

## SEMESTER- II

### Field Archaeology – Theory

Course code: ARC17201CR

This course introduces students to the process of archaeological investigation from the discovery of sites to their excavation and analysis of the recovered archaeological evidence.

#### Unit – 1 – Methods of discovering Archaeological sites

- a. Conventional methods- use of literary sources and folk traditions, village to village survey, field walking, survey along the water bodies, etc.
- b. Scientific methods- identification of archaeologically potent area by undertaking environmental and ecological survey, use of maps, satellite imagery and aerial photographs, Underwater archaeology and use of various geophysical methods.

#### Unit-2 – Methods of Data Collection

- a. Indiscriminate collection of data
- b. Random sampling
- c. Systematic sampling
- d. Site catchment analysis and ethnographic survey
- e. Reconstruction of regional settlement pattern and system

#### Unit - 3 – Excavation Methods in Archaeology

- a. Vertical, Horizontal and Quadrant excavation methods.
- b. Excavation of Stone Age Site, Excavation of Settlement Sites, Excavation of Burial sites, Excavation of Fortifications and large features.

#### Unit-4 – Recording Methods and Analysis in Archaeology

- a. Stratigraphy and three dimensional recording,
- b. Contextual approach
- c. Techniques of Archaeological Photography and Photogrammetry,
- d. Methods of Drawings: Plan, Section, Pottery, Tools
- e. Classification and analyses of Artefacts
- f. Classification and analyses of Ecofacts
- g. Synthesis of analyses of artefacts and ecofacts for the reconstruction of Socio-economic organizations

### **Recommended Readings:**

- Aitken, M.J. 1990. *Science-based Dating in Archaeology*. London: Longmans.
- Atkinson, R.J.C. 1953. *Field Archaeology*. London: Methuen and Co.
- Barker, P. 1982. *Techniques of Archaeological Excavation*. London: Batsford.
- Binford, L.R. 1964. A Consideration of Hypothetical Research Design, *American Antiquity* 29:425-441.
- Crawford, O.G.S. 1953. *Archaeology in the Field*. London: Phoenix.
- Dancey, W.S. 1985. *Archaeological Field Methods: An Introduction*. New Delhi: Surjeet Publications.
- Harris, E.C. 1979. *Principles of Archaeological Stratigraphy*. London: Academic Press.
- Hester, T., Heizer, R.E. and J.A. Graham 1975. *Field Methods in Archaeology*. Palo Alto (California): Mayfield Press.
- Redman, C. 1974. *Multi-Stage Fieldwork and Analytical Techniques*, *American Antiquity* 38: 611-79.
- Tite, M.S. 1972. *Methods of Physical Examination in Archaeology*. London: Seminar.
- Wheeler, R.E.M. 1954. *Archaeology from the Earth*. Harmondsworth: Penguin Books.
- Atkinsen R.J. (1953) *Field Archaeology*. London: Methuen.
- Binford L.R.(1972) *An archaeological Perspective*. New York: Seminar Press.
- Brothwell D. &Higgs E.(Ed.) (1963) *Science in Archaeology*. London: Thames and Hudson.
- Childe V.G.(1956) *A Short Introduction to Archaeology*. London: Fredrick Muller Ltd.
- Childe V.G.(1956) *Piecing together the Past: The Interpretation of Archaeological Data*. London: Routledge & Kegan Paul Ltd.
- Clarke D.L. (1968) *Analytical Archaeology*. London: Methuen.
- Cleator P.E.(1957) *The Past in Pieces*. London: George Allen & Unwin Ltd.
- Cronyn J.M. (1990) *The Elements of Archaeological conservation*. London: Routledge.
- Daniel G. (1975) *Hundred and Fifty Years Of Archaeology*. London: Dockworth.
- Flower P.J. (1977) *Approaches to Archaeology*. London.
- Gosh A. (Ed.) (1953) *Ancient India IX*. Delhi: ASI.
- Heizer F.R. (Ed.) (1959) *A Guide to Archaeological Field Methods*. California.
- Hodder I. (1991) *Reading The Past: Current Approaches to Interpretation in Archaeology*.

