

CURRICULUM
OF
BS ARCHAEOLOGY

**STANDARDIZED FORMAT / SCHEME OF STUDIES FOR
FOUR-YEAR INTEGRATED CURRICULA FOR BACHELOR DEGREE
IN BASIC, SOCIAL, NATURAL AND APPLIED SCIENCES**

STRUCTURE

Sr.	Categories	No. of courses Min – Max	Credit Hours Min – Max
1.	Compulsory Requirement (No Choice)	9 – 9	25 – 25
2.	General Courses to be chosen from other departments	7 – 8	21 – 24
3.	Discipline Specific Foundation Courses	9 – 10	30 – 33
4.	Major Courses including research project / Internship	11 – 13	36 – 42
5.	Electives within the major	4 – 4	12 – 12
	Total	40 – 44	124 – 136

- Total numbers of Credit hours 124-136
- Duration 4 years
- Semester duration 16-18 weeks
- Semesters 8
- Course Load per Semester 15-18 Cr hr
- Number of courses per semester 4-6 (not more than 3 lab /practical courses)

LAYOUT

Compulsory Requirements (the student has no choice)		General Courses to be chosen from other departments		Discipline Specific Foundation Courses		Major courses including research project/internship		Elective Courses within the major	
9 courses		7-8 courses		9-10 courses		11-13 courses		4 courses	
25 Credit hours		21-24 Cr. Hours		30-33 Credit hours		36-42 Credit hours		12 Credit Hours	
Subject	Cr.hr	Subject	Cr.hr	Subject	Cr.hr	Subject	Cr.hr	Subject	Cr.hr
1. ENGLISH I	3	1. Introduction to Anthropology		1. Introduction to Archaeology		1. World Prehistory		1. Gandhara Civilization	
2. ENGLISH II	3	2. Fundamentals of Geography		2. Ancient History of South Asia		2. Ancient Civilizations		2. Archaeological Conservation	
3. ENGLISH III	3	3. Basic Geology		3. Archaeological Heritage of Pakistan		3. Indus Civilization		3. Rock Art of Pakistan	
4. ENGLISH IV/ UNIV. OPTIONAL *	2	4. Introduction to Zoology		4. Stone Age of Pakistan		4. Muslim History of South Asia		4. Archaeology of Afghanistan and Central Asia	
5. PAKISTAN STUDIES	2	5. Fundamentals of Botany		5. Bronze Age Cultures of Pakistan		5. Prehistory of South Asia			
6. ISLAMIC STUDIES / ETHICS	3	6. Basic Chemistry		6. Ancient Religions		6. Provincial Cultural Heritage			
7. MATHEMATICS I	3	7. Computer Applications		7. Field Archaeology		7. Muslim Art: Calligraphy, Painting and Minor Arts & Crafts			
8. MATHEMATICS II / UNIV. OPTIONAL **	3	8. Introduction to History		8. Museum Studies		8. Muslim Architecture of Pakistan and India			
9. INTRODUCTION TO COMPUTER		9. Introduction to Tourism		9. Tourism in Pakistan		9. Ancient Art and Architecture of Pakistan and India			
		10. Fundamentals of Environmental Science		10. Growth of Archaeology in South Asia		10. Numismatics of Pakistan and India			
		11. Introduction to Heritage Management				11. Research Methodology and Research Project – I			
		12. Introduction to Hospitality/Hotel Management				12. Research Methodology and Research Project – II			
						13. Palaeography and Epigraphy of Pakistan and India			

MODEL SCHEME OF STUDIES FOR ARCHAEOLOGY

Semester/Year	Name of Subject	Credits
First	ENGLISH-I	3
	PAKISTAN STUDIES	2
	MATH/STAT-1	3
	GENERAL-I	3
	GENERAL-II	3
	FOUNDATION-I: Introduction to Archaeology	3
		17
Second	ENGLISH-II	3
	ISLAMIC STUDIES / ETHICS	2
	MATH/STAT-II / UNIV. OPTIONAL	3
	GENERAL-III	3
	GENERAL-IV	3
	FOUNDATION-II: Ancient History of South Asia	3
		17
Third	ENGLISH-III	3
	INTRODUCTION TO COMPUTER	3
	GENERAL-V	3
	GENERAL-VI	3
	FOUNDATION-III: Archaeological Heritage of Pakistan	3
		15
Fourth	ENGLISH-IV / UNIV. OPTIONAL	3
	GENERAL-VII	3
	GENERAL-VIII	3
	FOUNDATION-IV: Stone Age of Pakistan	3
	FOUNDATION-V: Bronze Age Cultures of Pakistan	3
		15
Fifth	FOUNDATION-VI: Ancient Religions of Pakistan and India	3
	FOUNDATION-VII: Field Archaeology	3+1
	MAJOR-I: World Prehistory	3
	MAJOR-II: Ancient Civilizations	3
	MAJOR-III: Indus Civilization	3+1
		15-17

Sixth	FOUNDATION-VIII: Museums Studies/Management of Cultural Heritage	3
	FOUNDATION-IX: Tourism in Pakistan	3
	MAJOR-IV: Muslim History of South Asia	3
	MAJOR-V: Prehistory of South Asia	3+1
	MAJOR-VI: Provincial Cultural Heritage	3+1
		15-17
Seventh	MAJOR-VII: Muslim Art: Calligraphy, Painting, Minor Arts & Crafts	3+1
	MAJOR-VIII: Muslim Architecture of Pakistan and India	3+1
	MAJOR- IX: Ancient Art and Architecture of Pakistan and India	3
	MAJOR-X: Numismatics of Pakistan and India	3
	MAJOR-XI: RESEARCH PROJ / INTERNSHIP	3
		15-17
Eighth	MAJOR-XII: RESEARCH PROJ / INTERNSHIP	3
	MAJOR-XIII: Palaeography and Epigraphy of Pakistan and India	3+1
	ELECTIVE-I (within MAJOR): Gandhara Civilization	3+1
	ELECTIVE-II (within MAJOR): Archaeological Conservation	3
	ELECTIVE-III (within MAJOR): Rock Art of Pakistan	3
	TOTAL – 124-136:	15-17

*** 4 Cr Hr must include LAB/Practical**

Note: The Department of Archaeology, University of Peshawar, will continue its MA (2-Year) Programme simultaneously with BS Degree Programme using the courses already approved by the concerned bodies; and in practice in the conventional system of examination.

FOUR YEAR INTEGRATED PROGRAMME OF STUDY FOR BACHELOR DEGREE

- The students will join the four year (8 Semesters; 124-136 credits hours) Bachelor Degree Programme at the University campus after 12 years of schooling. Each semester will be spread over 16-18 weeks including the examination period.
- One credit hour will be equal to 50 minutes student-teacher contact per week for 15-16 weeks and for laboratory/practical work its duration will be 3 hours.
- Students who qualify at least fourteen years of education at other institutions if wish to join the integrated four year programme may be allowed to do so for the last two years of the programme provided they complete required make-up courses offered by the university.

SEMESTER – I

Course No.	Course Title	Cr. Hrs.
Arch-311	English	3
Arch-312	Pakistan Studies	2
Arch-313	Mathematics/Statistics-I	3
Arch-314	GENERAL I	3
Arch-315	GENERAL II	3
Arch-316	FOUNDATION-I: Introduction to Archaeology	3
	Total Cr. Hrs.	17

DETAILS OF THE COURSES

Course Arch-311: English (Details to be obtained from approved curriculum)

Course Arch-312: Pakistan Studies (Details to be obtained from approved curriculum)

Course Arch-313: Mathematics/Statistics-I (Details to be obtained from approved curriculum)

Course Arch-314: GENERAL-I (Details to be filled in by respective University)

Course Arch-315: GENERAL II (Details to be filled in by respective University)

Course Arch-316: Introduction to Archaeology

PART-A

THEORY

- Definition and terminology of Archaeology
- Aims and objectives of Archaeology
- Brief history and development of Archaeology
- Types of Archaeology

PRACTICAL

- Visit to local sites and museums
- Systematic surface collection
- Photographic documentation of archaeological site
- Identification and drawing of artefacts

PART-B

- Relation of Archaeology with History, Anthropology, Geography, Geology, Zoology, Botany, Physics and Chemistry

- Basic Concept of Archaeology: artefacts, stratigraphy, archaeological sites, settlement-pattern, context
- Survey in Archaeology
- Excavation techniques
- Chronology

PRACTICAL

- Study of regional maps
- Location of sites/monuments on the maps
- Identification of key features of different periods

RECOMMENDED READINGS

Agrawal, D.P. Ghosh, A. (eds.), *Radiocarbon and Indian Archaeology*, Bombay, 1973.

Aitkin, M.J. *Science-based Dating in Archaeology*, Longman, London, 1990.

Bowman, S.G.E. *Radiocarbon Dating*, the British Museum publication, London, 1990.

Fagan, B.M. *In the Beginning: An Introduction to Archaeology*, Harper Collins, 7th ed, 1991.

Hole, F. and Heizer, R.F. *Prehistoric Archaeology: A Brief Introduction*, New York, 1977.

Joukowsky, M. A. *Complete Manual of Field Archaeology*, USA, 1980.

Renfrew, C. and Bahn, P. *Archaeology: Theories, Methods and Practice*, Thames and Hudson, London, 1991.

Wheeler, R.E.M. *Archaeology from the Earth*, London, 1961.

SEMESTER – II

Course No.	Course Title	Cr. Hrs.
Arch-321	English-II	3
Arch-322	Islamic Studies/Ethics	2
Arch-323	Mathematics-II/Univ. Optional	3
Arch-324	GENERAL III	3
Arch-325	GENERAL IV	3
Arch-326	FOUNDATION-II: Ancient History of South Asia	3+1
	Total Cr. Hrs.	17-18

DETAILS OF THE COURSES

Course Arch-321: English II

(Details to be obtained from approved curriculum)

Course Arch-322: Islamic Studies/Ethics

(Details to be obtained from approved curriculum)

Course Arch-323: Mathematics II/Univ.Optional

(Details to be obtained from approved Curriculum)

Course Arch-324: GENERAL III

(Details to be filled in by respective University)

Course Arch-325: GENERAL IV

(Details to be filled in by respective University)

Course Arch-326: Ancient History of South Asia

PART – A

- Introduction
- Sources of ancient history
- Aryans: their social, political, cultural, economic and religious life
- Buddhism: life and teachings of the Buddha
- Jainism
- Hinduism
- Achaemenian rule in Pakistan
- Alexander’s invasion of Pakistan
- Mauryan dynasty: administration of Chandragupta Maurya, Ashoka’s contributions to Buddhism

PART - B

- Indo-Greeks
- Indo-Scythians
- Indo-Parthians
- Kushanas: Achievements of Kanishka
- Gandhara Art
- Sasanians
- Huns
- Odi (or Hindu) Shahis

RECOMMENDED READINGS

Abdur Rahman, *The Last two Dynasties of the Śāhis*, Islamabad, 1979.

