research project.

b. Course Outcome:

	Course Outcome
CO-1	Students are able to identify and classify the skeletal material from India
CO-2	Students can understand the sub-discipline of anthropology and apply the methods.
CO-3	Students can understand the human evolution.
CO-4	Students can learn to gather and interpret data look like anthropologist.

c. Course outline

UNIT-I:

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

UNIT-II:

Human Evolution through fossil record - Genus Homo in the light of recent discoveries - 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-III:

Archaeological Human remains - Human antiquity in the Indian subcontinent from the Mesolithic to the Medieval period - Human and race variations - Theories regarding the formation of 'races'- Criteria for 'racial' classification and limitations of 'racial' discrimination in archaeological populations - 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-IV:

Introduction to human skeleton. Identifying fragmentary bones. Side identification in bones - Age estimation and sex determination in skeletons - Measurements and morphological studies on human bones. Non-metric discrete traits - Dentition. Identification of dental elements. Morphometric studies on dentition.

UNIT-V:

Palaeopathology: Skeletal and Dental pathology - Methods of cleaning and restoration in archaeological human skeletal collection - Treatment of human material in the field and in the repository.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	M	PSO1 to PSO8	M	K1-K4

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5 –Evaluate, K_6 – Create)

e. 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.

Gosden Christopher 1999. Anthropology and Archaeology: *A changing relationship.* Routledge, London.

Swindler Dari and Robert George 2002. Primate Dentition: *An Introduction to the Teeth of Non-human Primates.* Cambridge University Press, Cambridge.

Goodman Alan H. Yolanda T. Moses and Joseph L. Jones 2012. *Race: Are We So Different?* American Anthropological Association. Wiley-Blackwell. UK.

Hodge Russ 2010. *Human genetics: Race, Population, and Disease*. Brainerd, MN

Delson Eric, Ian Tattersall, John A. Van Couvering, Alison S. Brooks 2000. *Encyclopedia of Human Evolution and Prehistory*. Garland Publishing, Inc.A member of the Taylor & Francis Group. New York & London.

Saitou Naruya, 2017. *Evolution of the Human Genome I: The Genome and Genes.* Springer Japan KK.

INTRODUCTION TO GEOLOGY- (Core-III)

L T P C
6 0 0 4

a. Course Objectives: This paper explains about geology and its fundamentals. And also describe about sediments and various types of rocks.

b. Course Outcomes (CO):
At the end of the Course, the student will be able to

	Course Outcome
CO-1	Students are able to recognize geological objects and describe them.
CO-2	Students can explain the geological phenomena found in the field and explain the process of occurrence.
CO-3	Students can understand the basic knowledge that includes mechanical and chemical processes on earth.
CO-4	Students can describe about sediments and various types of rocks on earth.
CO-5	Students can understand about the palaeo-life history of the earth.

c. Course outline

Unit I
Crystal and minerals: Crystal systems, Chemistry of minerals, atomic bonding. Structural classification of Silicate minerals and their compositional variations, rock-forming and economic minerals- Major silicate mineral groups (quartz, feldspar, pyroxene, amphibole, mica, olivine and garnet) and their diagnostic properties-Basic optical mineralogy.

Unit II
Igneous rocks: Introduction – Types of Rocks – Igneous Rocks: forms of Intrusive and extrusive igneous bodies – structures and textures – its classification – Properties of magma. Bowen's reaction series. Magmatism in relation to tectonic settings, radio activity & dating of rocks. Metamorphic & Sedimentary rocks: Metamorphism, agents of metamorphism, types of metamorphism, metamorphic reactions, metamorphic textures and structures.

Unit III
Folds, Faults and Joints: Folds - parts of a folds, nomenclature of folds: Anticline, syncline, symmetrical fold, asymmetrical fold, overturned fold, recumbent fold, isoclinal fold. Faults - Terminology of fault plane; nature of movement along faults: Translational and rotational movements, relative movements, Effects of disturbed strata. Throw and heave; Classification: Geometrical classification, Genetic classification. Classification based on absolute movements. Joints-Definition, geometric and genetic classification.

Unit-IV
Introduction to fossils. Fossilization processes (taphonomy), and modes of preservation. Application of Fossils in the study of Palaeoecology, Palaeobiogeography and Palaeoclimate - Palaeobotany:Role of plant fossils in palaeo-climatic reconstructions. Brief introduction to various vertebrates.and invertebrate groups.

Unit V Geomorphic processes and associated landforms: aeolian, fluvial, glacial and coastal; introduction to tectonic geomorphology. Stratigraphic principles and correlation. Evolution of Geological Time Scale. Introduction to lithostratigraphy, biostratigraphy and chronostratigraphy, magnetostratigraphy and chemostratigraphy.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5
CO5	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

1.   Tyrrell, G.1978. *The principles of petrology: An introduction to the science of rocks*. Springer Science & Business Media.
2.   Arthur Holmes 1945, Principles of Physical Geology, Thomas Nelson and sons, Limited, 532 pages.
3.   A K Dutta 1994. Introduction to Physical Geology, Kalyani Pub, 233 pages.
4.   Kale, V.S. and Gupta, A. 2001. Introduction to Geomorphology. Orient Longman, New Delhi.
5.   Best, M. G. 2003. *Igneous and metamorphic petrology*. John Wiley & Sons.
6.   Billings, M. P. 1954. *Structural geology*.
7.   Krishnan, M. S. 1943. *Geology of India and Burma*.
8.   Kumar, R. 2010. *Fundamentals of historical geology and stratigraphy of India*.
9.   Mahapatra, G. B. 1987. *A textbook of geology*. CBS Publishers & Distributors Pvt, India.
10.   Rutley, F., & Read, H. H.(2017. *Elements of mineralogy*. Franklin Classics.
11.   Sengupta, S. M. 2007. *Introduction to sedimentology, 2e (PB)*.
12.   Stow, D. A. 2005. *Sedimentary rocks in the Field: A color guide*. Gulf Professional Publishing.
13.   Thornbury, W. D. 1954. Principles of Geomorphology. New York:John Wiley.
14.   Clarkson, E.N.K.1998. Invertebrate Palaeontology and Evolution, George Allen & Unwin.
15.   Raup, D.M. and Stanley, S. M. 1971. Principles of Palaeontology, W.H. Freeman and Company.
16.   Benton, M. 1997. Basic Palaeontology: An introductory text, D.Harker, Addision Wisely Longman.
17.   Prothero, D.R. 1998. Bringing fossils to life – An introduction to Palaeobiology, McGraw Hill.
18.   Benton, M.J. 2005. Vertebrate palaeontology (3rd edition). Blackwell Scientific, Oxford.
19.   Brenchley, P. J., and Harper, D. A. T. 1998. Palaeoecology: Ecosystems, Environments and Evolution. by Chapman and Hall.
20.   Schoch, R. M. 1989. Stratigraphy, principles and methods. Van Nostrand Reinhold.
21.   Roy R. Lemon. 1990 Principles of Stratigraphy, Publisher: Longman Higher Education.
22.   Weller,J.Marvin 1960.Stratigraphic principles and practice. Harper's Geoscience series.

PREHISTORIC ARCHAEOLOGY- (Elective-I)

a. Course Objectives:

This course deals about the Prehistory of South Asia. 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.

b. Course outcome:

	Course Outcome
CO-1	Students can understand the basic outline of the Prehistory of South Asia.
CO-2	Students can remember about the basic outline of human evolution from the past.
CO-3	Students can understand the Quaternary environmental changes in reference to Indian Subcontinent

c. Course Outline

UNIT I:

Background of human evolution: Inter-relationship between biological and cultural factors - Skeletal adaptations leading to erect posture. Dietary adaptations - Early monkeys and apes - Homo Sapiens - Genetic basis for human evolution. Origin of modern Homo. - Open session: Discussions on latest findings/researches in the field of human evolution.

UNIT II:

Beginning and main stages of cultural developments - Scope, aims and principle approaches - Introduction to the Quaternary and Quaternary environments in India - Nature of Prehistoric records and Archaeological Terminology.

UNIT III:

South Asian Stone Age Sequence - The Lower Palaeolithic Acheulian - Nature and significance of the technology Distribution and Variation - Important areas and sites Chronology - The Middle and Upper Palaeolithic Nature and significance of the technology Distribution and Variation - Important areas and sites Associated Fauna Chronology.

UNIT IV:

Microlithic and Mesolithic - Nature and significance of the technology Distribution and Variation - Important areas and sites - associated Fauna Chronology - Biological remains - Methods of studying stone tools - Geological context of prehistoric sites.

UNIT V:

Prehistoric Rock Art of India - Faunal and Bio-anthropological background to Indian Prehistory - Current Trends in South Asian Prehistory.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

De Terra, H and T.T. Paterson Eds.1939. *Studies on the Ice Age in India and Associated Human Cultures.* Washington: Carnegie Institution of Washington Publication No.493.

Dennell, R. W. 2009. *Palaeolithic Settlement of Asia.* Cambridge: Cambridge University Press. Deraniyagala, S.U. 1992. *The Prehistory of Sri Lanka. An Ecological Perspective.* SriLanka: Memoir Volume Part I, II, III, Commissioner of Archaeology, Government of Sri Lanka. Dhavalikar MK, 2013 editor. Prehistory of India. New Delhi: Manohar

Henke, W., T. Hardt, and I. Tattersall. Editors. 2013. *Handbook of Paleoanthropology 3vols*: Springer. Second edition

Misra VD, and Pal JN, 2002 editors. Mesolithic India. Allahabad: Department of Ancient History, Culture and Archaeology, University of Allahabad.

Neumayer, E. 2010. *Rock Art of India.* Oxford and New Delhi: Oxford University Press. India. ISPQS Monograph No.6. Available in e-format: www.manandenvironment.org.

Paddayya K and Sushama G. Deo. 2017. *Prehistory of South Asia (The Lower Palaeolithic or Formative Era of Hunting-Gathering).* The Mythic Society: Bengaluru.

Pappu, R. S. 2001. Acheulian culture in peninsular India: an ecological perspective. New Delhi:D.K. Print world.

Indus Valley Civilization-(Elective-II)

L T P C
5 0 0 3

a. Course objective:
To enable the students to acquire knowledge and understanding of the past glory of Indus valley civilization and its culture.

b. Course Outcome:

	Course Outcome
CO-1	Students are able to know the origin of Indus valley Civilization.
CO-2	Students are remember about the Different old world civilizations
CO-3	Students are able to understand the Harappan Domains system

c. Course Outline:

Unit-I:
Sources – Discovery - Indus valley Civilization - Town Planning – Indus script – Maritime trade - Social –Economic and Religious life -Vedic age - Life in the Rig Vedic period - Later Vedic period – Upanishads.