- Cambridge: Cambridge University Press.
- Kempton W. (1981) *The Folk Classification of Ceramics: A Study of Cognitive Prototypes*. London: Academic Press.
- Leute U. (1987) *Archaeometry: An Introduction to Physical Methods in Archaeology and the History of Art*. New York: VCH
- Miller D. (1985) *Artifacts as Categories: A Study of Ceramic Variability in Central India*. Cambridge: Cambridge University Press.
- Plenderleith H. *Conservation of Antiquities and works of art*. London: Oxford University Press.
- Roy S. (1961) *The story of Indian Archaeology (1784-1947)*. New Delhi.
- Trigger B.G. (1968) *Beyond History: The Methods of Prehistory*. London: Holt, Rinehart & Winston.
- Trigger B.G. (1989) *Towards A History of Archaeological Thought*. Cambridge: Cambridge University Press.
- Wheeler R.E.M. (1954) *Archaeology from Earth*. Oxford: Clarendon Press.

## SEMESTER- II

### Field Archaeology – Practical

Course code: ARC17202CR

#### Course Objectives:

This course aims at training the students in field methods

**Unit 1:** Explorations

**Unit 2:** Data Collections

**Unit 3:** Excavations

**Unit 4:** Data Recording

#### Recommended Readings:

Aitken, M.J. 1990. *Science-based Dating in Archaeology*. London: Longmans.

Atkinson, R.J.C. 1953. *Field Archaeology*. London: Methuen and Co.

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

Binford, L.R. 1964. A Consideration of Hypothetical Research Design, *American Antiquity* 29:425-441.

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

Dancey, W.S. 1985. *Archaeological Field Methods: An Introduction*. New Delhi: Surjeet Publications.

Harris, E.C. 1979. *Principles of Archaeological Stratigraphy*. London: Academic Press.

Hester, T., Heizer, R.E. and J.A. Graham 1975. *Field Methods in Archaeology*. Palo Alto (California): Mayfield Press.

Redman, C. 1974. *Multi-Stage Fieldwork and Analytical Techniques*, *American Antiquity* 38: 611-79.

Tite, M.S. 1972. *Methods of Physical Examination in Archaeology*. London: Seminar.

Wheeler, R.E.M. 1954. *Archaeology from the Earth*. Harmondsworth: Penguin Books.

Atkinsen R.J. (1953) *Field Archaeology*. London: Methuen.

- Binford L.R.(1972) *An archaeological Perspective*. New York: Seminar Press.
- Brothwell D. &Higgs E.(Ed.) (1963) *Science in Archaeology*. London: Thames and Hudson.
- Childe V.G.(1956) *A Short Introduction to Archaeology*. London: Fredrick Muller Ltd.
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- Clarke D.L. (1968) *Analytical Archaeology*. London: Methuen.
- Cleator P.E.(1957) *The Past in Pieces*. London: George Allen & Unwin Ltd.
- Cronyn J.M. (1990) *The Elements of Archaeological conservation*. London: Routledge.
- Daniel G. (1975) *Hundred and Fifty Years Of Archaeology*. London: Dockworth.
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- Heizer F.R. (Ed.) (1959) *A Guide to Archaeological Field Methods*. California.
- Hodder I. (1991) *Reading The Past: Current Approaches to Interpretation in Archaeology*. Cambridge: Cambridge University Press.
- Kempton W. (1981) *The Folk Classification of Ceramics: A Study of Cognitive Prototypes*. London: Academic Press.
- Leute U. (1987) *Archaeometry: An Introduction to Physical Methods in Archaeology and the History of Art*. New York: VCH
- Miller D. (1985) *Artifacts as Categories: A Study of Ceramic Variability in Central India*. Cambridge: Cambridge University Press.
- Plenderleith H. *Conservation of Antiquities and works of art*. London: Oxford University Press.
- Roy S. (1961) *The story of Indian Archaeology (1784-1947)*. New Delhi.
- Trigger B.G. (1968) *Beyond History: The Methods of Prehistory*. London: Holt, Rinehart & Winston.
- Trigger B.G. (1989) *Towards A History of Archaeological Thought*. Cambridge: Cambridge University Press.
- Wheeler R.E.M. (1954) *Archaeology from Earth*. Oxford: Clarendon Press.

## SEMESTER- II

### Protohistory of South Asia

Course code: ARC17203CR

#### Unit-1 - Pre/Early Harappan Cultures

- a. Pre/Early Harappan sites (Mehargarh, Kot Diji, Hakra, Killi Gul Mohammad, Kulli, Nal, Amri, Ravi, Sothi, Padri, Pre-Prabhas, Anarta).