Abdur Rahman, ‘New Light on the Khingala, Turk and the Hindu Śāhis’, *Ancient Pakistan*, Vol. XV, Peshawar, 2002, pp. 37-42.

Abdur Rahman, ‘Ethnicity of the Hindu Śāhis’, *Journal of the Pakistan Historical Society*, Vol. LI, No.3, Karachi, 2003, pp. 3-10.

Basham, A.L. *The Wonder that was India*, rpt. India, 1963.

Majumdar, R.C. et.al. *An Advanced History of India*, Part-I, London, 1960.

Qureshi, I.H. (ed.), *A Short History of Pakistan*, Book One, Karachi, 1967.

Smith, V.A. *The Early History of India, from 600 BC to the Muhammad Conquest*, Oxford, 1967.

Thapar, R. *A History of India*, vol. 1, Penguin Books, New York, 1979.

SEMESTER – III

Course No.	Course Title	Cr. Hrs.
Arch-431	English-III	3
Arch-432	Introduction to Computer	3
Arch-433	GENERAL- V	3
Arch-434	GENERAL-VI	3+1
Arch-435	FOUNDATION III: Archaeological Heritage of Pakistan	3+1
	Total Cr. Hrs.	15-17

DETAILS OF COURSES

Course Arch-431: English-III:

(Details to be obtained from approved curriculum)

Course Arch-432: Introduction to Computer:

(Details to be obtained from approved curriculum)

Course Arch-433: GENERAL-V

(Details to be filled in by respective University)

Course Arch-434: GENERAL-VI

(Details to be filled in by respective University)

Course Arch-435: FOUNDATION-III: Archaeological Heritage of Pakistan

The course is designed to provide an abstract view of the heritage of Pakistan. Some portions are totally regional based and can be explained within the given limits of the present political boundaries.

- Introduction
- Stone age to first agricultural communities
- Urban revolutions
- First urbanism and its downfall 2600 BC to 5th century BC
- Second urbanism 5th century BC
- Religions and their socio-political role
- Buddhism, Hinduism, Jainism, Zoroastrianism and Sikhism, etc

- Establishment of Kingdoms/Empires: regional/provincial perspective; focus must remain on cities, monuments, etc.
- Establishment of States: regional/provincial perspective; focus must remain on cities, monuments etc.

RECOMMENDED READINGS

Agrawal, D.P. and Chakrabarti, D.K. eds. *Essays in Indian Protohistory*, Delhi, 1979.

Agrawal, D.P. *Archaeology of India*, Great Britain, 1985.

Allchin, B. and Allchin, R. *The Birth of India Civilization*, London, 1968.

Allchin, B. and Allchin, R. *The Rise of Civilisation in India and Pakistan*, Cambridge University Press, 1982.

Allchin, R.R. *Lewan and the Bannu Basin*, Oxford, 1986.

Allchin, R.R. *Neolithic Cattle-Keepers of South India*, Cambridge, 1963.

Ancient Pakistan, University of Peshawar (relevant volumes).

Asthana, S. *Pre-Harappan Cultures of India and the Borderlands*, New Delhi, 1985.

Dales, G.F. and Kenoyer, J.M. *Excavations at Moenjodaro, Pakistan: the Pottery*, Pennsylvania, 1986.

Gupta, S.P. *Archaeology of Soviet Central Asia and the Indian Borderland*, 2 vols, Delhi, 1979.

Kenoyer, J.M. *Ancient Cities of the Indus Valley Civilization*, Oxford, 1998.

Khan, F.A. *The Glory that was Harappa*, Karachi, n.d.

Khan, F.A. *Preliminary Report on Kot Diji Excavations 1957-8*, Karachi, 1958.

Khan, F.A. *The Kot Diji Culture*, Khairpur, 2002.

Mackay, E.J. *Further Excavations at Moenjo Daro*, Delhi, 1938.

Mackay, E.J. *Chanhudaro Excavation 1935-36*, New Haven, 1943.

Marshall, Sir John, *Moenjo Daro and the Indus Civilisation*, London, 1931.

Mughal, M.R. *Ancient Cholistan*, Lahore, 1998.

Mughal, M.R. *Present State of Research on the Indus Valley Civilisation*, Karachi, 1973.

Pakistan Archaeology (relevant volumes)

Possehl, G. ed. *Harappan Civilization*, New Delhi, 1982

Pakistan Heritage (relevant articles)

SEMESTER – IV

Course No.	Course Title	Cr. Hrs.
Arch-441	English-IV	3
Arch-442	GENERAL-VII	3
Arch-443	GENERAL-VIII	3
Arch-444	FOUNDATION IV: Stone Age of Pakistan	3+1
Arch-445	FOUNDATION V: Bronze Age Cultures of Pakistan	3+1

	Total Cr. Hrs.	15-17
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DETAILS OF COURSES

Course Arch-441: English-IV:

(Details to be obtained from approved curriculum)

Course Arch-442: GENERAL-VII:

(Details to be filled in by respective University)

Course Arch-443: GENERAL-VIII:

(Details to be filled in by respective University)

Course Arch-444: Stone Age of Pakistan

THEORY

- Introduction
- Palaeolithic (Lower, Middle and Late): Soan Valley, Sanghao Cave, Rohri Hills
- Mesolithic: Thar Desert, Khanpur Cave, Rohri Hills
- Neolithic: Mehrgarh, Jhandi Babar, Kili Gul Muhammad, Gumla, Sheri Khan Tarakai, Sarai Khola.

PRACTICAL

- General Map of the region indicating physical features
- Location of prehistoric sites and monuments on the map
- Identification of characteristic features of various sites/periods
- Visit to sites and monuments in the area

RECOMMENDED READINGS

Agrawala, D.P. *Archaeology of India*, Curzon Press Ltd., London, 1982.

Allchin, R & B. *The Rise of Civilisation in India and Pakistan*, UK, 1982.

De Terra, H. and Paterson, T. T. *Studies on the Ice Age in India and Associated Human Cultures*, Washington, 1939.

Journals: *Pakistan Archaeology*; *Ancient Pakistan*; *Ancient Sindh*; *Frontier Archaeology*;

Lahore Museum Bulletin and Journal of Asian Civilisations (relevant volumes).

Khan, F., Knox, J. R. & Thomas, K. D. *Explorations and Excavations in Bannu District of North West Frontier Province of Pakistan, 1985-1988*, London, 1991.

Khan, F., Knox, J.R., Thomas, K.D., Petrie, C.A. and Morris, J.C. *Sheri Khan Tarakai and early village life in the borderlands of north-west Pakistan*, Petrie, C.A. (ed.). *Bannu Archaeological Project Monographs - Volume 1*, Oxbow Books, Oxford, 2010.

Paterson, T.T., and Drummond, H.J.H. *Soan: the Palaeolithic of Pakistan*, Karachi, 1962.

Rendell, H. M., Dennell, R.W. & Halim, M. A. Pleistocene and Palaeolithic Investigations in the Soan Valley, Northern Pakistan, Oxford, 1989.

Salim, M., The Middle Stone Age Cultures of Northern Pakistan, Islamabad, 1986.

Course Arch-445: Bronze Age Cultures of Pakistan

THEORY

- Introduction
- Indus Urbanisation (Early, Mature and Late Period): Mehrgarh, Jhandi Babar, Amri, Kot Diji, Rahman Dheri, Gandi Umar Khan, Maru, Noshero, Harappa, Mohen jo Daro
- Post Indus Period (Pirak, Jhukar, Jhangar, Cemetery-H,).
- Gandhara Grave Sites in Taxila, Swat, Dir, Chitral, the Peshawar valley and the emergence of Iron Age.

PRACTICAL

- General Map of the region indicating physical features
- Location of sites and monuments on the map
- Identification of characteristic features of various sites/periods
- Identification of architectural features of various periods
- Visit to historical sites and monuments in the area

RECOMMENDED READINGS

Agrawal, D.P. and Chakrabarti, D.K., eds., *Essays in Indian Protohistory*, Delhi, 1979.

Allchin, F.R. *Lewan and the Bannu Basin*, Oxford, 1986.

Allchin, R & B. *The Rise of Civilisation in India and Pakistan*, UK, 1982.

Asthana, S. *Pre-Harappan Cultures of India and the Borderlands*, New Delhi, 1985.

Chakrabarti, D.K. *The External Trade of the Indus Civilisation*, Delhi, 1990.

Dales, G.F. and Kenoyer, M. *Excavations at Mohenjodaro, Pakistan: the Pottery*, Pennsylvania, 1986.

Dani, A.H. *Indus Civilization – New Perspective*, Islamabad, 1981.

Dani, A.H. *Recent Archaeological Discoveries in Pakistan*, Unesco, Tokyo, 1988

Journals: *Pakistan Archaeology*, *Ancient Pakistan*, *Ancient Sindh*, *Frontier Archaeology*,

Lahore Museum Bulletin, *Journal of Asian Civilisations*, *South Asian Archaeology*,

East and West (relevant volumes).

Kenoyer, M. *Ancient Cities of the Indus Valley Civilization*, Oxford, 1998.

Khan, F., Knox, J.R. & Thomas, K. D. *Explorations and Excavations in Bannu District of North West Frontier Province of Pakistan, 1985-1988*, London, 1991.

Khan, F.A. *Preliminary Report on Kot Diji Excavations 1957-8*, Karachi, 1958.

Khan, F.A. *The Kot Diji Culture*, Khairpur University, 2002.

Lal, B.B. *The Earliest Civilisation of South Asia*, New Delhi, 1997.

Mackay, E.J. Further excavations at Moenjodaro, Delhi, 1938.

Mughal, M. R. *Ancient Cholistan*, Lahore, 1998.