UNIT-II:
Civilization, Definition and various characteristic features
   a. Different old world civilizations, Introduction to Mesopotamia: Early Dynastic Period:
   b. 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-III:
   Pre/Early Harappan cultures in Indian Subcontinent – their distribution – cultural features of Early Harappan.

UNIT-IV:
   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-V:
   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.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K4

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. 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.

Asthana, Shashi 1985. *Pre Harappan C u l t u r e s of India and Borderlands*. New Delhi: Books and Books.

Agrawal D.P. and D. Chakrabarti (Eds.) *Essays in Indian Protohistory*. New Delhi: D.K. Publishers.

Bisht, R. S. 1989. The Harappan colonization of Kutch: an ergonomic study with reference to Dholavira and Surkotada. In K. Deva and L. Gopal (Eds.) *History and Art* (pp. 265-72). Delhi: Ramanand Vidya Bhavan.

Bisht, R.S. 2000. Urban Planning at Dholavira: A Harappan City. In J. M. Malville and L.M. Gujral (Eds.), *Ancient Cities, Sacred Skies: Cosmic Geometries and City Planning in Ancient India* (pp. 11-23). New Delhi: Aryan Books International.

Bottero, J., E. Cassin and J. Vercoutter (Eds.) 1967. The Near East: The Early Civilizations. New York

Chakrabarti, D.K. 1990. *The External Trade of the Indus Civilization*. New Delhi: Munshiram Manoharlal.

Dales, G. F. 1966. The Decline of the Harappans, *Scientific American* 214 (5): 93-100.

Dales, G.F. and J.M. Kenoyer. 1986. *Excavations at Mohenjo Daro: The Pottery*. Philadelphia: The University of Pennsylvania.

Fairservis, Walter, A. 1967.The Origin, Character and Decline of an Early Civilization. *American Museum Novitates* 2: 302:1 48.

Fairservis, Walter, A. 1992. *The Harappan Civilization and its Writing*. New Delhi: Oxford and IBH Publishing Co.

Hargreaves, H. 1929. Excavations in Baluchistan 1925, Sampur Mound, Mastung and Sohr Damb, Nal, *Memoirs of the Archaeological Survey of India* 35: 17-89.

James, T.G.H. 1979. An Introduction to Ancient Egypt. London.

Jarrige, J.F. and R.H. Meadow 1980. The Antecedents of Civilizations in the Indus Valley. *Scientific American* 243(2): 122 133.

Joshi, J.P. 2008. *Harappan Architecture and Civil Engineering*. New Delhi: Rupa & Co.

Kenoyer, J.M. 1991. The Indus Valley Traditions of Pakistan and Western India, *Journal of World Prehistory* 5(4):331 385.

Kenoyer, J.M. 1992. Harappan Craft Specialization and the Question of Urban Segregation and Stratification, *The Eastern Anthropologist* 45(1&2):39- 54.

Kenoyer, J.M. 1998. *Ancient Cities of the Indus Valley Civilization.* Karachi: Oxford
University Press.

Kenoyer, J.M. 2008. Indus Civilization in Encyclopedia of Archaeology, Vol.1 (Ed. Deborah M. Pearsall) pp.715-733. New York: Academic Press.

Khan, F. A. 1964. Excavations at Kot Diji, *Pakistan Archaeology* 1: 39-43.

Lal, B.B. and S.P. Gupta (eds.) 1984. *Frontiers of the Indus Civilization*. New Delhi: Books and Books.

Madella M, Fuller DQ (2006) Palaeoecology and the Harappan Civilisation of South Asia: a reconsideration, *Quaternary Sci Rev* 25:1283–1301.

McIntosh, J., 2007. *The Ancient Indus Valley: New Perspectives.* ABC-CLIO, Santa Barbara.

Majumdar, N. G. 1934. Explorations in Sind. *Memoirs of the Archaeological Survey of India,* 1-172.

Mughal, M.R. 1997. *Ancient Cholistan*. Lahore: Ferozsons.

Mughal, M.R. 1990. Further Evidence of the Early Harappan Culture in the Greater Indus Valley, *South Asian Studies* 6:175 200.

Ahmed, Mukhtar. 19xx Ancient Pakistan: an Archaeological History, Vol.2, Postgate, J.N. 1992. Early Mesopotamia. London

Possehl, G.L. (ed.) 1979. *Ancient Cities of the Indus.* New Delhi: Vikas Publishing House.

Possehl, G.L. 1980 *Indus Civilization in Saurashtra*. Delhi: B.R. Publishing House.

Possehl, G.L. (ed.) 1993 *Harappan Civilization A Recent Perspective*. New Delhi: Oxford and IBH Publishing Co.

Possehl, G.L. 1999. *Indus Age The Beginnings*. New Delhi: Oxford and IBH.

Possehl, G.L. 1992. The Harappan Civilization in Gujarta: The Sorath and Sindhi Harappans, *Eastern Anthropologist* 45(1-2):117-154.

Possehl, G.L. and C.F. Herman 1990. The Sorath Harappan A New Regional Manifestation of the Indus Urban Phase in *South Asian Archaeology* Vol.1(Eds. M. Taddei and P. Calliero) pp. 295-319. Roma: Instituto Italiano peril Medio ed Estremo Oriente.

Rao, S.R. 1963. Excavations at Rangpur and Other Explorations in Gujarat, *Ancient India* 18 19:5 207.

Rao, S.R. 1973. *Lothal and the Indus Civilization*. Bombay: Asia Publishing House.

Ratnagar, S. 1981. *Encounters. The Westerly Trade of the Harappan Civilization*. Delhi:Oxford University Press.

Ratnagar, S. 1991. *Enquiries into the Political Organization of Harappan Society*. Pune:Ravish Publishers.

Ratnagar, S., 2006. *Understanding Harappa: Civilization in the Greater Indus Valley*. Tulika Books, New Delhi.

Indian Iconography - (Elective-II)

a. 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.

b. Course Outcome:

	Course Outcome
CO-1	Students are able to understand the different iconographic traditions in the Indian Subcontinent
CO-2	Students can understand in concern to the various religious ideas and trends in India.

c. Course Outline:

UNIT I:

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 II:

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 and Surya,
d. Composite forms – Harihara, Ardanariswarar, Sarabeswarar
e. Karttikeya: Forms and Regional Traits of Kartikeya Images
f. Development of Iconography of Goddesses: Saptamatraka, Durga, Lakshmi, Saraswati, Mahishsuramardini, Chamunda, Bhairavi, Regional traits of Shakta iconography
g. Other Important divinities: Ashtadikpalas and Navagrahas.

UNIT III:

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
e. Bodhisattvas: Concept and symbolism, emergence and development of Bodhisattva images, Avalokiteshvara, Vajrapani, Maitreya, Manjushri
f. Female Buddhist deities: Origin and development, Tara, Pradnyaparamita, Chunda, Bhrukuti, Marichi, Vasudhara, Mahamayuri, Hariti.
g. Important Buddhist Deities: Trilokyavijaya, Aparajita, Shambara, Jambhala

UNIT IV:

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

UNIT V:

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

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

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

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

Bakkar, Hans.1997. *The Vakatakas an Essay in Hindu Iconology* (Gonda Indological Series).

Groningen: Egbert Forsten. 1989. *Buddhist Iconography.* New Delhi: Tibet House.

Banerjee, J.N.1974. *Development of Hindu Iconography.* New Delhi: Munshiram Manoharlal. Balaji, P.D., 2012, *Rock cut temples of Early Pandyas of Tamilnadu,* Delhi, New Bharathiya Book Corporation,

Bhattacharya, A.K.2010. *Historical Development of Jaina Iconography*
(A comprehensive study), Delhi: Bharatiya Kala Prakashan.

Bhattacharya, B. 1958. *Indian Buddhist Iconography.* Calcutta: K. L. Mukhopadhyaya.

Bhattacharya, D. 1980. *Iconology of Composite Images.* New Delhi: Munshiram Manoharlal Publications.

Bruhn, Klaus 1963. *Jina Images of Deogarh vol.I.* Leiden: Brill.

Champaklakshmi, R.1981. *Vaishnava Iconography in the Tamil Country.* Delhi: Orient Longman.

Chawla, J.1990. *The Rigvedic Deities and their Iconic Froms.* New Delhi: Munshiram Manoharlal.

Czuma, Stanislaw.J.1985. Kushana sculpture: Images from early India. Ohio: The Cleveland Museum.

Dandwate P. P. 1995. "A Cultural Study of Brahmanical Syncretistic Icons" Pune: *Ph.D.Thesis Submitted to University of Pune.*

Deglurkar, G.B. 2004. *Portrayal o f the Women in the Art and Literature of the Ancient Deccan.* Jaipur: Publications Scheme.

Deglurkar, G.B. 2007. *Vishnumurti Namastubhyam.* Sri Dwarkadhish Charities, Karnala, Raigad.

Daheja, Vidya 1986. *Yogini Cult and Temples.* New Delhi: National Museum.

Desai, Devangana 1996. *The Religious Imagery of Khajuraho.* Mumbai: Project for the Indian Cultural Studies Publication.

Desai, Kalpana 1973. *Iconography of Vishnu.* New Delhi: Abhinav Publications.

Gopinath Rao, T.A. 1985. (2nd ed.) *Elements of Hindu Iconography.* Varanasi: Motilal Banarasidas.

Gupte, R.S. 1971. *Iconography of Hindus, Buddhists and Jainas.* Bombay: D.B. Taraporewala Sons and Co.

Huntington, Susan 1984. *The Pala-Sena S c h o o l of Sculpture.* Leiden: E. J. Brill.

Joshi N.P. 1966. *Mathura Sculptures.* Mathura: Archaeological Museum.

Joshi, N.P.1979. *Bhartiya Murtishastra. Nagpur: Maharashtra Grantha Nirmiti .*

Mandal. Kamalakar, G.(ed.).1993. *Vishnu in Art Thought and Literature.* Hyderabad: Birla Archaeological and Cultural Research.

Kim, Inchang.1997. *The Future Buddha Maitreya: An Iconological Study.* New Delhi: D. K. Print World.

Khandalwala, Karl (ed.) 1991. *Golden Age: Gupta Art Empire, Province and Influence.*Bombay: Marg Publications.

Krishnan, Y.1996. *The Buddha image: Its origin and Development.* New Delhi: Munshiram Manoharlal Pvt. Ltd.

Lal, Shyam Kishor 1980. *Female Divinities in Hindu Mythology and Ritual.* Pune: University of Poona

Liebert, Gosta 1985, *Iconographic Dictionary of the Indian Religions: Hinduism, Buddhism and Jainism.* Delhi: Sri Satguru Publications.

Lokesh, Chandra 1987. *Buddhist Iconography 2 vols.* New Delhi: Aditya Prakashan.