#### Unit -2 - Harappan Culture

- a. Origin and development of the Harappan Civilization
- b. Geographical distribution, extent and settlement patterns
- c. Important excavated sites
- d. Town planning and architecture
- e. Trade, economy, technology and art. Contacts within Iran, Middle East and Central Asia.
- f. Harappan script
- g. Socio-political and religious organization
- h. Decline - - various theories and causes
- i. Late Harappan phase - geographical distribution and salient features.

#### Unit-3 – Development of Chalcolithic Traditions (Central India, Rajasthan and Gangetic Doab)

- a. Ahar - distribution, architecture, characteristic features and contributions
- b. Ganeshwar and Jodhpura -- distribution and material culture, important sites
- c. Kayatha - - distribution and characteristic
- d. Malwa - - distribution, life-style, socio-religious aspects, technology, etc.
- e. OCP and Copper Hoards - - distribution and cultural tradition
- f. Regional cultural contacts
- g. Decline of the Chalcolithic- causes and consequences.

#### Unit-4 - Iron Age

- a. Origins of Iron in South Asia- Problem and perspective
- b. Iron Age in South India and Sri Lanka- Megalithic phase
- c. Iron Age in North India- PGW and NBPW
- d. Second Urbanisation- Causes and consequences.

## Recommended Readings

- Childe, V.G. 1951. *Man Makes Himself*. New York: Mentor.
- Cohen, Mark. 1977. *The Food Crisis in Prehistory*. New Haven: Yale University Press.
- Deo, S.B. 1979. *Problem of South Indian Megaliths*. Dharwad : Karnataka University.
- Deo, S.B. 1985. The Megaliths: Their culture, ecology, economy and technology, in *Recent Advances in Indian Archaeology* (S.B. Deo and K. Paddayya eds.), Deccan College, Pune.
- Dhavalikar, M.K. 1990. *First Farmers of the Deccan*, Pune: Ravish Publishers.
- Ghosh, A. 1973. *The City in Early Historical India*. Simla: Indian Institute for Advanced Studies.
- Ghosh, A. 1990. *Encyclopaedia of Indian Archaeology* (two volumes). New Delhi: Munshiram Manoharlal.
- Haimendorf, C. von. F. 1945. "The Problem of Megalithic Cultures in Middle India". *Man in India* XXV : 73-86.
- Lal, B.B. 2000. *The Saraswati Flows on*. New Delhi: Aryan Books.
- Lal, Makhan. 1984. *Settlement History and the Rise of Civilization in the Ganga-Yamuna Doab*. New Delhi: B.R Publishing House.
- Mohanty,R.K., and S.R. Walimbe, 1993. A Demographic Approach to the Vidarbha Megalithic Cultures *Man and Environment*, XVIII (2):93-103.
- Mohanty,R.K. and V.Selvakumar,2002. The Archaeology of Megaliths in India:1947-1997, in *Indian Archaeology in Retrospect*,(S.Settar and R.Korisettar Eds.), New Delhi:Manohar Publishers.Vol.1:313-52&479-81
- Moorti, U.S. 1994. *Megalithic Cultures of South India : Socio- Economic Perspectives*. Varanasi: Ganga-Kaveri.
- Paddayya, K. 2001-2002. The Problem of Ashmound of Southern Deccan in the light of Budihal Excavations. *Bulletin of the Deccan College Research Institute* 60-61: 189-225.
- Paddayya, K. (ed.). 2002. *Recent Studies in Indian Archaeology*. New Delhi: ICHR and Munshiram.
- Possehl, G.L. 1979 (ed.). 1979. *Ancient Cities of the Indus*. New Delhi: Vikas Publishing House.
- Possehl, G.L. (ed.). 1993. *Harappan Civilization- A Recent Perspective*. New Delhi: Oxford and IBH Publishing Co.
- Possehl, G. 1999. *The Indus Age*. New Delhi: Oxford.