Mughal, M. R. Present Stage of Research on the Indus Valley Civilisation, Karachi, 1973.

Rao, S.R. Lothal and the Indus Civilisation, Bombay, 1973.

Settar, S and Korisettar, R. Indian Archaeology in Retrospective: Protohistoric Archaeology of the Harappan Civilisation, Vol. II, New Delhi, 2002.

Shaffer, J. *Prehistoric Baluchistan*, New Delhi, 1979.

SEMESTER – V

Course No.	Course Title	Cr. Hrs.
Arch-551	FOUNDATION-VI: Ancient Religions of Pakistan and India	3
Arch-552	FOUNDATION-VII: Field Archaeology	3
Arch-553	MAJOR-I: World Prehistory	3
Arch-554	MAJOR-II: Ancient Civilizations	3+1
Arch-555	MAJOR-III: Indus Civilization	3+1
	Total Cr. Hrs.	15-17

DETAILS OF COURSES

Course Arch-551: Ancient Religions of Pakistan and India

1. Introduction
2. Jainism
 - Jain tradition regarding twenty-four *tirthankaras* (prophets)
 - Parshva and Mahavira
 - Mahavira's life sketch
 - Importance of the Ardha Magadhi canon
 - Mahavira's meeting with Goshala Mankhaliputta (head of the Ajivika sect)
 - Vardhamana Mahavira and his doctrine
 - Jainism after Mahavira
 - Jain canon, philosophy and icons.
3. Buddhism
 - Buddhist literature
 - Origin and development of Buddhism
 - Teachings of Gautama Buddha
 - Hinayana and Mahayana sects
 - Vina Sutta and Abhidhamma Pitakas
 - Sthaviravadin School
 - Evolution of the Great Vehicle (Mahayana)
 - Mahasanghika and Sarvastivadins
 - Adi Buddhas

- Bodhisattvas
 - Lalitavistara
 - Buddhist ethics and morality
4. Hinduism
- Vedas
 - Upanishads and freedom of religious speculation
 - Vaishnavism: Origin and evolution
 - Vasudeva-Krishna and the Bhagavat sect
 - The *Bhagavad-Gita*
 - Vishnu's *avatars* (incarnations)
 - The doctrine of four *vyuhas* (phases of conditioned spirit)
 - Images and their emblems of identification
 - Shaivism
 - The Pasupata sect and its teachings
 - Shaivism as a popular cult
 - Maheshvara and Mahadeva
 - Shaiva images
 - Important gods and goddesses and their characteristic iconographic features

RECOMMENDED READINGS

- Basham, A.L. *History and Doctrines of the Ajivikas*, London, 1951.
- Bhandarkar, R.G. *Vaishnavism, Saivism and Minor Religious Sects*, Strassburg, 1915.
- Conze, E. *Buddhism, Its Essence and Development*, 2nd ed. Oxford, 1953.
- Dauids, R.T.W. *Buddhism, Its History and Literature*, 2nd ed. London, 1926.
- Dowson, J. *A Classical Dictionary of Hindu Mythology and Religion*, 7th ed. London, 1950.
- Farquhar, J.N. *A Primer of Hinduism*, London, 1912.
- Hopkins, E. W. *Epic Mythology*, Strassburg, 1915.
- Keith, A.B. *Buddhist Philosophy in India and Ceylon*, Oxford 1923.
- McGovern, W.N. *Manual of Buddhist Philosophy*, London, 1923.
- Stevenson, S. *The Heart of Jainism*, Oxford, 1915.
- Thomas, E.J. *The life of the Buddha as Legend and History*, London, 1975.
- Thomas, E.J. *History of Buddhist Thought*, 2nd ed., London, 1951.

Course Arch-552: Field Archaeology

THEORY

1. Introduction
 - Concept, definition and scope of Archaeology
 - The New Archaeology
 - History of archaeological research in South Asia to the present

- The role of Archaeology in national development
 - Archaeology as a scientific discipline
 - Time
 - The “Three age system”
 - Relative and absolute chronology
 - Stratigraphy and law of superimposition
 - Pleistocene geochronology
 - Pollen analysis
 - Varve analysis
 - Ordering of artefacts
 - Cross-dating with objects of known age
 - Dendrochronology
 - Thermoluminescence dating
 - Radiocarbon dating
 - Potassium-Argon dating
 - Obsidian-hydration dating
 - Fission-track method
 - Archaeomagnetic dating
2. Discovery
- How the ancient sites got buried
 - Avenues leading to the discovery of a site
 - Chance discoveries
 - Aerial reconnaissance: satellite imagery, aerial photography
3. Survey
- Geographical Information System (GIS)
 - Global Positioning System (GPS)
 - Map reading
 - Interpretation of aerial photographs
 - Photogrammetry
 - Survey at ground level
 - Chain survey
 - Contour map
 - Use of compass and theodolite
 - Electron Distance Measurer (EDM) /Total Station, 3D Scanner
 - Electrical resistivity survey
 - Proton magnetometer
 - Sound-wave survey
4. Excavation
- Organisation of an archaeological excavation
 - Excavation tools
 - Lay-out of an excavation

- Excavation methods: sondages, grid-strip, quadrant, etc.
 - Types of Excavation: vertical, horizontal, rescue, etc.
 - Sampling
 - Trial trench
 - Demarcation of layers
 - Sample collection: soil, pollen, wood, charcoal, bones, etc.
5. Excavation Problems
- Open hunting camps
 - Caves and rock-shelters
 - Villages and towns
 - Religious buildings: monastery, Hindu temple, mosque, etc.
 - Stupa
 - Burials
 - Mud-brick structures
 - Wooden structures
 - Pit excavation
6. Recording
- Three dimensional measurements
 - Graph plotting
 - Record card
 - Computer recording
 - Field diary
 - Archaeological photography
 - Archaeological drawing
7. Pottery yard
- Layout of pottery-yard
 - Washing/cleaning and registration
 - Classification
 - Typology
 - Pottery tabulation
 - Pottery distribution map
 - Frequency chart
8. Registration, Cataloguing
- Accession register
 - Cataloguing of antiquities
 - Antiquity distribution map
9. Reconstruction of Environment, Subsistence and Economic Patterns
- Reconstructing ancient environments
 - Palynology
 - Subsistence patterns

- Animal bones
 - Vegetal remains
 - Agriculture
 - Domestic and wild animals
 - Birds, fish, and molluscs
 - Rock art
 - Ancient dietary patterns
 - Interaction network system
10. Ordering and Interpretation
- Seriation
 - Typology
 - Ethnographic analogy and comparative method
 - Probability theory, statistical techniques
 - Culture change: invention, migration and diffusion
11. Computer Application in the Analysis of Archaeological Data
12. Report Writing and Publication

PRACTICAL

- Pre-excavation exploration
- Archaeological surveying
- Use of survey equipment
- Site documentation: photographic, linear, visual
- Pre-excavation planning
- Excavation and documentation of archaeological features
- Three dimensional documentation of structures, artefacts, sections
- Handling, classification and tabulation of pottery in pottery-yard
- Application of basic conservation techniques to artefacts in the field
- Maintenance of field diaries
- Artefact drawing
- Use of computer-based techniques for seriation, cluster-analysis

RECOMMENDED READINGS

Alexander, J. *The Directing of Archaeological Excavations*, London-New York, 1970.

Atkinson, R.J.C. *Field Archaeology*, 2nd ed, London, 1953.

Barker, P. *The Technique of Archaeological Excavation*, London, 1983.

Binford L.R. and Binford S.R., eds., *New Perspective in Archaeology*, Chicago, 1968.

Bowman, S. *Radiocarbon Dating*, British Museum, London, 1990.

Butzer, K.W. *Environment and Archaeology: An Introduction to Pleistocene Geography*, 2nd ed., Chicago, 1971.

Clarke, D.L. *Analytical Archaeology*, 2nd ed., London, 1978.

Clarke, D.L. ed., *Models in Archaeology*, London, 1972.

- Coles, J.M. Archaeology by Experiment, London, 1973.
- Coles, J.M. Field Archaeology in Britain, London, 1977.
- Daniel, G.E. 150 Years of Archaeology, Cambridge, 1976.
- Daniel, G.E. The Origins and Growth of Archaeology, London, 1967.
- Deetz, J. Invitation to Archaeology, New York, 1967.
- Doran, J.E. & Hodson, F.R. Mathematics and Computers in Archaeology, Edinburgh University Press, 1975.
- Fagan, B.M. In the Beginning: An Introduction to Archaeology, Harper Collins, 7th ed., 1991.
- Fleming, S. Dating in Archaeology, London, 1977.
- Harris, E.C. Principles of Archaeological Stratigraphy, 2nd ed., London, 1989.
- Hodder, I. And Orton, C. Spatial Analysis in Archaeology, Cambridge, 1976.
- Hole, F. and Heizer, R.F. An Introduction to Prehistoric Archaeology, 3rd ed., New York, 1973.
- Joukowsky, M. A Complete Manual of Field Archaeology, Englewood Cliffs, USA, 1981.
- Parkes, P.A. Current Scientific Techniques in Archaeology, London, 1986.
- Renfrew, C. and Bahn, P. Archaeology: Theories, Methods and Practices, London, 1991.

Course Arch-553: World Prehistory

1. Introduction
 - Concept, definition and scope of Prehistory
 - Concept of Culture
 - Man, culture and society
 - The evolution of culture
 - Culture is learned
 - The concept and method of cultural ecology
 - Culture and language
 - Culture and personality
2. Lower Palaeolithic Culture
 - Characteristic features
 - Cultures of Lower Palaeolithic Period
 - Principal tool-types, their manufacturing techniques and probable functions
 - Lower Palaeolithic of Africa and Europe
3. Middle Palaeolithic Culture
 - Characteristic features
 - Cultures of Middle Palaeolithic Period
 - Principal tool-types, their manufacturing techniques, and probable functions
 - Intellectual developments: art and religion
 - Middle Palaeolithic of Africa and Europe
4. Upper Palaeolithic Culture

- Characteristic features
 - Cultures of Upper Palaeolithic Period
 - Principal tool-types, their manufacturing techniques and probable functions
 - Intellectual developments: art and religion
 - Upper Palaeolithic of Africa and Europe
5. Mesolithic Culture
- Characteristic features
 - Cultures of Mesolithic Period
 - Principal tool types, their manufacturing techniques and probable functions
 - Intellectual developments: art and religion
 - Mesolithic of Europe
6. Neolithic Revolution
- Domestication of plants and animals
 - Evolution of stone-tool technology
 - Introduction of ceramics
 - Evolution of permanent settlements
 - Evolution of related arts and crafts
 - Early Neolithic Cultures
 - Neolithic Culture of the Near East/Western Asia

RECOMMENDED READINGS

Barnouw, V. *An Introduction to Anthropology*, (2 vols.), vol. 2, Ontario, 1971.