Mani, V.R.1995. *Saptamatrikas in Indian Religion and Art.* New Delhi: Mittal Publications.

Mishra, Rajani 1989. *Brahma-Worship, Tradition and Iconography.* Delhi: Kanishka Publication House.

Mishra, Ramnath 1981. *Yaksha Cult and Iconography.* New Delhi: Munshiram Manoharlal.

Mukhopadhyay, Santi Priya1985. *Amitabha and his Family.* Delhi: Agam Kala Prakashan.

Nagar, Shanti Lal 1988. *Mahishasurmardini in Indian Art.* New Delhi: Aditya Prakashan.

Panikkar, Shivaji. K.1997. *Saptamatraka W o r s h i p and Scultures , An Iconological Interpretations of Conflicts.* New Delhi: D.K.Print world.

Parimoo, Ratan 1982. Life of Buddha in Indian Sculpture (Ashta-Maha-Pratiharyan): An Iconological Analysis. New Delhi: Kanak Publications.

Pushpendra Kumar 1993. *Tara: The Supreme Goddess.* Delhi Bharatiya Vidya Prakashan.

Ramachandra Rao 1988-91. Pratima Kosa- *Encyclopedia of Indian Iconography 6 vols.*Bangalore: Kalpataru Research Academy.

Reechard, J.Cohen 2003. *Essays on Jaina Art.* New Delhi: Manohar Publications.

Sahai, Bhagwant 1975. *Iconography of Minor Hindu and Buddhist Deities.* New Delhi

Sahai, Bhagwant 2006. *Recent Researches in Indian Art and Iconography.* Missouri: Kaveri Prakashan.

Sarma, I.K.1982. *The Development of Early Shaiva Art and Architecture. (With Special Reference to Andhradesha).* Delhi: Abhinava Publications.

Sinha, Kanchan 1979. *Karttikeya in Indian Art and Literature.* Delhi:Sundeep Prakashan.

Shah,U.P. 1987. Jaina Rupmandana. New Delhi: Abhinav Publication.

Shastri, T. Ganpati. (Ed.) 1966. S*amaranganasutradhara of Bhoja*. Baroda: Oriental Institute.

Shaw, Marinda 2008. *Buddhist Goddesses of India.* New Delhi: Munshiram Manoharlal Pvt.Ltd.

Sivrammurti, C.1961. *Indian Sculpture*. New Delhi: Allied Publishers Pvt. Ltd.

Sivaramamurty, C. 1963. *South Indian Bronzes.* New Delhi: Lalit Kala Academy.

Soundara Rajan, K. V.1982. *India's Religious Art*. New Delhi: Cosmo Publication.

Sthapati V. Ganapati and Sthapati 2006. *Indian Sculpture and Iconography.* Ahmadabad:Mapin Publishing.

Upadhyaya, Vasudev 1970. *Prachin Bharatiya Murti Vijnana (Hindi)*. Varanasi: Chowkhamba Sanskrit Series.

Vyas, R.T. 1995. *Studies in Jaina Art and Iconography and allied Subjects in Honour of U.P.Shah.* Vadodara: Oriental Institute.

Yadava, Nirmala 1997. *Ganesha in Indian Art and Literature.* Jaipur: Publications Scheme.

Zimmer, Heinrich 2010. *Myths and Symbols in Indian Art and Civilization,* New Delhi: Motilal Banarassidas.

SEMESTER – II

INDIAN HISTORY – I (6TH century BCE TO 6TH century CE)
(Core-IV)

L T P C
6 0 0 5

a. 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 cannot 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.

b. Course Outcome:

	Course Outcome
CO-1	Students can understand clearly about Indian History.
CO-2	Students are able to know the sources and political settings of India upto 6th century C.E
CO-3	Students are well verse to apply with different analytical approaches and models of interpretation.
CO-4	Students can gain the historical back ground for his archaeological research.

c. Course outline:

UNIT I:
Sources: Archaeology, Epigraphy, Numismatics, literature and foreign accounts - India during 6th century BCE -The growth of Janapadas and kingdoms.

UNIT II:
The rise of Magadha: Bimbisar, Ajatasatru, Mahapadma Nanda - Achaemenian and Macedonian invasions.

UNIT III:
The Mauryan Empire- Mauryan Polity and administration, Asoka's Dhamma - Decline of the Mauryan Empire - The Sungas and Indo-Greeks - Kharavela of Kalinga: Achievements - Sakas- Kushanas- Expansion, Administration.

UNIT IV:
The Guptas- origin, expansion, polity and administration - Decline of the Gupta Empire - The Western Kshatrapas – Vakatakas.

UNIT V:
Sanagam dynasty of ancient Tamilagam - Satavahanas, Expansion, Administration - Early Pallavas, Early Pandyas and Early Cheras.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K4

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

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

Chattopadhyaya, B. D2003: *Studying Early India: Archaeology, Texts and Historical Issues*, New Delhi.

H.C. Raychaudhuri,1996, *Political History of Ancient India with a commentary by B.N. Mukherjee,* New Delhi, (8[th]edition).

Habib, Irfan: *A People's History of India (Relevant volumes),* New Delhi.

Jha, D. N. 1998: *Ancient India: An Introduction,* New Delhi

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

Majumdar R.C. (Ed.): 1971. *The Age of Imperial Kannauj*: Bombay: Bhartiya Vidya Bhavan.

Majumdar R.C. (Ed.): 1970. *The Classical Age*, Bombay: Bhartiya Vidya Bhavan.

Majumdar R.C. (Ed.): 1971. *The struggle for the Empire:* Bombay: Bhartiya Vidya Bhavan.

Majumdar R.C. and A.D. Pusalkar (Ed.): 1950. *The Vedic Age*: Bombay: BhartiyaVidya Bhavan.

Majumdar R.C. Raychowdhari H.C, and K. Dutta (1961), *Advanced History of India*: London: Macmillan.

Sharma, R. S: 2005. *India's Ancient Past,* New Delhi,.

Sastri K.A.N.: 1974. *A History of South India,* Madras.

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

Thapar, Romilla: 1973. *Ashoka and the Decline of Mauryas* (2[nd]Ed.) Oxford University Press.
-------------------: 2002. *Early India: From the Origins to AD 1300,* London.

Tripathi, R. S.: 1942. *History of Ancient India.*

K.A. Nilakantha Sastri, 1955. *The Colas,* University of Madras, Chennai.

Kesavan Veluthat, 1993. *The Political Structure of Early Medieval South India*.

INDIAN EPIGRAPHY - (Core-V)

L T P C
6 0 0 5

a. 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.

b. Course Outcome:

	Course Outcome
CO-1	Students can understand clearly about on the ancient scripts such as Brahmi, Kharoshti, Tamil-Brahmi, Grantha and Indian scripts.
CO-2	Students are able to read the decipher and scripts with the help of paleographic features of the script.
CO-3	Students will also understand the different usages of language.
CO-4	Students are able to interpret the inscription in its socio-politico-religion and economical context.

c. Course Outline:

UNIT I:

Epigraphy as an archaeological source, Structure of an inscription - importance of epigraphy- Origin of writing in general, ancient system of writing - History of decipherment, - Materials and Techniques of Writing - Indus Script, its significance and importance –different theories and schools of thoughts.

UNIT II:

Brahmi and Kharoshti Scripts: Orthography and Decipherment of letters and Numerals - Theories of Origin of Brahmi and Kharoshthi 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 - Selective study of Asokan Rock edicts - Pillar edicts - Nagari script – Other north Indian scripts.

UNIT III:

Origin of writing in South India - Tamil-Brahmi, Vatteluttu and Grantha and other scripts of South India – decipherment, palaeography and chronology – Terminology – Eras.

UNIT IV:

Field study – reading methods of inscriptions, estampage - Detail study of inscriptions - Important Asokan 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 - Junagarh Inscription of Rudradamana - Allahabad Prashasti of Samudragupta - Mathura Inscription of Chandragupta II, -Indore Plates of Pravarasena II.

UNIT V:

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

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K4

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

Allchin, F.R. and K.R. Norman 1985. *Guide to the Ashokan Inscriptions*, South Asian Studies, I: 49-50.

Bhandarkar, D.R. 1981. *Inscriptions of the Early Gupta Kings* (Bahadurch and Chhabra and Govind.

Buhler, G. 1968. Indian Palaeography, Indological Book House, Delhi.

Bhandarkar, D.R. 1935-36. *A List of the Inscriptions of Northern India in Brahmi and its Derivative Scripts, from about 200 B.C.* Appendix to Epigraphia Indica vols. 19-23.

Bühler, George 1892. *A New Variety of the Southern Maurya Alphabet*, Winer Zeitschrift für die Kunde des Morgen Landes (Vienna Oriental Journal), vol. 6: 148-156.

Bühler, George 1898. *On the Origin of Indian Brahma Alphabet.* Strassburg: Karl J. Trubner.

Burnell, A.C. 1878. Elements of South Indian Palaeography, 1840-1882.

Hultzch, D. 1969 (Reprint). *Corpus Inscriptionum Indiacarum. Vol.I.* Varanasi: Indological Book House.

Mahadevan, I., 2003. Early Tamil Epigraphy, Cre-A, Chennai.

Mahalingam, T.V. 1967.Early South Indian Palaeography, University of Madras, Chennai.

Mangalam, S.J. 1990. *Kharoshti Script.* Delhi: Eastern Book Linkers.

Mehendale, M.A. 1948. *Historical Grammar of Inscriptional Prakrits.* Poona: Deccan College Post Graduate and Research Institute.

Mehendale, M.A. 1948. *Asokan Inscriptions in India (Linguistic Study together with Exhaustive Bibliography).* Bombay: University of Bombay.

Mirashi, V.V. 1981. *The History and Inscriptions of the Satavahanas and the Western Kshatrapas.* Bombay: Maharashtra State Board of Literature and Culture.

Pandey, R. 1957. *Indian Palaeography.* Delhi: Motilal Banarasidas.

Rajan, K, 2015, *Early System of Writing, Madurai*

Raghunath, K. 1998. *Ikshvakus of Vijaya Puri: Study of the Nagarjunakonda Inscriptions.*
Delhi: Eastern Book Linkers.

Ramesh, K.V. 1984. *Indian Epigraphy.* Delhi: Sundeep Prakashan.

Salomon, Richard 1998. *Indian Epigraphy.* New Delhi: Munshiram Manoharlal Publishers Pvt.Ltd.

Shastri, A.M. 1996-97. Some Observations on the Origin and Early History of the Vikrama Era, *Prachya Pratibha*, vol. XVIII: 1-51.

Shastri, A.M. 1966. The Saka Era, *Panchal,* vol. 9: 109-132. Sircar,

D.C. 1965. *Indian Epigraphy.* Delhi: Motilal Banarasidas.