- Roy, T.N. 1983. *The Ganges Civilization: A Critical Study of the PGW and NBPW Periods of Ganga Plains of India*. New Delhi: Ramanand Vidya Bhavan.
- Sankalia, H.D. 1977. *Prehistory of India*. New Delhi: Munshiram Manoharlal.
- Sankalia, H.D. 1974. *Pre and Protohistory of India and Pakistan*. Pune: Deccan College.
- Sharma, G.R. et al. 1980. *Beginnings of Agriculture*. Allahabad: Allahabad University Press.
- Shinde, Vasant. 1989. *New Light on the Origin, Settlement System and Decline of the Jorwe Culture of the Deccan*, *India South Asian Studies* 5:60-72
- Shinde, Vasant. 1990. Settlement pattern of the Savalda culture - The first farming community of Maharashtra. *Bulletin of Deccan College Research Institute*, vols. 49-50 (Sankalia Memorial Volume) 49: 417-426
- Shinde, Vasant. 1991. Craft specialization and social organization in the Chalcolithic Deccan, India, *Antiquity* 65(249): 796-807.
- Shinde, Vasant. 1994. The Deccan Chalcolithic: A Recent Perspective, *Man and Environment*, XIX (1-2): 169-178.
- Shinde, Vasant. 1998. *Early Farming Community in the Central Tapi Basin (Study of Settlement and Subsistence Patterns)*, Munshiram Manoharlal Publishers, New Delhi
- Shinde, Vasant. 2000. Origin and development of Chalcolithic in Central India, *Bulletin of Indo-Pacific Prehistory Association*, 19: 125-136.
- Shinde, Vasant. et al. 2016. *Chalcolithic South Asia: Aspects of Crafts and Technology*, New Delhi: Pentagon Press in association with Indus Infinity Foundation
- Singh, Purushottam. 1991. *Neolithic Origins*. New Delhi: Agam Kala Prakashan.
- Tripathi, Vibha. 1976. *The Painted Grey Ware : An Iron Age Culture of Northern India*. Delhi: Concept.
- Tripathy, Vibha. 2001. *Age of Iron in South Asia: Legacy and Tradition*, Aryan Books International, New Delhi.
- Wheeler, R.E.M. 1968. *Indus Civilization*. (Third Edition). Cambridge: Cambridge University Press.
- Yattoo, M.A., 2012. *Characterising material culture to determine settlement patterns in north west Kashmir*, online resource material at British Library, UK.
- Spate M, Zhang G, Yattoo MA, Betts A, 2017. New evidence for early 4<sup>th</sup> Millennium BP agriculture in the Western Himalayas: Qasim Bagh, Kashmir, *Journal of Archaeological Science: Reports*, 2017 (11), 568-577.



Yattoo, MA, 2015. Iron Age Material Culture in South Asia – Analysis and Context of Recently Discovered Slag Sites in Northwest Kashmir (Baramulla District) in India, *Ancient Asia*, 6, Art.3, 1-8.

Yattoo, MA, & Bandey, AA, 2014. Relations of Neolithic Kashmir with South and Central Asia: Comparative Analysis of Material Culture from new sites in Kashmir, *Journal of Central Asian Studies*, Vol. 21 (XXI), 37-46.

Saar, S.S. 1992. *Archaeology: Ancestors of Kashmir*, New Delhi, Lalit Art Publishers.

Kaw, R.N. 1979. The Neolithic culture of Kashmir. In D.P. Agrawal and D.K. Chakrabarti (eds.) *Essays in Indian*

Mani, B.R. 2000. Excavations at Kanispur: 1998-99 (District Baramulla Kashmir). *Journal of Interdisciplinary Studies in History and Archaeology* 10, 1-21.

Mani, B.R. 2008. Kashmir Neolithic and Early Harappan: A Linkage, *Pragdhara* 18, 229-247.

Lawrence, W.R. 1895. *The Valley of Kashmir*, London, H. Frowde.

## SEMESTER- II

Course code: ARC17204CR

### Archaeological Sources

#### Unit 1: Introduction

- a. Importance of archaeological evidence
- b. Limitations of Archaeological Evidence
- c. Importance of literary sources in India
- d. Limitations of Literary Sources

#### Unit 2: Archaeology and Literature

- a. Earliest Literary Sources and Archaeological Records
- b. Early writing in West Asia
- c. Early writing in India and China

#### Unit 3: Material Culture

- a. Stone artefacts and tools
- b. Pottery and Terracotta
- c. Coins, Seals and Inscriptions

#### Unit 4: Occupational sites/Settlements

- a. Subterranean sites/ Dwelling sites
- b. Cave and Rock Art shelters
- c. Archaeological and Religious Monuments

## Recommended Readings:

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

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

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

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

Erodsy, George 1988. *Urbanisation in Early Historical India*. Oxford: BAR.