Dunbar, R.I.M., Gamble, C., and Gowlett, J.A.J. *Lucy to Language*, Oxford, 2003 to 2014.

Farb, P. *Humankind: A History of the Development of Man*, London, 1978.

Gibbons, Ann. *The First Human (The Race to Discover Our Earliest Ancestors)*. New York, 2007.

Gowlett, J. W. *Ascent to Civilization*, London, 1984.

Howell, F.C. *Early Man*. Canada, 1970.

Jacobs and Stern. *General Anthropology-A Brief Survey of Physical, Cultural and Social Anthropology*.

Kottak, C. P. *Cultural Anthropology*, New York, 1975.

Leakey, L.S.B. *Olduvai Gorge: 1951-61: A Preliminary report on the Geology and Fauna*, Vol.1, Cambridge, 1964.

Leakey, R.E., Leakey, M.G. and Walker, A.C. 1988, 'Morphology of *Afropithecus Turkensis* from Kenya', *Nature* 76, pp. 289-307.

Oakley, K.P. *Skill as a Human Possession*. In *A history of Technology*. Oxford, 1954.

Oakley, K.P. *Framework for Dating Fossil Man*, London, 1964.

Oakley, K.P. *Man the Toolmaker*, 3rd ed., 1956.

Pilbeam, D. 'Genetic and Morphological Records of the Hominoidea and Hominid Origins: A Synthesis', *Molecular Phylogenetics and Evolution*, Vol. 5, No. 1, 1996, pp. 155-168.

Reader, J. In Search of Human Origins, Oxford, 2012.

Renfrew, C. Prehistory: The Making of the Human Mind, 2008.

Robert, J.W. and Deborah, I.O. Patterns in Prehistory: Humankind's First Three Million Years. 5th ed., 2006.

Watson, W. Flint Implements. Oxford, 1954.

Course Arch-554: Ancient Civilizations

THEORY

1. Introduction
 - Concept of culture and civilization
 - Elements of civilization
 - Basic conditions of civilization
2. Mesopotamian Civilization
 - Environmental background
 - Chronology (3500–600 BC)
 - Socio-political set-up of the Sumerians, Akkadians, Babylonians, Assyrians and Chaldeans
 - Various aspects of civilization: art, architecture, writing, seals, religion and economy
3. Egyptian Civilization
 - Egypt geophysical history and its impact on local cultures
 - Art and architecture
 - Religion
 - Writing system
 - Contribution in literature, science, philosophy, medicine
4. Chinese Civilization
 - Shang Dynasty
 - Chou Dynasty
 - Chen Dynasty
 - Han Dynasty
 - Art and architecture
 - Contributions in philosophy
5. Iranian Civilization
 - Origin of Iranian Civilisation
 - Achaemenians: history and formation of their empire
 - Provincial administration system
 - Zoroastrian Religion
 - Art and architecture
 - Cyrus
 - Darius I and Darius II

- Sasanians
6. Greek Civilization
 - Origin and development of the Greek Civilization
 - Origin of city states
 - Hellenic and Hellenistic phases
 - Art and architecture
 - Literature
 - Philosophy
 - Science
 7. Roman Civilization
 - Origin and development of Roman Empire
 - General characteristics of Roman Culture
 - Art and architecture
 - Philosophy and science
 - Roman law

PRACTICAL

- Study of regional maps showing physical features of each region
- Identification of key elements of the arts of different periods
- Study of different architectural styles of various periods

RECOMMENDED READINGS

Durant, W. *Our Oriental Heritage*, New York, 1954.

Ralph and Burns, *World Civilization*, New York, 1974.

Smith, W.S. *The Art and Architecture of Ancient Egypt*, London, 1958.

Watson, W. *Early Civilisation of China*, London, 1966.

Course Arch-555: Indus Civilization

THEORY

1. Introduction
 - Terminology of the Indus Civilization
 - Environmental background
 - Discovery of Indus Civilization
 - Present state of research on Indus Civilization
2. Early Indus Period (from Mehrgarh to the Rise of Mature Indus Period)
 - Distribution of Settlements (Tochi-Gomal/Hakra/Amri/Kot Dijian/Harappan)
 - Development of art and architecture
 - Major settlements of Early-Indus Civilization

3. Mature Indus Period

- Settlement pattern
- Art and architecture
- Town planning
- Seals
- Major crafts
- The Indus script
- Trade relations
- Decline of the Indus Civilization

4. Late Indus Period

- Settlement pattern
- Late Indus Cultures in Sindh, Punjab, Balochistan, and Gujarat

PRACTICAL

- Visit to Mohen jo Daro and Harappa
- To study architecture
- To study city-plan and layout
- To study conservation and preservation work
- Prepare map of Mature Indus Period, Kotdijian Period and Late Indus Period sites/settlements
- Pottery identification of various periods

RECOMMENDED READINGS

Agrawal, D.P. *Archaeology of India*, Great Britain, 1985.

Agrawal, D.P. *The Copper-Bronze Age in India*, Delhi, 1971.

Allchin, B. and Allchin, R. *The Birth of Indian Civilisation*, London, 1968.

Allchin, B. and Allchin, R. *The Rise of Civilisation in India and Pakistan*, Cambridge University Press, 1982.

Allchin, F.R. *Lewan and the Bannu Basin*, Oxford, 1986.

Allchin, F.R. *Neolithic Cattle-Keepers of South India*, Cambridge, 1963.

Allchin, F.R., Allchin, B., Durrani, F.A. and Khan, F. *Lewan and the Bannu Basin*, Great Britain, 1986.

Ancient Pakistan, University of Peshawar, (relevant volumes).

Asthana, S. *Pre-Harappan Cultures of India and the Borderlands*, New Delhi, 1985.

Chakrabarti, D.K. *The External Trade of the Indus Civilisation*, Delhi, 1990.

Dales, G.F. and Kenoyer, M. *Excavations at Moenjodaro, Pakistan: the Pottery*, Pennsylvania, 1986.

Dani, A.H. *Indus Civilisation—New Perspective*, Islamabad, 1981.

Fairservis, W.A. *The Roots of Ancient India*, 2nd ed., Chicago, 1975.

Fairservis, W.A. *The Origin, Character and Decline of an Early Civilization*, 1967.

Gupta, S.P. *Archaeology of Soviet Central Asia and the Indian Borderland*, Vols. I & II, Delhi, 1979.

Jacobson, J. ed., *Studies in the Archaeology of India and Pakistan*, New Delhi, 1986.

Journals: *Ancient India*, *Ancient Pakistan*, *Indo-Koko Kenkyu* *Pakistan Archaeology*, *South Asian Archaeology*.

Kenoyer, M. *Ancient Cities of the Indus Valley Civilization*, Oxford, 1998.

Khan, F.A. *The Glory that was Harappa*, Karachi, n.d.

Lal, B.B. *The Earliest Civilisation of South Asia*, New Delhi, 1997.

Lal, B.B. *Chanhudaro Excavation 1935-36*, New Haven, 1943

Mackay, E.J. *Further excavations at Mohenjo Daro*, I Delhi, 1938.

Masrshall, J. *Mohenjo Daro and the Indus Civilisation*, London, 1931.

Mughal, M.R. *Ancient Cholistan*, Lahore, 1998.

Mughal, R. *Present Stage of Research on the Indus Valley Civilisation*, Karachi, 1973.

Possehl, G., ed., *Ancient Cities of the Indus*, 1979.

Possehl, G., ed., *Harappan Civilization*, New Delhi, 1982.

Possehl, G., ed., *Ancient Cities of Indus*, New Delhi, 1979.

Possehl, G., ed., *Harappan Civilization: Contemporary Perspective*.

Possehl, G., ed., *The Indus Civilisation in Saurashtra*, New Delhi, 1980.

Rao, S.R. *Lothal and the Indus Civilisation*, Bombay, 1973.

Settar, S. and Korisettar, R. *Indian Archaeology in Retrospective: Protohistoric Archaeology of the Harappan Civilisation*, Vol. II, New Delhi, 2002.

Shaffer, J. *Prehistoric Baluchistan*, New Delhi, 1979.

Urban, G. et alii, eds. *Forgotten cities on the Indus*, Germany, 1991.

Various articles on preservation of Mohenjo Daro.

Vats, M.S. *Excavation at Harappa*, 2 vols, New Delhi, 1940.

SEMESTER-VI

Course No.	Course Title	Cr. Hrs.
Arch-561	FOUNDATION-VIII: Museum Studies/Management of Cultural Heritage (Museum Studies)	3
Arch-562	FOUNDATION-IX: Tourism in Pakistan	3
Arch-563	MAJOR-IV: Muslim History of South Asia	3
Arch-564	MAJOR-V: Cultural Anthropology	3+1
Arch-565	MAJOR-VI: Prehistory of South Asia	3+1
	Total Cr. Hrs.	15-17

DETAILS OF COURSES

Course Arch-561: Management of Cultural Heritage (Museums Studies)

THEORY

1. Introduction
 - Definitions of UNESCO, ICOM, ICCROM, Management etc.
2. Museum and Its Function
 - Definition and its scope
 - Functions: collection, recording, preservation, exhibition and education
 - Different types of museums
 - History of Museology in Pakistan
 - Problems and prospects of museums in Pakistan
3. Museum Administration
 - General organization
 - Staff and their functions: Curator, technical, public-relation, educational, Clerical and contingent
 - Collections: Primary documentation, study, research, storage and display
4. Museum Security
5. Documentation
 - Record keeping: Registers/Computer punch cards
 - Temporary accession
 - Permanent accession
 - Record of storage
 - Gallery record
6. Care and Storage of Museum Objects
 - Objects on display
 - Objects in stores
 - Storage conditions
 - Accessibility
 - Record of movement of museum exhibits & reserve
 - Care against theft, dampness, dust, temperature, and light
 - Care and repair of museum objects
7. Museum Architecture
 - Requirement of museum building
 - Plan for a museum
 - Storage facilities
 - Display galleries
 - Service facilities: Library, photography, offices, workshops, Laboratories, etc.