Shrinivas Ritti, 1985. *A Decade of Epigraphical Studies in South India*, Karnatak University, Dharward.

Sircar, D.C. 1986 (3rd edition*). Select Inscriptions.* Vol. I. Delhi: Asian Humanities Press.

Sivaramamurthy, I*ndian Epigraphy and South Indian scripts.*

Srinivasan, P.R. and S. Sankaranarayanan 1979. *Inscriptions of the Ikshvaku Period.* Hyderabad: Andhra Pradesh Government.

Subramanian, T.N. *Pandait Tamil   Eluttukkal (Tamil)   South Indian Temple Inscriptions, Vol.III, pt 1.*

Subramanian, T.N. *South Indian Temple Inscriptions, Vol. III, pt 1.*

Swamirao Gai eds. *Corpus Inscriptionum Indicarum vol. III.* New Delhi: Archaeological Survey of India.

NORTH INDIAN ARCHITECTURE - (Core-VI)

L T P C
6 0 0 4

a. Course Objectives:

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

b. Course Outcome:

	Course Outcome
CO-1	Students are able to know the salient features of North Indian architecture.
CO-2	Students can understand the various architectures in Stupa, Rock-cut, temples, etc.
CO-3	Students can identify design and decorative scheme in various religious monuments.

c. Course Outline:

UNIT I:

Stupa and Rock-cut Architecture: Significance of Indian architecture: background - Origin and evolution of Stupa architecture.

UNIT II:

Early Rock-cut architecture: Mauryan architecture - Viharas and Chaityas - Jaina caves: Udayagiri, Khandagiri, etc. - Brahmanical caves: Udayagiri (MP), Badami, Aihole, Ellora, Elephanta, etc.

UNIT III:

Temple Architecture: Origin and types of Indian Temple styles- Gupta Temples: Types and characteristics- Nagara temple style: definition, variations.

UNIT IV:

Eastern India- Kalinga architecture - Three Broad Architecture Orders: Rekha-deul, Pidha-deul and Khakhara-deul – Plan, Design and Decorative scheme - Bhubaneshwar, Puri, Konarka, etc.

UNIT V:

Central India- Pratihara Temples in Central India – Khajuraho and others-Western India- Gop, Modhera, etc.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

Fergusson,J: 1876. *History of Indian and Eastern Architecture.*

Coomaraswamy, A.K: *1972. History of Indian and Indonesian art (reprint).*

Brown, Percy: 1959. *Indian Architecture (Hindu and Buddhist periods).*

Balaji, P.D., 2012. *Rock cut temples of Early Pandyas of Tamilnadu.*

Rowland,B: 1967.*The Art and Architecture of India.*

Meister,M.W(ed.): 1983. *Encyclopaedia of Indian Temple Architecture: South India, lower Dravidadesa,* BC 200-1324 A.D.

Meister,M.W, Dhakey, MA and Krishna Deva (eds.): 1986. *Encyclopaedia on Indian Temple.*

Architecture: 1988. *North India, foundations of N. Indian styles* (250 BC-1100 A.D).

Meister,M.W Dhakey, MA (eds.): 1946. *Encyclopaedia on Indian Temple.*

Architecture: 1986. *South India,upper Dravidadesa, early phase* (A.D 550-1075).

Kramrisch, Stella: 1976. *The Hindu Temple,*Vols-2.

Zimmer,H: 1955.*The Art of Indian Asia.*

Sivaramamurti,C: 1977. *The Art of India.*

Bhattacharya,T: 1963. *The Canons of Indian Art or A Study on Vastuvidya*.

Dhaky, M.A: 1977. *The Indian Temple Forms.*

Majumdar,R.C (ed.): 1069. *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*.

Srinivasan, K.R: 1971.*Temples of south India*.

Duberuil, Jouveau,: 1972. *Dravidian architecture,* reprint.

Donaldson,T.E: 1985. *Hindu Temple art of Orissa,* 3 Vols.

Soundarajan, K.V: 1972. *Indian Temple Styles.*

Harle, James, C: 1961. *Temple Gateways in south India.*

GEOPHYSICS IN ARCHAEOLOGY – (Elective-III)

L T P C
4 0 0 3

a. Course Objectives:

This course is useful for students-geophysicists, but also for students of archaeological and environmental Departments. This paper focuses on Geophysical methods in archaeological sites and its applications.

b. Course Outcomes (CO):

At the end of the course, the student will be able to

	Course Outcome
CO-1	Students remember the archaeology and museum and understand the relation between history and archaeology
CO-2	Students can understand the various exploration techniques in field archaeology
CO-3	Students are capable of analyzing geophysical statements in archeology, palaeodisaster, sedimentation and stratigraphy, radiocarbon dating,
CO-4	Can apply and utilizing geophysical methods to describe subsurface conditions in archaeological fields.

C. Course Outline

UNIT – I: Introduction:

Magnetic properties of mineral systems: Solid- Solid – Solution of oxides of iron – magnetite, haematite maghemites, titanomagnetites, haematite –ilmenite solid solution and pyrrhotites – Intrinsic properties, magnetization process, weak field remanence. Remanence properties- NRM, TRM, CRM, DRM, VRM, PRM – their mechanisms.Thermal demagnetization technique – partial TRM – Primary and Secondary magnetization – Testing for stability of remanence.

UNIT – II: Magnetic methods in archaeology

Geomagnetic elements of the earth – Field variation and detection - The Magnetic observatory – mapping of secular variations. Diurnal variation of magnetic disturbances – initial susceptibility of rocks – single and multidomain cases – Curie point determination and its importance. Laboratory and field instruments for magnetic measurements – spinner magnetometer – Fluxgate magnetometer, Proton procession magnetometer – Theory, practice, and applications.

UNIT –III: Gravity methods in archaeology
Gravity field - Density properties of soil, rocks and archaeological targets - Gravity field of the Earth, Gravity field anomalies (positive and negative) over typical archaeological objects. Examples of quantitative interpretation over archaeological targets.

UNIT – IV: Electrical and Self-Potential methods in archaeology
Resistivity field: Electric properties of geological rocks and archaeological targets - Quantitative interpretation of resistivity anomalies - Application of resistivity method in archaeology. Self-Potential (SP) method - Physical-geological limitations of SP method - Quantitative interpretation of SP anomalies caused by archaeological targets.

UNIT – V: Other Geophysical methods in archaeology:
Physical principles of GPR - Methodology of field measurements - Examples of GPR application at various archaeological sites - Global positional system and archaeology - Metal detector Induced polarization - Near-surface seismic prospecting - Recognition of ancient earthquake patterns.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

1. Aitken, M.J., 1974. *Physics and Archaeology*. Oxford University Press, London.
2. Conyers, L. B. (2016). *Interpreting ground-penetrating radar for archaeology*. Routledge.
3. Conyers, L. B. (2018). *Ground-penetrating radar and magnetometry for buried landscape analysis*. Springer.
4. David, A., English Heritage, Linford, N., & Linford, P. (2008). *Geophysical survey in archaeological Field evaluation*.
5. Goldberg, P., Holliday, V. T., &Ferring, C. R. (2001). *Earth sciences and archaeology*. Springer.
6. Goodman, D., &Piro, S. (2013). *GPR remote sensing in archaeology*. Springer Science & Business Media.
7. Herz, N., & Garrison, E. G. (1998). *Geological methods for archaeology*. Oxford University Press on Demand.
8. Oswin, J. (2009). *A Field guide to geophysics in archaeology*. Springer Science & Business Media.
9. Telford, W.M., Geldart, L.R. and Sheriff, R.E., 2001. Applied Geophysics, Cambridge University Press, Cambridge.
10. Vogell, A. and Tsokas, G.N. (Eds.), 1993. *Theory and practice of applied geophysics*, v. 7, Geophysical Exploration of Archaeological Sites, Vieweg Verlag, Wiesbaden.

BIOARCHAEOLOGY- (Elective-IV)

L T P C
4 0 0 3

a. 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.

b. Course Outcome:

	Course Outcome
CO-1	Students are able to know the various sub branches of Archaeobotany, Quaternary Palaeontology and Archaeozoology and their applications.
CO-2	Students can Understand about biological remains of human, animals, and plants from archaeological sites and their applications.
CO-3	Students can apply with the methods and scientific techniques used in Bio-archaeology.

c. Course Outline:

UNIT I:

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

UNIT II:

Palaeobotany and its study methods - Role of palaeobotany in the reconstruction of palaeoenvironment - Palaeo botanical analysis: study of seeds, grains, phytoliths, pollens, coprolites - Theories of Plant domestication and Origin of Agriculture - Paleo botanical research in Indian subcontinent; Neolithic, Harappan, Chalcolithic, Iron age and Historic period. Extraction of DNA from plant samples, molecular characterization and identification of species.

UNIT III:

Paleontology, definition, scope - Palaeontology and past environmental interpretation - Reconstruction of Palaeosubsistence, Palaeoeconomy, Palaeoenvironment.

UNIT IV:

Pleistocene vertebrate fauna from the Indian Subcontinent - Taphonomy, definition and significance - Study of Microvertebrate - Dental and Bone Histology, Extraction of DNA from animal samples, molecular characterization and identification of species.

UNIT V:

Introduction to animal remains - Introduction to Archaeozoology: definition and scope - Approaches in Archaeozoological studies.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

Badam, G.L. and Vijay Sathe. 1995. Palaeontological Research in India: Retrospect and Prospect. Memoir 32, *Geological Society of India*, pp. 473-495.

Behrensmeyer, A.K. and A. Hill (eds.) 1980. *Fossils in The Making: Taphonomy and Palaeoecology*, Chicago: University of Chicago Press.

Bhattacharyya, A., Lamarche, V.C. and F.W. Telewski. 1988. Dendrochronological Reconnaissance of the Conifers of Northwest India. *Tree-Ring Bulletin*, 48:21-30.

Binford, L.R. 1981. *Bones: Ancient Men and Modern Myths.* New York: Academic Press.

Brothwell, D. ancd E. Higgs (eds.) 1969. *Science in Archaeology*, 2nd Edition. London: Thames and Hudson.

Bruce Smith 2000. *Origins of Agriculture*, New York: Plenum publications.

Bryant, V. Jr. and G.W. Dean 1975. The Coprolites of Man, *American Antiquity*, 32(1): 100-109.

Clason, A.T. 1975. *Archaeozoological Studies*, Amsterdam: Elsevier.

Classen, C. 1998. *Shells*, Cambridge University Press: Cambridge

Clutton_Brock, J. 1989. *The Walking Larder: Patterns of Domestication, Pastoralism and Predation.* London: Unwin Hyman.

Dina F. Dinacauze. 2000. *Environmental Archaeology: Principles and Practice*, Cambridge: Cambridge University Press.