Dhavalikar, M.K. 1999. *Historical Archaeology of India*. New Delhi: Books & Books.

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

Kunhau Raja 1962 *Survey of Sanskrit Literature*. Mumbai: Bharatiya Vidya Bhavan.

Lad, Gauri P. 1981. *Mahabharata and Archaeological Evidence*. Pune: Deccan College.

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

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

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

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

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

## Science in Archaeology

Course code: ARC17205DCE

### Unit – 1 – Archaeobotany

- a. Archaeobotany: Introduction to different types of plant fossils found in archaeological contexts such as woods, food grains, impressions, compressions, casts, petrifications, coprolites, phytoliths, pollen and spores.
- b. Carbonisation of Seeds

### Unit – 2 – Zooarchaeology

- a. Study of bones: The mammalian skeleton, Osteology of selected domestic animals. Fossil preparation, identification and systematic palaeontology of fossil vertebrates.
- b. Study of human bones: Identification, methods of cleaning and reconstruction, sex determination, age estimation, demography and pathology

### Unit – 3 - Archaeometalurgy and Geoarchaeology

- a. Identification of common rocks and minerals.
- b. Preliminary study of soils/sediments: Determination of texture, colour, pH, calcium carbonate, organic carbon, phosphate etc.
- c. Earth Science: Geographic techniques - toposheet reading and interpretations, introduction to GIS and basics of remote sensing.

### Unit – 4 – Archaeological Dating Methods

- a. Relative Dating Methods  
*Stratigraphy*  
*Seriation*  
*Dendrochronology*
- b. Absolute Dating Methods  
*Radiocarbon*  
*Thermoluminescence*  
*Electron Spin Resonance*  
*Potassium Argon*  
*Fission Track*  
*Obsidian hydration*  
*Amino acid racemisation*

### Recommended Readings

- Badam, G.L. 1979. *Pleistocene Fauna of India*, Pune: Deccan College.
- Baker, J. and D. Brothwell. 1980. *Animal Diseases and Archaeology*, Academic Press: London
- Bass, W.M. 1981. *Human Osteology: A laboratory and field manual of the Human skeleton*, 2nd edition, Columbia: Missouri Archaeological Society.
- Bone, J.F. 1979. *Animal Anatomy and Physiology*, Reston: Reston Publishing Co.
- Black, C.A., Evans, D.D., White, J.L., Ensminger, L.E. and F.E. Clark (Eds.). 1965. *Methods of Soil Analysis*, part I Physical and Mineralogical properties and part II Chemical and Microbiological properties, American Society of Agronomy, Inc. Madison, Wisconsin, USA
- Brothwell, D. and E. Higgs (Eds.). 1969. *Science in Archaeology*, London : Thames and Hudson.
- Brothwell, D. and A.M. Pollard. 2001. *Handbook of Archaeological Sciences*, New York: John Wiley and Sons.
- Cornwall, I.W. 1974. *Bones for Archaeologists*, (revised edition), London : L.M. Dent and Sons.
- Deo, S.G. and P.P.Joglekar. 1998. Geographic Information System (GIS) for Archaeology. *Puratattava*, 27:85-90.
- Deo, S.G. 2000-01. Computer Applications in Archaeology: A review of work done at Deccan College, *Bulletin of Deccan College Postgraduate and Research Institute*, Vol. 60-61: 137-142.
- Deotare, B.C. 1995. Pollen recovery from minerogenic sediments : A methodological approach. *Man and Environment*, XX(2):101-105.
- Erdtman, G. 1969. *Hand book of Palynology*, New York: Hafner.
- Gary Lock and Zoran Stancic (eds). 1995. *Archaeology and Geographical Information Systems*, London : Taylor and Francis.
- Gary Lock and J. Moffett (Eds.). 1992. *Computer Application and Quantitative Methods in Archaeology 1991*. London: BAR International Series.
- Greig, James. 1989. *Handbook for Archaeologists No.4: Archaeobotany*, European Science Foundation, Strasbourg.
- Joshi, R.V. and B.C. Deotare. 1983. *Chemical Analysis of Archaeological Deposits from India*. Pune: Deccan College.
- Kajale, M.D. 1991. Current status of Indian Palaeoethnobotany : Introduced and indigenous food plants with a discussion of the historical development of Indian Agriculture and agricultural system in general, in *New Light on Early Farming*, Jane Renfrew (Ed.), Edinburgh: Edinburge University press, pp.155-190.