- Public facilities: Cafeteria, gift-shop, lavatories
8. Museum Exhibition
- Permanent exhibition
 - Planning and setting up an exhibition
 - Showcase designing
 - Labels
 - Lighting
 - Background of exhibits
 - Mounting objects
 - Temporary exhibition
 - Travelling exhibition
9. Museum Education Research Programme
- Educational programme of a museum: Lectures, seminars, film- shows and cultural- shows.
 - Research and publications
 - Research facilities in a museum
 - Museum library

PRACTICAL

- Two weeks internship in the local museum learning temporary and permanent museum display, lighting, labelling, humidity and environmental control, security of artefacts, accession and cataloguing of museum exhibits and museum education service

RECOMMENDED READINGS

Burn, N.J. *Field Manual for Museums*, Washington D.C., n.d.

Dani, A.H. *A Survey of Museums and Archaeology in Pakistan*, Peshawar, 1970.

Dar, S.R. *Archaeology and Museums in Pakistan*, Lahore, 1977.

Dar, S.R. *Museology and Museum Problems in Pakistan*, Lahore 1980.

Dar, S.R. *Repositories of our Cultural Heritage: A Handbook of Museums in Pakistan*, Lahore, 1979.

Journals: UNESCO, The Organisation of Museums; Museums Association of Pakistan; Canadian Museums Association; Studies in Conservation; International Council of Museums; Journal of the American Group for Conservation; Technology and Conservation.

Shakoor, M.A. *Museum Studies and Archaeology*, Peshawar, 1953.

Singh, A. P. *Conservation and Museum Techniques*. Delhi: Agam Kala Prakashan, 1987.

Thomson, G. *The Museum Environment: Conservation in the Arts, Archaeology and Architecture Series*, London, 1978.

UNESCO, *Handbook of Museum Conservation*.

THEORY

1. Introduction

- Introduction, definition, types, scope and ethics of Tourism
- Related industries, origin and destination, basic infrastructure
- Planning, marketing and execution strategies
- Maps and tourist literature

2. Cultural Tourism

- Significance and scope of cultural tourism

a. Archaeological sites and monuments

Major cultural parameters of the Soan Valley, Rohri Hills, Sanghao Cave, Mehrgarh, Kot Diji, Mohenjo Daro and Harappa, major cultural parameters of Taxila, Peshawar, Swat, Dir, Chitral, Takht-i Bahi, Jamalgarhi, Shahbazgarhi, Salt Range, Rock Art of Northern Areas, and Jain Temples of Tharparkar, major cultural parameters of Banbhore, Mansura, Multan, Odi Gram, Lahore, Uchh Sharif, Rohtas Fort, Thatta, Lal Mara Sharif, Choukandi, Tombs of Baluchistan, Attock and Peshawar Forts.

b. Museums

3. Eco-tourism

- Natural geographic units, Parks and Play lands, Safari parks

PRACTICAL

- Planning and execution of a cultural tourism itinerary

RECOMMENDED READINGS

Dani, A.H. *Thatta: Islamic Architecture*, Islamabad, 1982.

Dani, A.H. *Human Records on the Karakoram Highway*, Islamabad, 1983.

Dani, A.H. *History of Northern Areas of Pakistan*, Lahore, 2001.

Dani, A.H. *Chilas the City of Nangaparvat (Dyamar)*, Islamabad, 1983.

Dani, A.H. *The Historic City of Taxila*, UNESCO, and Centre for East Asian Cultural Studies, Tokyo, 1986.

Journals: *Ancient Pakistan*; *Ancient Sindh*; *Pakistan Archaeology*, *South Asian Archaeology* (relevant volumes).

Khan, F.A. *Architecture and Art treasures in Pakistan*, Place, date??

Khan, F.A. *Banbhore*, Karachi, 4th, Place, 1976.

Khan M. Ishtiaq, *World Heritage Sites in Pakistan*, Islamabad, 2000.

Khan M. Ishtiaq, *Lahore Fort*, Department of Archaeology, Karachi, n.d.

Khan M. Ishtiaq, *Shalamar: The Glory that Was*, Department of Archaeology, Karachi, n.d.

Khan M. Waliullah, Lahore and its Important Monuments, Karachi 1961

Marshall, J. *A Guide to Taxila*, rpt, Karachi, 1960.

Marshall, J. *The Buddhist Art of Gandhara*, Cambridge, 1960.

Marshall, S. J. *A Guide to Taxila*, Cambridge, 1960

Nadiem I. H. Rohtas: A Formidable Fort of Sher Shah, Lahore, n.d.

Siddiqi, M.I. *Wadei Sindh ki Tehzib* (Urdu), Karachi, 1959. Sardar, B. *Buddhist Rock Carvings in the Swat Valley*, Islamabad, 2005.

Wheeler, R.E.M. *Five Thousand Years of Pakistan*, London, 1950 (rpt. 1992).

Zwalf, S. *The Shrines of Gandhara*, London, 1979

Course Arch-563: Prehistory of South Asia

1. Introduction
 - Geology and geomorphology of Pakistan, Kashmir, Swat, Soan Valley and India
 - Siwaliks and its formation
 - Prehistory of South Asia (Pakistan and India)
 - State of Research on the Prehistory of south Asia
 - Terminologies
2. Life on the Earth
 - Geological Time Scale
 - Paleozoic, Mesozoic and Cenozoic
 - Quaternary Era, Pleistocene and Holocene
 - Glaciations, inter-glaciations, pluvial, inter-pluvial
 - Man and Environment
 - Fossils and fossilization
3. Emergence of Man
 - Divine origin theory
 - Evolution theory
 - Alternate theory
4. Lower Palaeolithic Culture of South Asia
 - Characteristic features
 - Cultures and Prehistoric Archaeological sites
5. Middle Palaeolithic Culture South Asia
 - Characteristic features
 - Cultures and Prehistoric Archaeological sites
6. Upper Palaeolithic Culture
 - Characteristic features
 - Cultures and Prehistoric Archaeological sites

7. Mesolithic Culture
 - Characteristic features
 - Mesolithic Period sites

8. Neolithic Revolution
 - Characteristic features
 - Cultures and Archaeological sites

RECOMMENDED READINGS

- Allchin, B. and R. Lewan and the Bannu Basin: Excavations and Survey of Sites in North West Pakistan, Great Britain, 1986.
- Braidwood, R.J. *Prehistoric Man*, Chicago, 1975.
- Clark, G. and Piggot, S. *Prehistoric Societies*, London, 1968.
- Clark, G. *The Stone Age Hunters*, London, 1975.
- Clark, G. *Prehistory of Southern Africa*, Great Britain, 1959.
- Dennell, R.W. *Pakistan Prehistory: A Glimpse at the First Two Million Years*, Cambridge, 1991.
- De Terra, H. and Paterson, T.T. *Studies on the Ice Age in India and Associated Human Cultures*, Washington, 1939.
- Durrani, F.A. *Rahman Dheri and the Birth of Civilisation in Pakistan*, Bulletin of the Institute of Archaeology, 18:191-207. London, 1981.
- Jarrige, J.F. 'Excavations at Mehrgarh, Pakistan', *South Asian Archaeology 1975*, Leiden, 1979, pp. 76-87
- Journals: *Pakistan Archaeology*; *Ancient Pakistan*; *Ancient Sindh*; *Journal of Central Asia* later named as *Journal of Asian Civilisations* (relevant volumes).
- Leakey, L.S.B. *Olduvai Gorge: 1951-61: A Preliminary report on the Geology and Fauna*, vol. 1, Cambridge, 1964.
- Leakey, R. E., Leakey, M. G. and Walker, A. C. 1988 'Morphology of *Afropithecus turkanensis* from Kenya', *Nature* 76: 289-307
- Oakley, K.P. *Framework for Dating Fossil Man*, London, 1964.
- Oakley, K.P. *Man the Toolmaker*, 3rd edn., Place, 1956.
- Paterson, T.T. and Drummond, J.H.J: *Soan the Palaeolithic of Pakistan*, Karachi, 1962
- Pilbeam, D., Rose, M. D., Barry, J. C., and Shah, S. M. I. (1990) 'New *Sivapithecus humeri* from Pakistan and the relationship of *Sivapithecus* and *Pongo*', *Nature* 348, pp. 237-239
- Pilbeam, D. (1996) 'Genetic and Morphological Records of the Hominoidea and Hominid Origins: A Synthesis', *Molecular Phylogenetics and Evolution*, Vol. 5, No. 1, February, pp. 155-168
- Quivron, G. Lechevallier, M. 'The Neolithic in Baluchistan: New Evidence from Mehrgarh', *South Asian Archaeology 1979*, Berlin, 1981, pp. 71-92.
- Rendell, H.M., Dennell, R.W. and Halim, M.A. *Pleistocene and Palaeolithic Investigations in the Soan Valley, Northern Pakistan*, ed. Allchin, F.R., Allchin, B. BAR International Series 544, Oxford, 1989.
- Salim, M. *The Middle Stone Age Cultures of Northern Pakistan*, Islamabad, 1986

Sankalia, H.D. Stone Age Tools, Their Techniques, Names and Probable Functions, Poona, 1964.

Shaffer, J. *Prehistoric Baluchistan*, New Delhi. 1978.

Sharma, G.R. and Clark, J.D. Palaeoenvironment and Prehistory in the Middle Son Valley, India, 1983.