Elizabeth, J. Reitz and E.S. Wing. 1999. *Zooarcheology*, Cambridge: Cambridge University Press.

Hillson, Simon. 1986. *Teeth (Cambridge Mammals in Archaeology).* London: Cambridge University Press.

Kajale, M.D., Mulholland, S. and G. Rapp Jr. 1995. Application of Phytolith Analysis:

A Potential Tool for Quaternary Environmental and Archaeological Investigations in the Indian Sub-continent. *Memoirs of the Geological Society of India* No. 32, pp 530-544.

Leiggi, Patrick and Peter May 1994. *Vertebrate Palaeontological Techniques*, Volume 1. New York: Cambridge University Press.

Reed, C. 1977. *Origins of Agriculture*. Hague: Mouton Publishers.

Deborah Ruscillo – 2015. Recent Advances in Ageing and Sexing Animal Bones. Oxford: Oxbow books.

Zeuner, F.E. 1963. *A History of Domesticated Animals*. London: Hutchinson.

DATING METHODS IN ARCHAEOLOGY – (Skill Enhancement -I)

L T P C
4 0 0 2

a. Course Objectives:

This course will provide the understanding the methods of fixing the chronology using relative methods. The student will able to writing of Archaeological reports like archaeologist and apply the methods used by anthropologists to gather and interpret data in an independent research project.

b. Course Outcome (CO)

	Course Outcome
CO-1	Students can understand the methods of fixing the chronology using relative methods.
CO-2	Students can understand the methods of data interpretation.
CO-3	Students can apply to conduct exploration and excavation.
CO-4	Students can learn to writing of Archaeological reports like archaeologist.

C. Course Outline:

Unit - I
Dating Methods: Relative Dating Methods
Chemical Analysis of Bones
Varves
Obsidian Hydration
Problems in Relative Dating

Unit-II
Absolute Methods:
Dendrochronology
Radiocarbon Method (c14 Method)
Thermoluminescence Method (TL)
Problems in Chronometric Dating

Unit-III
Other Dating methods
OSL Dating
Potassium Argon Dating
Electorn Spin Resonance Spectroscopy
Fission Track method
Amino Acid Recimisation

Unit-IV
Stratigraphy
Conformable strata
Sequence
Unconformity
Sequence stratigraphy
Magnetostratigraphy
Paleomagnetism
Normal and reversed paleomagnetism

Unit-V
Palaeo-environmental reconstructions
Parameters for Palaeo-environmental reconstructions
Reconstructing Ancient Vegetation
Reconstructing Ancient Fauna
Reconstructing Climatic Variations from Sediments
Correlation of various stages of Quaternary Period with bio-cultural evolution of man

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	M	PSO1 to PSO8	M	K1-K4

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

1. Agrawal D.P.& M.G. Yadava (1995) Dating the Human Past. Pune: ISPQS.
2 . Aitken M.J. (1974) Physics and Archaeology (2nd Ed.). Oxford: Clarendon Press
3. Aitken M.J. (1990) Science based Dating in Archaeology. London: Longman
4. Fleming S.(1976) Dating in Archaeology: A Guide to Scientific Techniques. London:J.M. Dent & Sons Ltd.
5. Aitken M.J. (1990) Science based Dating in Archaeology. London: Longman.
6. Libby W.F.(1955) Radiocarbon Dating. London.
7. Michaels W.J.(1973) Dating Methods In Archaeology. London.

INDIAN HISTORY – II (6TH century CE TO 16TH century CE)
(Core-VII)

L T P C
6 0 0 5

a. 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.

b. Course Outcome:

	Course Outcome
CO-1	Students are able to understand the political settings of India upto 16th century C.E
CO-2	Students are well verse to apply with different analytical approaches and models of interpretation.
CO-3	Students can gain the historical back ground for his archaeological research.

c. Course Outline

UNIT-I:
Historiography and recent debates; sources and their interpretation, epigraphy, numismatics and literature.

UNIT-II:

Emerging Regional Powers: South India and Deccan - The Chalukyas of Badami - The Pallavas of Kanchi —— Pandyas of Madurai - The Rashtrakutas of Deccan - The Pushyabhutis of Thaneswar and Gauda under Sasanka.

UNIT-III:
Emerging Regional Powers: Western and Central India – Vakatakas, Gurjara-Pratihara - Kalachuris, Chandellas, Paramaras and Chahamanas.

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

UNIT-V:
   Other Regional Powers
      a. East
      b. West
      c. North
      d. South
   Vijayanagar Empire – origin and growth – administration – socio-economic life

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

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

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

H.C. Raychaudhuri, 1996. *Political History of Ancient India with a commentary by B.N.Mukherjee,* New Delhi, (8th edition).

Habib, Irfan: 2001. *A People's History of India (Relevant volumes)*, New Delhi.

Jha, D. N.: 1998. *Ancient India: An Introduction,* New Delhi.

Kosambi D.D.: 1985. *An Introduction to the study of Indian History* (reprint)Bombay: Popular Prakashan.

Majumdar R.C. (Ed.): 1971. *The Age of Imperial Kannauj*: Bombay: Bhartiya Vidya Bhavan.

Majumdar R.C. (Ed.): 1970. *The Classical Age, Bombay*: Bhartiya Vidya Bhavan,.

Majumdar R.C. (Ed.): 1971. *The struggle for the Empire: Bombay:* Bhartiya Vidya Bhavan,.

Majumdar R.C. and A.D. Pusalkar (Ed.): 1950. *The Vedic Age:* Bombay: Bhartiya Vidya Bhavan,.

Majumdar R.C. Raychowdhari H.C, and K. Dutta (1961), *Advanced History of India*: London: Macmillan.

Sharma, R. S: 2005. *India's Ancient Past*, New Delhi,.

Sastri K.A.N.: 1974. *A History of South India*, Madras.

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

Thapar, Romilla: 1973. *Ashoka and the Decline of Mauryas* (2nd Ed.) Oxford University Press.

--------------------: 1987. *The Mauryas Revisited,* Calcutta.

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

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

K.A. Nilakantha Sastri, 1955. *The Colas*

G. Yazdani (ed), 1982. *Early History of Deccan, 2 Vols.*

H. Kulke, 1995.*State in India (1000-1700A.D.)*

R.S. Sharma, 1965. *Indian Feudalism*

R.S. Sharma, 1987. *Urban Decay in India, c. A.D. 300 – 1000*

Kesavan Veluthat, 1993. *The Political Structure of Early Medieval South India.*

B.D. Chattopadhyaya, 1994. *Making of Early Medieval India.*

D.N. Jha, 1988. *Feudal Social Formation in Early India.*

Minakshi, C., 1977. *Social Administration Under the Pallavas*

REMOTE SENSING AND GIS – (Core-VIII)

L T P C
6 0 0 5

a. Course Objectives

This paper describes about remote sensing and GIS applications in the field of science and art subjects.

b. Course Outcomes

At the end of the Course, the student will be able to

	Course Outcome
CO-1	Students can remember the Electromagnetic energy resources, electromagnetic radiation (EMR) spectrum and Wavelength relationship.
CO-2	Students can understand the Characteristics of aerial photographs and satellite imagery.
CO-3	Students can understand the Digital image processing, Classification of satellite image and various types of remote sensing techniques.
CO-4	Students are able to apply GIS concepts and applications, able to perform GIS development and manage spatial data by utilizing GIS technology.

C. Course Outline

Unit I:
Electromagnetic energy resources, electromagnetic radiation (EMR) spectrum, EMR energy – frequency – wavelength relationship, Boltzman law, Wien Law.

Unit II :
Characteristics of aerial photographs and satellite imagery – false colour composites, photo-elemental characters, reflectance and emittance- Geosynchronous and sun synchronous orbits, location of a satellite in space, world referencing system.

Unit III:
Remote sensing plate forms - Characteristics of different remote sensing satellites and sensors, resolution, parallex, vertical exaggeration, relief displacement, mosaic, analysis and interpretations of aerial photographs and satellites imagery. Satellite remote sensing digital data products, data format and storage, preprocessing – atmospheric, geometric and radiometric correction, image rectification and registration.

Unit IV:
Digital image processing – contrast enhancement, image arithmetic, filtering, image transformation, classification of satellite image – supervised and unsupervised classification techniques, visible, thermal infra-red, microwave and hyper-spectral remote sensing principles and techniques. Advantages and disadvantages of Remote Sensing –Various application of remote sensing.

Unit V:
Definition of GIS – components of GIS – Geographical concepts – Input data for GIS – Types of output products – GIS Data types – Data representation – Data sources – Data acquisition – Geo referencing of GIS data – Spatial data errors – Spatial data structures. database management – hierarchical, network, relational, object-oriented databases, data stream – data encoding and editing, data analysis - Application of GIS.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. References:

1. Gonzalaz, F.E., Ruiz, M.J., & Acosta, F.M (2013). *Remote sensing tutorial.*
2. Clark, P.E., &Rilee M.L. (2004). *Remote Sensing Tools for Exploration.*
3. Lillesand, T.M., Kiefer, R.W &Chipman, J.W (2004). *Remote sensing and Image interpretation.*
4. Bakker, H.B., Janssen, L.L.F., Reeves, C.V., Gorte, B.G.H., Pohl, C., Weir, M.J.C.,Horn, J.A., Prakash, A., &Woldai, T. (2001). *Principle of Remote Sensing.*
5. Guha, P.K., (2003). *Remote sensing for Beginner – EWP*, New Delhi.
6. Arnold, R.H.,(1997).*Interpretation of air-photo and Remotely sensed imagery*,Printice-Hall, New Jersey.
7. Drury, S.A. (1993). *Image Interpretation in Geology* – Chapman Hall, London.

MARINE ARCHAEOLOGY- (Core-IX)

L T P C
6 0 0 5

a. 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.

b. Course Outcome:

	Course Outcome
CO-1	Students can understand the origin and development of marine archaeology.
CO-2	Students can understand the principles and methods in marine archaeology and various technologies involved in marine archaeology.
CO-3	Students can able to demonstrate a high-level knowledge of the history and practice of maritime and underwater archaeology.
CO-4	Students can analyze the nature of underwater cultural heritage management practice and theory
CO-5	Students can apply in a maritime archaeological context; undertake their work as independent professional archaeologists or cultural heritage managers.

c. Course Outline:

UNIT I:

Introduction, Definition and scope: Definitions of Nautical/ Underwater/Marine/maritime Archaeology, Pros and cons, why UWA studies - Development of underwater Archaeology in India, Achievements in underwater archaeology - Maritime culture landscape, coastal archaeology, Submerged pre-historic site and harbours - Shipyards, ship abandonment, Anchors and Anchorages, Navigational Investigations and instruments - Maritime communities and ethno-archaeology - Riverine archaeology, UWA in Global perspectives - 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 II:
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 - Integrated geo-scientiphic studies for underwater archaeological explorations, Marine Archaeology: Acoustic Systems - Bathymetric Survey - Echo-Sounders - Multibeam Swath Systems - Bottom-Classification Systems – Side scan Sonar - Sub-Bottom Profiling - Magnetometry - Submersibles: ROVs and AUVs -Aerial Photography.