- Leiggi, Patrick and Peter May (Eds.). 1994. *Vertebrate Palaeontological Techniques*, Vol. 1, Cambridge University Press.
- Moore, P.D., Webb, J. A. and M.E. Collinson. 1992. *Pollen Analysis*, Oxford: Blackwell.
- Pearsall, D. 1989. *Palaeoethnobotany- Handbook of Procedures*. London: Academic press.
- Plenderlith, H.J. 1965. *The Conservations of Antiquities and Works of Art*, London: Oxford University press.
- Renfrew, J. 1973. *Palaeoethnobotany*, London: Mathuen and Co.
- Reilly, P. and S. Rathz (Eds.). 1992. *Archaeology and the Information Age*. London: Routledge
- Romer, A.S. 1967. *Vertebrate Paleontology*, Chicago: University of Chicago press.
- Schmid, E. 1972. *Atlas of Animal Bones*. London: Elsevier publishing Co.
- Singh, R. and L.R. Kajia. 1979. *Map Work and Practical Geography*, Allahabad: Central Book Depot.
- Traverse, A. 1988. *Palaeopalynology* Boston: Unwin Hyman.
- Zittel, Von K.A. 1925. *Text Book of Palaeontology*, Macmillan and Co. 3 vols.
- Yattoo, M.A., 2012. *Characterising material culture to determine settlement patterns in north west Kashmir*, online resource material at British Library, UK.
- Spate M, Zhang G, Yattoo MA, Betts A, 2017. New evidence for early 4<sup>th</sup> Millennium BP agriculture in the Western Himalayas: Qasim Bagh, Kashmir, *Journal of Archaeological Science: Reports*, 2017 (11), 568-577.

## SEMESTER- II

**Archaeology of Kashmir (Ancient to Medieval)**

**Unit-1:**

- a. A brief history of Kashmir up to sixth century AD.
- b. Semthan site and its significance

**Unit-2:**

- a. Kushan sites; hoinar, Hutmur, Ahan, Kanispora and other important sites and their importance.
- b. Harwan; Debate on its origin, Finds and their significance.

**Unit-3:**

- a. A brief history of Kashmir from Huns to Loharas.
- b. Sculptures: Terracotta, Stone, Metal and Ivory sculptures.
- c. Ancient Architecture of Kashmir: Stupa, Stone Temples
- d. Coinage

**Unit-4:**

- a. A brief history of Medieval Kashmir
- b. Architecture under the Sultans
- c. Architecture under the Mughals
- d. Ancient and medieval cities.

**Recommended Readings:**

Agrawal, D.P. 1982. *Archaeology of India*. Copenhagen: Scandinavian Institute of Asian Studies.

Agrawal, D.P. 2000. *Ancient Metal Technology and Archaeology of South Asia (A Pan-Asian Perspective)*, Aryan Books International, New Delhi

Agrawal, D.P. and D.K. Chakrabarti (eds.). 1979. *Essays in Indian Protohistory*. New Delhi: D.K Publishers.

Allchin, F.R. and B. Allchin 1993. *The Birth of Civilization in India*. revised ed. New Delhi: Penguin Books.

Allchin, Bridget and Raymond Allchin 1982. *Rise of Civilization in India and Pakistan*. Cambridge: Cambridge University Press.

Agrawal, D.P. 1992. *Man and environment in India through ages: an interdisciplinary study of the Indian quaternary with focus on north-west*, New Delhi, Books & Books.

Bandey A.A. 1997. Palaeolithic Habitational Site at Manasbal, Kashmir: Recent Archaeological Investigations, *Journal of Central Asian Studies*, University of Kashmir, 8 (1), 12-18.

Bandey A.A. 2003a. Neolithic settlement found at Bomai, Kashmir, India, *Circle of Inner Asian Art*, Issue 18.