Course Arch-564: Muslim History of South Asia

1. Introduction
2. Arabs
 - Early contact
 - Conquests of Baluchistan, Sindh and the Khyber Pakhtunkhwa
 - Muslim rule in Baluchistan and Sindh under the Arab Caliphate
3. Turks
 - Trans Khyber activities of Ghaznavids and the rise and fall of Lahore as a centre of Muslim State CE 997-1210
 - The rise of the Ghaurids and the establishment of Delhi as the capital of Muslim India
 - The Delhi Sultanate with Multan, Uchch and Lahore as centres in the west and Awadh and Bengal in the east CE 1150 to 1325.
 - Fragmentation and Turbulence CE 1325 to 1425
4. Afghans
 - Lodhis
 - Sikandar Lodhi, his administration and religious policy;
 - Ibrahim Lodhi and his weaknesses;
 - End of the Sultanate of Delhi.
 - Suris
 - Sher Shah Suri
 - Early life, capture of the throne and conquests; Reforms, administration and
 - Public welfare projects; achievements as a ruler; Successors of Sher Shah;
 - End of Suri dynasty.
5. Mughals and Post Mughals
 - Phases of establishment and transition from Sultanate to Badshahat CE 1526 to 1576
 - Mughal society, culture and administration CE 1576 to 1707
 - Late Mughal phase CE 1707 to 1857
6. Provincial Chapter
 - Every province will develop its Muslim period history accordingly

RECOMMENDED READINGS

Ali, M. *The Court of the Great Mughals*, Lahore, 1986.

Babar, Zahiruddin. *Tuzuk-i Babari (The Memoirs of Babar)*, Eng. Trans. A. S. Beveridge, Lahore.

Bakhshi, S.R. (ed.) *Advanced History of Medieval India (3vols)*, New Delhi, Anmol Publishers, 2003

Barani, Z. Tarikh-i Feroz Shahi, Urdu tr. Aftab Asghar, Lahore, 1986.

The Cambridge History of India, Vols. III & IV.

Elliot and Dowson, The History of India as Told by Its Own Historians, all vols., Lahore, 1976 (1st pub. 1867-77).

Ikram, S. M. Muslim rule in India & Pakistan: 711-1858 A.C. 2nd ed. Star Book Depot, Lahore, 1966

Ikram, S. M. Aab-i Kausar (Urdu), Lahore, 1994.

Ikram, S. M. Mauj-i Kausar (Urdu), Lahore, 1992.

Ikram, S. M. Rud-i Kausar (Urdu), Lahore, 1988.

Majumdar, R.C. (ed) An Advanced History of India (Volume 2), 3rd ed. The Mcmillan, Delhi, 1970

Naqvi, H. K. History of Mughal Government & Administration, Kanishka Publishing House, Delhi: 1990

Nazim, M. The Life and Times of Sultan Mahmud of Ghazna, New Delhi, 1971.

Qureshi, I. H., (ed.) A Short History of Pakistan), 2nd ed, Karachi University Press, Karachi, 1992

Robinson, Francis, The Mughal Emperors, Thames & Hudson, 2007

Sarkar, Sir Jadunath, Mughal Administration, 4th ed. M. C. Sarkar & Sons, Calcutta, 1952

Saksena, B. P. History of Shahjahan of Delhi, Central Book Depot, Allahabad: 1962

Course 565: Provincial Cultural Heritage

- Every University will develop its own course for this paper. This course will include provincial archaeological heritage in different provinces of Pakistan. Each university will develop their respective course by concentrating on the respective provincial archaeological heritage and museums.

SEMESTER VII

Course No.	Course Title	Cr. Hrs
Arch-671	MAJOR-VII: Muslim Art (Calligraphy, Painting and Minor Arts & Crafts)	3
Arch-672	MAJOR-VIII: Muslim Architecture of Pakistan and India	3+1
Arch-673	MAJOR-IX: Ancient Art and Architecture of Pakistan and India	3+1
Arch-674	MAJOR-X: Numismatics of Pakistan and India	3
Arch-675	MAJOR-XI: RESEARCH PROJECT/INTERNSHIP	3
Total Cr.Hrs.		15-17

DETAILS OF COURSES

Course Arch-671: Muslim Art: Calligraphy, Painting and Minor Arts & Crafts

1. Introduction
2. Calligraphy
 - Origin and development of Arabic script

- Status or position of a calligrapher
 - Significance of calligraphy in Islamic arts
 - Origin and development of calligraphy
 - Principal forms of calligraphy
 - Sub styles of calligraphy
 - Master calligraphers of Pakistan
3. Schools of Painting
- Early Arab
 - Mesopotamian
 - Mongol
 - Persian
 - Mughal
4. Minor Arts
- Metalwork
 - Glasswork
 - Woodwork
 - Book illumination
 - Bookbinding
 - Ceramics

RECOMMENDED READINGS

Binyon, Wilkinson and Gray. *Persian Miniature paintings*, Place & date?

Brown, P. *Indian Painting*, Calcutta, 1917, 7th ed. 1960.

Brown, P. *Indian Paintings Under the Mughals*, Oxford, 1924.

Chughtai, M. A. *Fanoon-e-Latifa ba-’ahdi Aurangzeb* (Urdu), Place & date?

Duarte, Adrian. *The Crafts and Textiles of Sind and Baluchistan*. Jamshoro, Sind, Pakistan: Institute of Sindhology, University of Sind, 1982.

Author? *Crafts of Punjab and Muree Hill*, Punjab Small Industry Corporation, 1986.

Critchlow, K. *Islamic Patterns: An Analytical and Cosmological Approach*, Slovenia, 1976, rpt. 1992.

Das, A.K. *Splendour of Mughal Paintings*, Bombay, 1986.

Encyclopaedia of Arts, London, 1966.

Ettinghausen, R. *Arab Painting*, London, 1962.

Gray, B. *Persian Painting*, London, 1961.

Author? *The Arts of India*, Oxford, 1981.

Humbert, C. *Islamic Ornamental Design*, London, 1980.

Kalter, J. and Thames H. *Arts and Craft of Swat Valley*, Place, 1991.

Khatibi, Abdelkadir, *The Splendour of Islamic Calligraphy*, rpt. London, 2001.

Losos, L. *Painting Techniques*, London, 1987.

Porter, V. *Islamic Tiles*, New York, 1995

Riaz-ud Din, A. *Traditional Arts and Crafts of India and Pakistan*, Place & date?

Rice, T.R.D. *Islamic Art*, Place & date?

Rogers, J.M. *Mughal Miniatures*, London, 1993.

Ziauddin T. W. *Muslim Calligraphy*, Place & date?

Course Arch-672: Muslim Architecture of Pakistan and India

Introduction

1. Arab Period
 - Settlement pattern and architecture of Banbhore
 - Settlement pattern and architecture of Mansurah
2. Ghaznavid/Ghaurid Period
 - Tomb of Abdullah bin Haroon in Lasbela
 - Udigram Mosque
 - Tomb of Khalid bin Walid
 - Tomb of Sadan Shaheed
 - Tombs at Lal Mahra
3. Sultanate Period
 - Monuments of Delhi and Ajmer: Quwwat ul Islam Masjid, Qutb Minar, Alai Darwaza, Tughlaqabad, Buildings of Feroz Shah Tughlaq, Tombs of Syeds and Lodhis, the Suri period buildings.
4. Mughal Period
 - Monuments of Agra: Taj Mahal, Akbar's tomb
 - Monuments of Delhi: Red Fort, Shahi Masjid
 - Monuments of Fatehpur Sikri
 - Monuments of Lahore: Badshahi Masjid, Wazir Khan Masjid, Shalimar Garden, Jahangir's tomb and Lahor Fort
 - Monuments of Peshawar: Mahabat Khan Masjid, Palosi Piran complex
 - Monuments of Thatta: Shahjahan Masjid and Dabagir Masjid, Makli Hill Monuments
5. Regional Styles
 - Monuments of the Kalhora and Talpur Rulers of Sindh
 - Chaukandi type tombs of Sindh and Balochistan
 - Monuments of the Punjab
 - Monuments of the Khyber Pakhtunkhwa
 - Wooden architecture of the Northern Areas of Pakistan

RECOMMENDED READINGS

- Rahman, Abdur Islamic Architecture of Pakistan: An Introduction, Peshawar, 1981.
- Ali, T. Anonymous Tombs in the Gomal Valley and the Beginning of Tomb Architecture in Pakistan, Peshawar, 1988.
- Arnold, T. et al, *Islamic Art and Architecture*, Goodword Books, Place, 2001.
- Brown, P. Indian Architecture (The Islamic Period), Bombay, 1942.
- Chughtai, M.A. The Badshahi Masjid: History and Architecture, Lahore, 1972.
- Chughtai, M.A. The Wazir Khan Mosque Lahore: History and Architecture, Lahore, 1975.
- Dani, A. H. *Thatta-Islamic Architecture*, Islamabad, 1982.
- Ettinghausen, R. and Grabar, O. *The Art and Architecture of Islam 650-1250*, New Haven: Yale University Press, 1987.
- Field, R. Geometric Patterns from Islamic Art & Architecture, Taurin Publications, Place, 1998.
- Guide Books on Thatta, Lahore Fort, Shalimar Garden, Banbhore*, Department of Archaeology and Museums, Government of Pakistan.
- Hillenbrand, R. *Islamic Architecture: Form, Function and Meaning*, New York: Columbia University Press, 1994.
- Khan, A. N. Multan: History and Architecture, Islamabad, 1983.
- Khan, A. N. Uchch: *History and Architecture*, Islamabad, 1980.
- Khan, A. N. Development of Mosque Architecture in Pakistan, Islamabad, 1991
- Khan, A. N. Islamic Architecture in South Asia (Pakistan, India and Bangladesh), Place, 2003.
- Mookerjee, A., ed., *5000 Designs and Motifs from India*, Dover Publications, Place, 1996.
- Nath, R. Architecture of Fatehpur Sikri, Jaipur, 1988.
- Nath, R. The History of Sultanate Architecture, New Delhi, 1978.
- Shah, I. *The Mahabat Khan Mosque and Its Decorative Beauty* (MPhil thesis, unpublished), Department of Archaeology, University of Peshawar, 1996.