Unit-III

State-of-the-art technology for marine archaeology: Camera and Videography, Systems for short term monitoring of underwater documentation - Underwater excavation - Diving techniques: Basics physics of diving, Divers safety; tracking and guidance - Digital library perspectives. Synthesis and storage, mapping and documentation of maritime archaeological data, spatial geomatics.

UNIT IV:

Ports and Harbour - Introduction, Definitions, scope and importance, Historical background, explorations and excavations. Some case histories in India - 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 (Korkai, Alagankulam, Kaveripattinam (Pumpuhar), Arikamedu) Karnataka (Karwar, Mangalore); Kerala (Kollam, Muzris, Cochin) - Ancient Ports: Tamil Nadu, Andhra Pradesh, Orissa, Ports of Ganga and Indus delta -

UNIT V:

The archaeology of shipwrecks, documentation and *in-situ* recording process, ship reconstruction - Historical naval architecture practices as a guide to ship reconstruction - Early Traditional ship building, sea-faring activity, medieval and post-medieval ship building activity.

Maritime trade and commerce, Introduction, Importance: Harappan period-Early Historic period - Historic period - Medieval period - Colonial period.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K4
CO5	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

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

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

Dean, Martin, et.al.,(ed) 1995. Archaeology Underwater – *The NAS Guide to Principles and Practice,* Nautical Archaeology Society, Archetype Publications Ltd., London.

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

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

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

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

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

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

SOUTH INDIAN ARCHITECTURE - (Core-X)

a. 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.

b. Course Outcome:

	Course Outcome
CO-1	Students are able to know the salient features of South Indian architecture.
CO-2	Students can Understand the various architectures in Stupa, Rock-cut, temples, etc.,
CO-3	Students can identify the structural remains in South India.

c. Course outline

UNIT I:
Stupa and Rock-cut Architecture - Significance of Indian architecture: background: South Indian Buddhist Architecture: Stupa, Chaitya and Vihara – Distinct features – Buddhist Sites in South India – Buddhist Temples and Buddhist University (Nagarjunakonda). – Three styles of temple architecture.

UNIT II:
Rock-cut Architecture: Rock-cut technique – Nature and form of early Rock-cut cave – Rock-cut caves at Aravalam – Pallava Rock-cut Caves: Mahendra Style and Mamalla Style – Rock-cut caves of Pandyas and Other Dynasties – Rock-cut caves of the Chalukyas of Badami – Rock-cut cave of the Eastern Chalukyas – Monolithic Temples: Origin and Evolution, Technique of their production, Type sites in South India.

UNIT III:
Structural Remains in South India – *Vastu, Silpa* and *Agamas* – Distinct Features of South Indian Temples – *Dravida, Nagara* and *Vesara*– Architectural Components of South Indian Temple and their evolution through the ages– Pallavas: Early Phase and Later Phase – Pandyas: Temples of the Pandyas and other Dynasties in Tamil Nadu – Temples of the Chalukyas of Badami – Temples of Eastern Chalukyas, Eastern Gangas, Telugu Chodas in Andhra Pradesh –Temples of Nolambas of Hemavati.

UNIT IV:

Temples of Rashtrakutas – Assimilation and Regional Variation of South Indian Temples-Temples of the Colas: Vijayalayacholiswaram, Thanjavur, Gangaikondacholapuram and Darasuram (Early, Middle and Later Phases) — Temples of Hoysalas of Dorasamudra: Belur, Halebid and Somnathpur – Temples of Kakatyas of Warangal.

UNIT V:

Vijayanagara and Nayaka Architecture: Temple; Mandapa; Gopura; Prakara; Mahal, Mansion and other Secular edifices; Fort and other Defense Structures – the Vijayanagar City Plan.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

Balasubramanyam, S.R. 1971. *Early Chōḻa Temples -Parantaka I to Rājarāja I* (907-985), Orient Longman Publications, Delhi.

Balasubramanyam, S.R. 1975*. Chola Temples: Rājarāja I to Kulottuṅga I (985-1070),* Thomson press Ltd, Fairdabad, Haryana.

Fergusson,J: 1876. *History of Indian and Eastern Architecture,*

Brown, Percy: 1959. *Indian Architecture (Hindu and Buddhist periods).*

Balaji, P.D., 2012. *Rock cut temples of Early Pandyas of Tamilnadu.*

Rowland,B: 1967. *The Art and Architecture of India.*

Dayalan, D. 1992. *Early Temples of Tamilnadu: Their Role in Socio-Economic Life (c. A.D. 550-925),* Harman Publishing House, New Delhi.

Dayalan, D., 2014. Cave-*temples in the regions of the Pandyas, Muttaraiyas, Atiyamans and Ay. Dynasties in Tamil Nadu and Kerala* (3 Volumes), Archaeological Survey of India, New Delhi.

Dayalan, D. 2017. South Indian Architecture, Abhishek Prakashan, New Delhi.

Meister,M.W(ed.): 1983. *Encyclopaedia of Indian Temple Architecture: South India, lower Dravidadesa,* BC 200-1324 A.D.

Meister,M.W Dhakey, MA and Krishna Deva (eds.): 1988. *Encyclopaedia on Indian Temple Architecture: North India, foundations of N. Indian styles* (250 BC-1100 A.D).

Meister,M.W Dhakey, MA (eds.): 1986. *Encyclopaedia on Indian Temple Architecture:South India,upper Dravidadesa, early phase* (A.D 550-1075).

Kramrisch, Stella: 1946.*The Hindu Temple*,Vols-2.

Bhattacharya,T: 1963.*The Canons of Indian Art or A Study on Vastuvidya*.

Dhaky, M.A: 1977.*The Indian Temple Forms.*

Majumdar,R.C (ed.): 1069.*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*.

Srinivasan, K.R: 1971.*Temples of south India.*

Duberuil, Jouveau: 1972. *Dravidian architecture,* reprint.

Donaldson,T.E: 1985.*Hindu Temple art of Orissa,* 3 Vols.

Soundarajan, K.V: 1972.*Indian Temple Styles*.

Harle, James, C: 1961.*Temple Gateways in south India*.

Srinivasan, K.R., 1964. *Cave Temples of Pallavas,* Archaeological Survey of India, New Delhi.

Srinivasan, K.R., 1972. *Temples of South India*. National Book Trust, India, New Delhi.

INDIAN NUMISMATICS - (Elective-V)

L T P C
3 0 0 3

a. Course objective

To familiarize students about the origin and antiquity of coinage in India and also about the various numismatic histories of different dynasties.

b. Course outcome

	Course Outcome
CO-1	Students can acquire knowledge about the origin and antiquity of coinage in Ancient India
CO-2	Students can understand the coins as a source of history from this paper.
CO-3	Students can understand with the various coin series in India
CO-4	Students can understand with the Chola, Pandya, Chera and Roman coins from South India.

c. Course outline

UNIT- I
Origin and antiquity of coinage in Ancient India – Bent bar coins – Punch Marked coins. Sangam Age coins – Pandyas and Cheras – Roman coins from south India.

UNIT- II
Coins as a source of history - Terminology, Scope and Importance in the Reconstruction of socio-cultural and economic History.

UNIT- III
Technique of manufacture and metrology – reconstruction of plotical, social and economic history.

UNIT- IV
Survey of the following coin series in India: Punch marked and cast coins, Local and Tribal coins, Satavahana coins, Indo-Greek coins, Kushana coins, Saka – Pahlavas, Coins of Western Kshatrapa.

UNIT- V
Pallava coins – Imperial Chola coins – Later Pandya coins - Gupta coins -Coins of Hunas, Maukharis and Pushpabhutis.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K4

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. REFERENCE BOOKS

Allan, J. 1975. *Catalogue of coins in Ancient India.* Delhi: Munshiram Manoharlal.

Altekar,A.S.1954. *The Gupta Gold Coins in the Bayana Hoard*. Bombay: NSI.

Goyal, S. R. 1985. *The Coinage of Ancient India*. Meerut: Kusmanjali.

Gupta.P,L. 1972.*Coins.* Delhi: NBT.

Jain, Rekha.1995. *Ancient Indian Coinage*. Delhi: D.K. Printworld.

Thaplyal, K.K, and Prashant, Srivastava. 1998. *Coins of Ancient India*. Lucknow: Bharat Book Center.

JOURNALISM – (Skill Enhancement Course-II)

L T P C
3 0 0 2

a. Course objective

To understand about the origin and growth of journalism and its history.

b. Course outcome

	Course Outcome
CO-1	Students can acquire knowledge about the origin and growth of journalism
CO-2	Students can understand the News paper administration from this paper.
CO-3	Students can understand role of press in democracy

c. Course outline

UNIT I: Introduction Definition – Meaning – Canons and Ethics of Journalism - Duties and Responsibilities of Journalists –Types of Journals - Rise and Growth of Journalism in India before and after Independence.

UNIT II: News Paper Administration News Reporter - Collection of News - News Agencies – Reuter – UP I - UPCI - PTI - History of Indian Journals - Freedom of Press in India - Role of Tamil Journals in the Freedom Movement – Swadesamitran - India - Desabaktan.

UNIT III: Important Parts of News Paper Editorial - Page Makeup - Book Review – Sports - Advertisements.

UNIT IV: Freedom of Press Functions of Editor - Role of Press in Democracy - Press Laws - Press Council.

UNIT V: Tamil Journalism Origin and Growth - Pioneer Tamil Journalists – Bharathi – Aditanar – Anna - Journals of Dravidian Movement.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. REFERENCE BOOKS

1. Dharmaraj, J, Journalism (Tamil), Tensy Publications, Sivakasi, 2015.

2. Eswaran, S and Sabapathy,R, Ithazhiyal, (Tamil), Paavai Publications, Chennai, 2014.

3. Ahuja, A.N, Theory and Practice of Journalism, Surjeet Publications, Delhi, 1984.

4. Gurusamy, M.P, Idazhiyal Kalai, (Tamil), Guru - Themozhi, Thayanpaham, Dindigul, 2004.

5. Kalaivani, S, Ithazhiyal Utthikal, (Tamil), Sri Parasakthi College for Women, Courtallam,1982.

6. Mehta,D.D, Mass Communication and Journalism in India, Allied Publishers, New Delhi,   1955.

7. Patabiraman, K, Tamil Pathirikaikal, (Tamil), Arunothayam Publications, Chennai, 1968.

8. Rengasamy Parathsarathy, Basic Journalism, Macmillan India Ltd, Delhi, 1984.

9. Somale, Tamil Ithazhkal, (Tamil), University of Madras, Chennai, 1975.

INTERNSHIP / INDUSTRIAL ACTIVITY

L T P C
0 0 0 2

Course Objectives: To make the students acquainted with archaeological monuments and sites in India. Report on the internship is mandatory.