Bandey A.A. 2003b. Preliminary Report: Archaeological explorations in Bomai village, Sopore, *Central Asian Digest*, Vol. XXIII, 10-12.

Bandey A.A. 2009. *Prehistoric Kashmir Archaeological History of Palaeolithic & Neolithic Cultures*, New Delhi, Dilpreet Publishing House.

De Terra, H. 1942. The Megaliths of Bursahom, Kashmir, a New Prehistoric Civilization from India, *American Philosophical society* 85 (5), 483-504.

De Terra, H. and Paterson, T.T. 2003 [1939]. *The Ice Age in the Indian Subcontinent and Associated Human Cultures: With Special Reference to Jammu, Kashmir, Ladakh, Sind, Liddar & Central and Peninsular India*, New Delhi, Aryan Books.

Joshi, R.V., Rajguru, S.N., Pappu, R.S., and Bopardiker, B.P. 1974. Quaternary Glaciations and Palaeolithic Sites in the Lidder Valley, J&K, *World Archaeology*, 369-79.

Mani, B.R. 2000. Excavations at Kanisapur: 1998-99 (District Baramulla Kashmir). *Journal of Interdisciplinary Studies in History and Archaeology* 10, 1-21.

Mani, B.R. 2008. Kashmir Neolithic and Early Harappan: A Linkage, *Pragdhara* 18, 229-247.



- Misra, V.N. 2001. Prehistoric Human Colonization of India, *Journal of Biosciences* 26 (4), 491-531.
- Pant, R.K., Gaillard, C., Nautiyal, V., Gaur, G.S., and Shali, S.L. 1982. Some new Lithic and Ceramic Industries from Kashmir, *Man and Environment* vol. VI, 37-40.
- Paddayya, K. 2008. Palaeolithic Cultures. In Deborah, M. Pearsall (ed.), *Encyclopaedia of Archaeology*: 768-791, Elsevier.
- Pande, B.M. 1969. Neolithic Hunting Scene on a Stone Slab from Burzahom, Kashmir, *Asian Perspectives*, XIV 1971, 134-138.
- Pande, B.M. 1970[1969]. The Neolithic in Kashmir - new discoveries, *The Anthropologist*, Vol. XVII, No. 1-2, 25-41.
- Pant, R.K. 1979. Microwear Studies on Burzahom Neolithic Tools, *Man and Environment* vol. 3, 11-17.
- Spate M, Zhang G, Yattoo MA, Betts A, 2017. New evidence for early 4<sup>th</sup> Millennium BP agriculture in the Western Himalayas: Qasim Bagh, Kashmir, *Journal of Archaeological Science: Reports*, 2017 (11), 568-577.
- Saar, S.S. 1992. *Archaeology: Ancestors of Kashmir*, New Delhi, Lalit Art Publishers.
- Shah, M.A., 2012. Discovery of Rock Art in Northern Kashmir, A Preliminary Investigation, in *Proceedings of The National Seminar on River Valley Civilization of Chatisgarh and New Researches in Indian Archaeology*, 329-336.
- Shali, S.L. 1993. *Kashmir: History and Archaeology Through the Ages*, New Delhi, OM Publications.
- Shali, S.L. 2001. *Settlement Pattern in Relation to Climatic changes in Kashmir*, New Delhi, OM Publications.
- Sankalia, H.D. 1971. New Evidence for Early Man in Kashmir, *Current Anthropology* 12 (4 / 5), 558-562.
- Sankalia, H.D. 1974. *Prehistory and Protohistory of India and Pakistan*, Poona, Deccan College post graduate and research institute.
- Saar, S.S. 1992. *Archaeology: Ancestors of Kashmir*, New Delhi, Lalit Art Publishers.
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SEMESTER- II

Generic Elective

**Science and Archaeology**

Course code: ARC17207GE

**Unit – 1 Archaeological Science an introduction**

- a. *Stratigraphy*
- b. *Seriation*
- c. *Dendrochronology*

**Unit – 2 Absolute Dating Methods**

- a. *Radiocarbon*
- b. *Thermoluminescence*
- c. *Electron Spin Resonance*
- d. *Potassium Argon*
- e. *Fission Track*
- f. *Obsidian hydration*
- g. *Amino acid racemisation*