Course Arch-673: Ancient Art and Architecture of Pakistan and India

This course will review architectural and artistic traditions of Pakistan and India of pre-Muslim period. It requires visits to archaeological sites and museums. The course-contents are as follow:

1. Architecture
 - Vedic Period architectural traditions
 - Mauryan architecture
 - Buddhist architecture: stupa, monastery, rock-cut sanctuaries, etc.
 - Hindu architecture
2. Art
 - Mauryan art
 - Shunga art

- Early Andhra art
- Later Andhra art
- Mathura art (Kushan Period)
- Gandhara art (Kushan Period)
- Origin of the Buddha image
- Gupta art
- Ajanta cave paintings
- Buddhist Art of Kashmir
- Iconography of Hindu Triad
- Rock Art of Pakistan

RECOMMENDED READINGS

- Ackermann, H. C. Narrative Stone Reliefs from Gandhara in the Victoria and Albert Museum in London, ISMEO Reports and Memoirs XVII, Rome 1975.
- Banerjea, J. N. *The Development of Hindu Iconography*, Calcutta 1956 (1st edn. 1941).
- Bautze-Picron, C. (ed.) Religion and Art: New Issues in Indian Iconography and Iconology, London 2008.
- Behrendt, K. A. The Buddhist Architecture of Gandhara, Leiden 2004.
- Bhattacharyya, B. *The Indian Buddhist Iconography*, Calcutta, 1963.
- Blurton, T.R. *Hindu Art*, London, 1992.
- Brown, P. Indian Architecture: Buddhist and Hindu Periods, 3rd ed., Bombay, 1956.
- Cunningham, Sir A. *Stupa of Bharhut*, Place & date?
- Foucher, A. The Beginnings of Buddhist Art, London, 1914.
- Grunwedel, A. *Buddhist Art in India*, New Delhi, 1901, rev. & enl., 1985.
- Harle, J.C. The Art and Architecture of the Indian Subcontinent, London, 1986.
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- Knox, J.R. Amaravati, *Buddhist Sculpture from the Great Stupa*, British Museum, London, 1992.
- Kurita, I. *Gandhara Art* (2 vols), Tokyo, 1998 (rept. 2003).
- Marshall, J. *Taxila*, Cambridge, 1951.
- Marshall, J. *The Buddhist Art of Gandhara*, Cambridge, 1960.
- Masih, F. Temples of the Salt Range and North and South Kafirkot: A Detailed Analysis of Their Architecture and Decoration (PhD dissertation, Unpublished), Department of Archaeology, University of Peshawar, 2000.
- Nasim Khan, M. *Buddhist Paintings in Gandhara*, Peshawar, 2000.

- Nasim Khan, M. *Treasures from Kashmir Smast: The Earliest Śaiva Monastic Establishment*, Peshawar, 2006.
- Nehru. L. *Origin of Gandharan Style: A Study of Contributory Influences*, Delhi, 1989.
- Pandey, C.B. *Mauryan Art*, Delhi, 1982.
- Raducha, J. A. *Iconography of the Buddhist Relief Scenes from Kushan Mathura* (PhD dissertation, University of Wisconsin), Madison, 1982.
- Rowland, B. *Art and Architecture of India-Buddhist, Hindu, Jain*, London, 1953.
- Rowland, B. *The Wall Paintings of India, Central Asia and Ceylon*, Boston, 1938.
- Shah, Ibrahim, *Hindu Art in Pakistan: A Study Based on Museums Collection*, (PhD dissertation, unpublished), Department of Archaeology, University of Peshawar, 2007.
- Sharma, R. C. (ed). *Interaction between Brahmanical and Buddhist Art*, New Delhi, 2004.
- Singh, M. *The Cave Paintings of Ajanta*, London, 1965
- South Asian Archaeology
- South Asian Studies
- Swati, M. F. *Gandhara Art in the Swat Valley, Pakistan: a study based on the Peshawar University collection* (dissertation, Cambridge University), Cambridge, 1997.
- Swati, M. F. 'Special Features of the Buddhist Art in the Swat Valley', *Athariyyat (Archaeology)*, vol. 1, Peshawar, 1997, pp.1-60.
- Swati, M. F. 'Gandhara and the Exploration of Gandhara Art of Pakistan', *Athariyyat (Archaeology)*, vol. 1, Peshawar, 1997, pp. 77-95.
- Willis, M. D. *Buddhist Reliquaries from Ancient India*, London, 2000.
- Yazdani, G. et al, *Ajanta, Parts I-IV*, Oxford, 1930-1955.
- Zwalf, W. *A Catalogue of the Gandhara Sculpture in the British Museum (2 vols.)*, London, 1996
- Relevant volumes of (and articles in) the following journals:
- Annual Reports of the Archaeological Survey of India, Ancient Pakistan, *Athariyyat (Archaeology)*, East and West, *Frontier Archaeology*, *Gandharan Studies*, *Journal of Central Asia* (now *Journal of Asian Civilizations*), *Lahore Museum Bulletin*, *Pakistan Archaeology*, *Pakistan Heritage*, *South Asian Archaeology*, *South Asian Studies*, *Indo-Koko-Kenkyu*, *Artibus Asiae*, *Ars Orientalis*, *Oriental Art*, *Ancient India*, *Journal of Bengal Art*, *Berlin Indological Studies*.

Course Arch-674: Numismatics of Pakistan and India

This course is divided into two parts: a) Numismatics of Pre-Muslim period of Pakistan and India and b) Numismatics of Muslim period of Pakistan and India. The Course contents are as follow:

1. Introduction

- Numismatics: Definition, scope problems and significance
- Metallurgical studies
- Mints
- Cataloguing

- History of coins
- Techniques of manufacturing coins

2. Numismatics: Pre-Muslim Period

- Antiquity of coinage in Pakistan and India
- Punch marked coins
- Indus-Greek coins
- Coins of the Indo-Scythians and Indo-Parthians
- Kushan coins
- Huna coins
- Oḍi (or Hindu) Shahi coins

3. Numismatics: Muslim Period

- Arab period Coins in Pakistan
- Coins of the Ghaznavid and Ghaurid rulers
- Coins of the early Sultanate period (the Khaljis, Tughlaqs, Syeds, Lodhis, Suris)
- Coins of the Mughal rulers
- Coins of the Durranis and the Sikhs
- Coins of the Colonial period

RECOMMENDED READINGS

Allan, J. *Catalogue of the Coins of Ancient India in the British Museum*, London, 1936, rpt.1967.

Bivar, A.D.H. The Kushano-Sasanian Coins Series, *The Journal of the Numismatic Society of India*, Vol. XVIII, Part I, Varanasi, 1956, pp. 157-65.

Bopearachchi, O. and Aman-ur Rahman, *Pre-Kushana Coins in Pakistan*, Islamabad, 1995.

Bopearachchi, O. *Indo-Greek, Indo-Scythian and Indo-Parthian Coins in the Smithsonian Institute*, Washington, 1993.

Chakraborti, S.K. *Socio-religious and Cultural Study of the Ancient Indian Coins*, Delhi, 1986.

Cooper, R.D. *The Art and Craft of Coin Making: A History of Minting Technology*, London, 1988.

Cribb, J. *Money: from Cowerie Shell to Credit Cards*, London, 1986.

Cunningham, A. *Coins of Medieval India from the Seventh Century Down to the Muhammadan Conquests*, London, 1894, rpt.1967.

Cunningham, A. *Later Indo-Scythians*, Vol. II, rpt. Varanasi, 1962.

Gardner, P. *The Coins of the Greek and Scythic Kings of Bactria and India in the British Museum*, London, 1886, 1st American ed., Chicago, 1966.

Khan, Gul Rahim. *Political and Cultural History of the Kushans* (PhD dissertation, unpublished), Department of Archaeology, University of Peshawar, 2006.

Lanepole, *Catalogue of the Muslim Coins in the British Museum*, Place & date?

Mitchiner, M. *The Origin of Indian Coinage*, London, 1973.

Narain, A.K. *Indo-Greeks*, Oxford, 1957.

- Rahman, A. *The Last Two Dynasties of the Shahis*, Islamabad, 1979.
- Rosenfield, J. *The Dynastic Art of the Kushans*, Delhi, 1967.
- Sahni, B. *The Technique of Casting Coins in Ancient India*, *Memoirs of the Numismatic Society of India*, Vol. I, Bombay, 1945.
- Singh, S.S. *Early Coins of North India: An Iconographic Study*, New Delhi, 1984.
- Smith, V.A. *Coins of Ancient India*, Vol. I of *Catalogue of the Coins in the Indian Museum*, Calcutta, Oxford, 1906-19, rpt. Varanasi, 1972.
- Thomas, E. *The Chronicles of the Pathan Kings of Delhi*, rpt. Delhi, 1967.
- Whitehead, R.B. *Catalogue of Coins in the Punjab Museum*, Vol. III, rpt. Lahore, 1977.
- Whitehead, R.B. *Catalogue of Coins in the Punjab Museum*, Lahore, Vol. I, Oxford, 1914.
- Whitehead, R.B. *Catalogue of Coins in the Lahore Museum*, Lahore, Vol II, *Coins of the Mughal Emperors*, Lahore, rpt. 1977.
- Wright, N.H. *The Coinage and Metrology of the Sultans of Delhi*, rpt. Delhi, 1974.

Course Arch-675: Research Project/Internship

THEORY

- Definition, problems, types etc.
- Archaeological research design
- Archaeological research project
- Formulation of hypothesis
- Implementation of research
- Data collection
- Analysis of archaeological data
- Interpretation and synthesis of archaeological data
- Report

PRACTICAL

- Research Report/Monograph on any site/monument, ancient inscriptions/coins, etc.

RECOMMENDED READINGS

- Bahr, C. & Albert, *Social Science Research Methods*, National Book Foundation, Islamabad, 2000.
- Goode & Hatt, *Methods in Social Research*, National Book Foundation, Islamabad, 2000.
- Hult, C.A. *Researching and Writing across the Curriculum*, 2nd ed, California, 1990.
- Lester, J.D. *Writing Research Papers: A Complete Guide*, London, 1987.
- Mali, A. L. Pancholi Kundan, *The Fundamentals of Research Methodology*, Jaipur, 1988.
- Marius, R. *A Short Guide to Writing about History*, London, 1989.
- Naz Arifullah, S. and Bhatti, K.M. *Research Process Simplified*, Peshawar, date?

Sharer, R.J. and Wendy, A. *Fundamentals of Archaeology*, London, 1980.