Course Outcome:

	Course Outcome
CO -1	Students can understand about the various monuments and archaeological sites are present in India.
CO -2	Students can apply their knowledge in to their research on various archaeological sites, monuments and various museums.

COURSE Outline:

Unit-I

Visits to various temples in India.

Unit-II

Visits to various churches in India.

Unit- III

Visits to various mosques in India.

Unit- IV

Visits to various museums in India.

Unit- V

Visits to Archaeological sites in India and Report writing.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	M	K1-K3
CO2	PO1 to PO8	M	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

Agrawal, D.P and M.D. Yadava. 1995. *Dating the Human Past*. Pune: ISPQS.

Chakrabarti,D. K. 1988, *History of Indian Archaeology*. Delhi: Munshiram Manoharlal.

Drewett.L. Peter. 1999. *Field Archaeology*. London: UCL Press.

Fagan, Brian.1994. *In the Beginning: An Introduction to Archaeology*. London.

Rajan, K. 2003. *Principles and Methods of Archaeology*. Thanjavur: Manoo Pathipakkam.

Raman, K.V.1998. *Principles and Methods of Archaeology*. Chenni: Parthajan.

SEMESTER – IV

HISTORIOGRAPHY AND RESEARCH METHODOLOGY
(Core-XI)

L T P C
6 0 0 5

a. 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.

b. Course Outcome:

	Course Outcome
CO-1	Students can understand basic features of various theories and thoughts used in archaeological interpretations.
CO-2	Students can study about Museum keeping and its development.
CO-3	Students can create their ideas and formulate a research proposal in Archaeology.

c. Course Outline:

UNIT I:

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

UNIT II:

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

UNIT III:

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

UNIT IV:

Research process - Seven Stages of research process -Types of research designs - Variables and sampling - Virtues of a researcher - Writing a Research proposal - Structure of proposals - Statement of research problem - Rules and funding agencies.

UNIT V:

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.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

d. Reference Books:

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

Binford, L.R. 1983. *Working at Archaeology*. New York Academic Press.

Binford, L.R. 1989. *Debating Archaeology*. New York Academic Press.

Chaudhary, C.M. 1991. *Research Methodology*, Jaipur: RBSA.

Cohen, M.R. and E. Nagel 1976. *An Introduction to Logic and Scientific Method*. Mumbai:Allied Publishers.

de Groot, A.D. 1969. *Methodology*. Hague: Mouton.

Gellner, E. 1985. *Relativism and Social Sciences*. Cambridge Cambridge University Press.

Goode, W.J. and P.K. Hatt 1952. *Methods in Social Research*. Tokyo McGraw Hill.

Gupta, Anil 2006. *Empiricism and Experience*. Oxford: Oxford University Press.

Hodder, I. 1992. *Theory and Practice in Archaeology*. London: Routledge.

Hodder, I. 1995. *Interpreting Archaeology Finding Meaning in the Past*. New York: Routledge.

Joglekar, P.P. 2014. *Research Methodology for Archaeology Students*. Pune: Gayatri Sahitya.

Jones, Andrew 2004. *Archaeological Theory and Scientific Practice*. Cambridge: Cambridge Press.

Kelley, J.H. and M.P. Hanen 1990. *Archaeology and the Methodology of Science*. Albuquerque:University of New Mexico Press.

Mates, Benson 1972. *Elementary Logic*. New York: Oxford University Press.

Marczyk, Geoffrey, David DeMatteo and David Festinger 2005. *Essentials of Research Design and Methodology*. Hoboken, New Jersey John Wiley & Sons.

Munson, R. 1976. *The Way of Life: An Informal Logic*. Boston: Houghton Mifflin.

Paddayya, K. 1990. *New Archaeology and Aftermath View from Outside the Anglo-American World*. Pune: Ravish Publishers

Paddayya, K. 2002. A Review of Theoretical Perspectives in Indian Archaeology, in S. Settar and R. Korisettar (Ed.) *Indian Archaeology in Retrospect*, Vol. IV, pp.117 157. New Delhi: ICHR and Manohar.

Paddayya, K. 2016. Revitalizing Indian Archaeology. Two volumes. Delhi.

Phelan, J.W. 2005. *Philosophy. Themes and Thinkers*. Cambridge: Cambridge University Press.

Preucel, R. (ed). 1991. Processual and Postprocessual Archaeologies Multiple Ways of Knowing the Past. Carbondale (Illinois): Southern Illinois University Press.

Rosenau, P.M. 1992. *Post modernism and the Social Sciences*. Princeton: Princeton University Press.

Salmon, W.C. 1984. *Scientific Explanation and Causal Structures of the World*. Princeton: Princeton University Press.

Schiffer, M.B. 1995. *Behavioral Archaeology: First Principles*. Salt Lake City University of Utah Press.

Shanks, M. and C. Tilley. 1987. *Social Theory as Archaeology*. Cambridge: Polity Press.

Sharma, K.R. 2002. *Research Methodology*. New Delhi: National Publishing House.

Thakur, D. 2003. *Research Methodology in Social Sciences*. New Delhi: Deep and Deep.

TAMIL NADU EPIGRAPHY - (Core-XI)

a. Course objective

To familiarize students about the origin and evolution of ancient Indian scripts and language and also known about the various inscriptions found across India.

b. Course outcome

	Course Outcome
CO-1	Students can understand the value of culture for historical reconstruction
CO-2	Students can understand about origin and antiquity of the art of writing in India.
CO-3	Students can analyze various scripts like, Kharoshti, Brahmi and its evolution into Nagari script.
CO-4	Students can analyze various cultural systems in India.

c. Course outline

Unit I
Value of inscriptions for historical reconstruction Origin and antiquity of the art of writing in India, writing materials, *prashastis*, land grants.

Unit II
Scripts - Kharoshti, Brahmi and its evolution into Nagari script.

Unit III
.
Tamil-Brahmi inscriptions – Pulimankombai, Mangulam, Jambai and Puhalur Tamil-Brahmi inscriptions – Pulangkurichchi inscription – Meikirthi.

Unit IV
Study of selected epigraphs - Inscriptions of Ashoka, Ashokan Edicts-rock edicts X,XII,XIII, Lumbini Rock Edicts of Bairat; Besnagar Garuda Pillar -Minor inscription.

Unit V
Hathigumpha Inscription of Kharavela, Nasik inscription of Pulumavi's 19th h regnal year, Junagarh inscription of Rudradaman, Allahabad pillar inscription of Samudragupta, - Aihole Pillar inscription of Pulakesin II,Gwalior inscription of Mihir Bhoja, Tiruvalangadu plates of Rajendra Chola.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. REFERENCES

Dhani ,A.H. 1986. *Indian Paleography.* Delhi: Munshiram Manoharlal.
Epigraphia Indica. Delhi: ASI.

Govindaraj, R., 1994 *Evolution of Script in Tamil Nadu*, Tamil Nadu Archaeological Society Issue no.1, Thanjavur.
Hultzch,D. 1969 .*Corpus Inscriptionum Indicarum Vol. I*. Varanasi: Indological Studies.

Krishnan, K.G., 1981 *Studies in South Indian History and Epigraphy,* vol.1, New Era Publications, Madras.

Pandey,R. 1957. *Indian Paleography*. Delhi: Motilal Banarisidas.

Ramesh, K.V., 1984 *Indian Epigrphy,* vol.1, Sundeep Prakashan, Delhi.

Salomon, Richard, 1988 *Indian Epigraphy : A Guide to the Study of Inscriptions in Sanskrit, Prakrit, and the other Indo-Aryan Languages,* Munshiram Manoharlal Publishers Pvt., Ltd., New Delhi.

Sircar,D.C. 1965 *Indian Epigraphy*.Delhi: Motilal Banarasidas.

Sircar, D.C., 1965 *Select Inscriptions Bearing on Indian History and Civilization : From the Sixth Century BC to the Sixth Century AD,* vol.1, revised and enlarges edn., Calcutta University, Calcutta.

PROJECT WITH VIVA VOCE

L T P C
10 0 0 7

a. Course Objectives: This Project and Viva-Voce gives very much exposure to students who are studying M.A., Archaeology and foster independent research ability among students.

b. Course Outcomes:

	Course Outcome
CO-1	Students are able to conduct research on archaeological studies
CO-2	Students can analyze the archaeological data in respective studies for field work or project work.
CO-3	Students can analyze and interpret the data for creation of research article.
CO-4	Students are able to present their research article unaccompanied in any scientific conference/seminar, etc.,
CO-5	The student can able to make familiar with research methodology, to promote original research and generation of new knowledge in Archaeology.

C. Course Outline

Students have to do the project work either in the department or in various R&D laboratories /institutions in and around Tamil Nadu or India. Archaeological studies based on original work by students in any of the following fields – Prehistory, Art and Architecture, Palaeography, Epigraphy, Numismatics, Iconography, Geoscience, Paleo-environment or any related topic of interest and Comprehensive Viva-Voce.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO-1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO-2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO-3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO-4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5
CO-5	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

HERITAGE SITES OF TAMIL NADU - (Elective-VI)

L T P C
4 0 0 3

a. Course Objectives:

To impart the study of different dynasties of the Tamil land and its socio-economic status through the ages.

b. Course Outcomes

	Course Outcome
CO-1	Students can understand the past glory of Tamil Nadu
CO-2	Students can interpret the Socio-political History of Tamils during the Sangam age.
CO-3	Students can analyze the Socio-economic condition under the Imperial Cholas.
CO-4	Students can analyze the role of Pallavas in the field of Art and Architecture.
CO-5	Students can create the Socio-Political condition during the 18th century

c. Course Outline:

Unit-I

Geographical features- Sources- Pre and protohistoric historic sites – Attirampakkam – Mayiladumparai – Adichchanallur – Sivagalai.

Unit-II

Port towns: Korkai, Alagankulam, Kaveripattinam, Arikamedu and Muciri – Urban site: Keeladi – Industrial site: Kodumanal; Capital cities: Uraiyur, Karur and Tagadur (Modur), Pallavas: Mahabalipuram and Kanchipuram;

Unit-III

Pallavas of Kanchi- Rock-cut caves, Monolithic and structural temples at Mahabalipuram -Kanchipuram – Muttaraiyars : Kodumbalur.

Unit-IV

Imperial Cholas: Thanjavur, Darasuram and Gangaikondacholapuram; Later Pandyas: Sittannavasal and Kazhukumalai.

Unit-V

Vijayanagar Empire-Temple; Mandapa; Gopura; Prakara; Mahal, Mansion and other Secular edifices; Fort and other Defense Structures.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO-1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO-2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO-3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO-4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5
CO-5	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

d. References:

Balasubramanyam, S.R. 1971. *Early Chōḻa Temples -Parantaka I to Rājarāja I (907-985)*, Orient Longman Publications, Delhi

Balasubramanyam, S.R. 1975*. Chola Temples: Rājarāja I to Kulottuṅga I (985-1070)*, Thomson press Ltd, Fairdabad, Haryana

Barret Douglas, 1974 *Early Chola Architecture and Sculpture,* Faber and Faber, London.

Dayalan, D. 1992. *Early Temples of Tamilnadu: Their Role in Socio-Economic Life (c. A.D. 550-925),* Harman Publishing House, New Delhi.

Dayalan, D., 2014. *Cave-temples in the regions of the Pandyas, Muttaraiyas, Atiyamans and Ay. Dynasties in Tamil Nadu and Kerala* (3 Volumes), Archaeological Survey of India, New Delhi.

Dayalan, D. 2017. South Indian Architecture, Abhishek Prakashan, New Delhi.

Mangala Murugesan N.K. 1982. Sangam Age, Thendral Pathipagam, Madras.

KK Pillay 2008. Historical Heritage of the Tamils MJP Publishers, Chennai.

Nilakanta Shastri K. 2016. A History of South India: From Prehistoric Times to the fall of Vijayanagar Oxford University Press.

Y.Subbarayalu 2011. South India under the Cholas Oxford University Press.

CULTURAL HISTORY OF TAMIL NADU - (Elective-VI)

L T P C
4 0 0 3

a. Course objective

To familiarize students about the cultural history of Tamilnadu and also known about the various cultural system found across Tamilnadu.

b. Course outcome

	Course Outcome
CO-1	Students can understand the value of culture for historical reconstruction
CO-2	Students can study about cultural history of Tamilnadu
CO-3	Students can understand various cultural systems in Tamilnadu.

c. Course Outline

UNIT I:

Sangam Age and Post Sangam Age: Social Institutions -Customs and Practices - Economic Life -Trade -Religion -Literature -Arts.

UNIT II:

Age of the Pallavas: Society -Economic Life -Religion- Bhakti Movement - Literature and Education -Arts.

UNIT III: Age of the Cholas: Society -Economic Life -Religion -Role of the Temple, Literature and Education -Arts.

UNIT IV: Age of the Later Pandyas: Society -Economic Life -Religion -Foreign Accounts Literature -Arts.

UNIT V: Tamilagam under Vijayanagar and Nayak Rule - Society -Economic Life - Religion -Literature -Arts.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. References:

1. Pillay, K.K., 1975, A Social History of the Tamils, Tamilnadu History -Its People and Culture (in Tamil), University of Madras, Chennai

2. Nilakanta Sastri, K. A., 2000, The Colas, University of Madras, Chennai.

3. Nilakanta Sastri, K.A., 1972, The Pandyan Kingdom, Madras University, Madras.

4. Mahalingam, T.V,. 1975, Administration and Social Life under Vijayanagar, University of Madras, Chennai.

5. Balasubramanian, C., 1976, The Status of Women in Tamilnadu during the Sangam Age (First edition), University of Madras, Chennai

6. Nagaswamy, R., Studies in South Indian History and Culture.

7. Krishnamurthy, V.M., 1984, History of Tamil Nadu upto A.D.1565, Vijayalakshmi Publications, Neyyur.

8. Meenakshi, C., 1977, Administration and Social Life under the Pallavas, University of Madras, Chennai.

9. Sathianathaier, R., 1980, History of the Nayaks of Madura, University of Madras, Chennai.

10. Subramanian. N., 1998, Social and Cultural History of Tamil Nadu up to A.D.1336, Ennes Publications, Udumalpet.

11. Rama Sharma, M.H., 1978, The History of the Vijayanagar Empire, Beginnings and Expansion (1308 – 1569) (First Edition), Popular Prakasham, Bombay.

HERITAGE MANAGEMENT AND CONSERVATION
(Elective-5)

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L T P C
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a. 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.

b. Course Outcome:

	Course Outcome
CO-1	Students are able to understand the basic concepts of heritage management.
CO-2	Students are trained and apply in conceptual understanding of heritage management.
CO-3	Students aware and evaluate with current problems and issues of heritage management.

c. Course Outcome:

UNIT I:

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

UNIT II:

Conservation Approach and Movement of 19th Century and Influence of John Ruskin and William Morris - Restoration and Conservation Approaches and contribution of scholars like Gustavo Giovannoni - Modern Conservation and Restoration Approach and approach of Ecological Conservation.

UNIT III:

Heritage Protection Movement and Conservation Movement in India - Doctrine in Heritage Protection and Conservation-International and National level- Early Attempts in

Protection (League of Nations and Associated Organization)- Post WWII initiatives (UNESCO, ICOMOS, ICCROM)-World Heritage: Criterion of Outstanding Universal Value (OUV) and its Framework Asiatic Society, Indian Museum, National Archives of India, Archaeological Survey of India - Anthropological Survey of India, Indian Council for Cultural Relations (ICCR).

UNIT IV:

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

UNIT V:

Public Participation and Social Responsibility, Problems and Solutions, Role Corporate Institution, Role of Government Agencies, Role of Non-Governmental Organization, Heritage and Education - Present State of Protected Monuments: Case Study, UNESCO protected monuments in India- Bhimbetaka, Ajanta, Ellora, Mahabalipuram, Thanjavur, Taj Mahal, CST Station - ASI protected Monument Bibi Ka Makbara, Charminar, Aihole - Heritage Adoption Policy: Problems and Solution

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)

e. Reference Books:

Andrew Hemingway 2006. Marxism and the History of Art: From William Morris to the New left. London: Pluto Press.

Batra, M. L. 1996. Conservation: Preservation and Restoration of Monuments. New Delhi:Aryan Books International.

Basham, A.L. 2007. The Illustrated Cultural History of India. Oxford University Press.

Bhandari, N.K. 2007. Cultural Heritage of India. Delhi: Eastern Book Corporation.

B h o w m i k ,S. K. 2004. Heritage Management: Care, Understanding and Appreciation of Cultural Heritage. Jaipur: Publication Scheme.

Biswas, Sachindra Sekhara. 1999. Protecting the Cultural Heritage (National Legislation and International Conservation). New Delhi: Aryan Books International.

Bradley, J.L. 1996. John Ruskin: Critical Heritage. New York: Routledge Publication.

Bressani, Martin 2014. Architectural and Historical Imagination: Eugene Viollet-le-Duc. London: Ashgate Publisher.

Deshpande, M. N. 1994. Care of Cultural Heritage. New Delhi: National Museum Institute.
Dhawan, Shashi. 1996. Recent Trends in Conservation of Art Heritage. Delhi: Agam Kala Prakashan.

Francis McManamon and Alf Hatton (Eds), 2000. Cultural Resource management in Contemporary Society: Perspective on Managing and Presenting the Past, Routledge Publication: London

Ghoshmaulik, S. K.   and K.K.   Bass 2001. Understanding Heritage: Role of Museum. Bhubaneswar: Academic Staff College.

Gupta, S.P. Krishna Lal & Mahua Bhattacharya 2002. Cultural Tourism in India. New Delhi:Indraprastha Museum of Art & Archaeology.

Howard, Peter. 2003. Heritage: Management, Interpretation, Identity. London: Continuum.

Monuments of World Heritage in India, 1998, New Delhi, Archaeological Survey of India

Paddayya, K. 2004. Heritage management with special reference to modern impacts on Archaeological sites of lower Deccan. Deccan Studies 1 (2): 7-24.

Paddayya,K. 2011. Indian Archaeology and Heritage Education: Historiographical and Sociological Dimensions. New Delhi: Om Publications.

Phyllis Mauch Messenger and George Smith (Eds) 2010. Cultural Heritage Management: Global Perspective. University Press of Florida: Florida

Rao, P.R. 1988. Cultural Heritage of India. Delhi: Sterling.

Richards, G. 2006. Cultural Tourism: Global and Local Perspectives, London: Routledge.

Robson, E., L. Treadwell and C. Gosden. Eds. 2006. Who Owns Objects? The Ethics and Politics of Collecting Cultural Artefacts. Oxford: Oxbow Books

Ruskin, John 2014. Lectures on Architectures and Paintings, London: Dodo Press.

Schiffer, Michael & George Gumerman 1977 Cultural Resource Management. In *Conservation Archaeology A Guide for Cultural Resource Management Studies*, edited by M. Schiffer and G. Gumerman, pp. 1-17.

Singh, L.K. 2008. Indian Cultural Heritage from Tourism Perspective. Delhi: ISHA Books.

Suzie West and Jacqueline Ansell, 2010. A History of Heritage. In *Understanding Heritage in Practice*, edited by S. West, pp. 7-46. Manchester University Press.

Thapar, B.K. 1989. Conservation of the Indian Heritage. New Delhi: Cosmo Publication.

Timothy, D. J., and Boyd, S. W. 2003. Heritage Tourism. London: Pearson

Waithe, Marcus 2006. William Morris's Utopia of Strangers: Victorian Medievalism and the Ideal of Hospitality. England: D.S. Brewer Publisher.

EXTENSION ACTIVITY

L T PC
0 0 0 1

a. Course Objectives: This Extension activity gives very much exposure to students who are studying M.A., Archaeology and foster independent research caliber among students.

b. Course Outcomes:

	Course Outcome
CO-1	Students can analyze the archaeological data in respective studies for field work.
CO-2	Students can analyze and interpret the data for creation of research data.
CO-3	Students are able to create the research article through extension activity
CO-4	The student can able to make their own interest in the field of research in Archaeology.

C. Course Outline

Students have to do the project work either in the department or in various R&D laboratories /institutions in and around Tamil Nadu or India. Archaeological studies based on original work by students in any of the following fields – Prehistory, Art and Architecture, Palaeography, Epigraphy, Numismatics, Iconography or any related topic of interest and Comprehensive Viva-Voce.

d. Mapping of Cos to POs and PSOs

Course Outcome	PO Addressed	Correlation Level	PSO Addressed	Correlation Level	Cognitive Level
CO-1	PO1 to PO8	L	PSO1 to PSO8	L	K1-K2
CO-2	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO-3	PO1 to PO8	M	PSO1 to PSO8	M	K1-K3
CO-4	PO1 to PO8	H	PSO1 to PSO8	H	K1-K5

(L – Low, M – Medium, H – High; K_1 – Remember, K_2 – Understand, K_3 – Apply, K_4 – Analyze, K_5–Evaluate, K_6 – Create)