SEMESTER-VIII

Course No	Course Title	Cr. Hrs
Arch-681	MAJOR-XII: RESEARCH PROJECT/INTERNSHIP	3
Arch-682	MAJOR-XIII: Palaeography and Epigraphy of Pakistan and India	3+1
Arch-683	ELECTIVE-I (within MAJOR: Rock Art of Pakistan	3
Arch-684	ELECTIVE-II (within MAJOR): Gandhara Civilization	3
Arch-685	ELECTIVE-III (within MAJOR): Archaeological Conservation	3+1
Total Cr.Hrs.		15-17

DETAILS OF COURSES

Course Arch-681: Research Project / Internship

THEORY

- Introduction
- Definition, problem, types, Reason/purpose, etc
- Archaeological research design
- Formulation of hypothesis
- Archaeological model building
- Implementation of research
- Archaeological research project
- Data collection
- Analysis of archaeological data
- Interpretation and synthesis of archaeological data
- Research report/Publication

PRACTICAL

- Research Report/Monograph on any site/monument, ancient inscriptions/coins, etc

RECOMMENDED READINGS

Bahr, C. & Albert, Social Science Research Methods, National Book Foundation, Islamabad, 2000.

Goode & Hatt, Methods in Social Research, National Book Foundation, Islamabad, 2000.

Hult, C.A. Researching and Writing Across the Curriculum, 2nd ed., California, 1990.

Lester, J.D. Writing Research Papers: A Complete Guide, London, 1987.

Mali, A. L. Pancholi Kundan, The Fundamentals of Research Methodology, Jaipur, 1988.

Marius, R.A Short Guide to Writing about History, London, 1989.

Naz Arifullah, S. and Bhutti, K.M. Research Process Simplified, Peshawar, date?

Course Arch-682: Palaeography and Epigraphy of Pakistan and India

1. Introduction to Different Ancient Indian Scripts
2. Origin of Writing in Pakistan and India
3. Indus Script
 - History of its discovery
 - Area
 - Period
 - Materials
 - Origin
 - Decipherment
 - Characters and symbols
 - Development
 - Decline
4. Brahmi Script
 - Area
 - Materials
 - Characters and symbols
 - Origin
 - Decipherment
 - Development
 - Mauryan (or early) style
 - Provincial style
 - Proto-Sharada
 - Sharada
 - Devanagri
5. Kharoshthi Script
 - Area
 - Materials
 - Characters and symbols
 - Origin
 - Decipherment
 - Development
 - Ashokan style
 - Scytho-Parthian style or transitional phase of writing
 - Kushan style or cursive form of writing
6. Koshi Script
 - History of its discovery
 - Area

- Period
- Materials
- Origin
- Decipherment
- Characters and symbols
- Development
- Decline

7. Epigraphy

- Importance of Epigraphic research in Archaeology
- History of Epigraphic research in Archaeology
- Survey of the Epigraphic records
- Epigraphy as a source of ancient history of Pakistan and India

RECOMMENDED READINGS

Agrawala, P.K. *Imperial Gupta Epigraphs*, Varanasi, 1983.

Bhandarkar, D.R. A List of Inscriptions of Northern Indian in Brahmi and Its Derivative Scripts, from about 200 A.C., Appendix to *Epigraphia Indica*, vols. 19-23, Calcutta, 1932-38

Buhler, G. Indian Palaeography, Appendix to *The Indian Antiquary*, Calcutta, 1904, rpt.1959.

Burgess, J. *Epigraphia Indica*, Vol. II, Indian rpt. 1970.

Burgess, J. Report on the Buddhist Cave Temples and Their Inscriptions, Varanasi. rpt.1964.

Burgess, J. *Corpus Inscriptionum Indicarum*, Calcutta, Vol. II., Date?

Cunningham, A. *Corpus Inscriptionum Indicarum*, Vol. I, Inscriptions of Asoka, Varanasi, rpt.1961.

Dani, A.H. *Indian Palaeography*, Oxford, 1963.

Dani, A.H. *Kharoshthi Primer*, Lahore, 1979.

Epigraphia Indica (volumes and readings suggested by the teacher).

Hultzsch, E. *Corpus Inscriptionum Indicarum*, Vol. I, Inscriptions of Asoka, Oxford, 1925.

Konow, S. *Corpus Inscriptionum Indicarum*, Calcutta, Vol. II, 1929.

Nasim Khan, M. 'Ashokan Inscriptions: A Palaeographic Study', *Athariyyat*, vol. 1, 1997, pp. 131-50.

Nasim Khan, M. 'Epigraphy in Pakistan', *The Glory that was Pakistan, 50 Years of Archaeological Research in Pakistan*, Peshawar, 1998, pp. 39-44.

Nasim Khan, M. 'Epigraphy as a Source of Gandhara History', *Journal of Humanities and Social Sciences*, vol. 6, no. 2, 1998, pp. 30-45.

Nasim Khan, M. 'Proto-Sharada Inscription from Hund-Pakistan', *Indian Archaeological Studies*, No. 20, 1998-99, pp. 77-83.

Nasim Khan, M. 'Kohi Script from Gandhara- Discovery of another Ancient Writing System', *Gandharan Studies* 1: 89-118, Peshawar, 2007.

Nasim Khan, M. *Kharoshthi Manuscripts from Gandhara*, Peshawar, 2009 (2nd edition).

Pandey, R.B. *Indian Palaeography*, Banaras, 1952 (2nd ed. 1957).

Salomon, R. *Indian Epigraphy*, New Delhi, 1998.

Sircar, D.C. *Indian Epigraphical Glossary*, Varanasi, 1966.

Sircar, D.C. *Indian Epigraphy*, Delhi, 1965.

Upasak, C.S. *History and Palaeography of Kharoshthi Script*, Varanasi, 2001.

Course Arch-683: Rock Art of Pakistan

1. Introduction

In Archaeology, the term rock art is used for any human-made markings made on natural stones or rocks. They can be divided into following forms:

- Petroglyphs: carvings into stone surfaces
- Pictogram or engraving: human figures, and the nature of their stylistic variations, weapons, tools and emblems exhibited by humans, animal figures and their implications (images created by removing part of a rock surface by incising, picking and carving)
- Pictograph: which is an image drawn or painted on a rock face
- Petroforms or patterns: shapes made on large rocks & boulders
- Ideograms: squares, grids and abstract symbols like painted dots etc
- Psychograms: painted dots such as connected lines, lines and graphics suggesting modifications of the human figures
- Cave paintings
- Inscriptions

2. Rock Art Research and Recordings

- Rock Art Research and Recordings
- Introduction
- Recording methodology
- Topographic features and access
- Cultural context
- Documentation
- Cultural and social implications
- Symbolic roles
- Analysis and conclusion

3. Rock Art Traditions and Interpretation

Introduction, figural art, human figures, reliefs, iconography or images, paintings, narrative text, shutting & hunting scenes, petroglyphs, archaic paintings, ritual solar disk and cosmic tree, ornaments, engravings, cup marks, symbols, motifs, hunters and demons, nomads art, pilgrims, merchants, axes of Hoes, weaponry, tools and emblems, bows and arrows, shields anthropological art, sun motifs, hunters and games, appearance of caparisoned horses, elephants and warriors with iron implements. Chariots, animal eroticism, fighting, dancing and hunting scenes.

4. Prehistoric Rock Art

Introduction, animals style and representations, hunter & gatherers, pastoralists & agriculturalists, aniconic, pre-pattern, pre-design, linear patterns, simple motifs, excitement of human creativity and activities, cattle domestication, hump less cattle, humped cattle, pre-chariot breeders of cattle, implements etc.

5. Historic period Rock Art

- Introduction
- Buddhist art, Bodhisattvas, *mangala* symbols, *jatakas* and pagodas/stupas
- Hindu deities
- Human gods, Demons and *trishula* symbols
- Various motifs
- Animals, *markhor*, ibex etc
- Inscriptions (in Brahmi, Kharoshthi, Sharada, Sogdian, Persian, Parthian, Bactrian, Chinese, Hebrew, Syrian and Tibetan)

6. Painted Caves or Decorated Shelters

- Introduction
- Descriptions
- Sketches
- Human images
- Hunting scenes
- Animal images
- Handprints
- Abstract symbols
- Portable art

7. Rock Art Sites in Pakistan

- Khyber Pakhtunkhwa (Swat Valley)
- Gilgit Baltitstan (Northern Areas of Pakistan), Karakorum, the Himalayas and the Hindu-Kush
- Kashmir and Ladakh,
- Balochistan
- Sindh
- Punjab

8. Chronology and Dating

- Introduction
- Relative dating: relies on stylistic analysis, superimposition analysis, weathering, and inter-site patterning. Through stylistic dating researchers study superimposition and weathering in order to create a chronology of different styles and activity of different groups.
- Absolute dating: less reliable, comparing one subject to another to obtain a chronology.

- Radiocarbon dating: A technique based on the fact that the ratio of calcium and potassium/titanium in rock varnish may decrease exponentially with age.

9. Rock Art Management, Planning for Conservation

RECOMMENDED READINGS???

Course Arch-684: Gandhara Civilization

1. Introduction
 - Nomenclature
 - Historical geography of Gandhara
2. The Origin of Second Urbanization in Pakistan
 - Pushkalavati: Bala Hissar, Shaikhan Dheri, Mirabad, Rajar and Dheris and Aziz Dheri
 - Taxila: Bhir Mound, Sirkap, Sirsukh
3. Major Religions of Gandhara
 - Buddhism
 - Hinduism
4. Synthesis of Cross-Cultural Currents and the Emergence of
 - Gandhara Civilization
5. Arts
 - Sculptural Art
 - Paintings
 - Rock Art: Carvings and Engravings
6. Architecture
 - Religious Architecture: Stupa, Monastery
 - Secular Architecture: Settlements and Forts
7. Numismatics and Palaeography
8. Interaction Zone
 - Influences from the East and West
9. Silk Road
 - Trade along the Silk Roads
10. Decline
 - Causes: Cultural, Environmental, Military and Spiritual
11. Legacy of the Gandharan Civilization

RECOMMENDED READINGS

- Ackermann, H.C. Narrative Stone Reliefs from Gandhara in the Victoria and Albert Museum in London, *IsMEO Reports and Memoirs XVII*, Rome, 1975.
- Beal, S., tr., *Si-yu-ki, Buddhist Records of the Western World*, 2 vols., London, 1883, (2nd ed. 1906).
- Brown, P. Indian Architecture: Buddhist and Hindu Periods, 3rd ed., Bombay, 1956.
- Buchthal, H. *The Western Aspects of Gandhara Art*, Trust of the British Academy, 1945.
- Cribb, J and Errington, E., eds., *The Crossroads of Asia*, 1992.
- Cribb, J. 'The Rabatak Inscription, Its Historical Implications and Numismatic Context, Part II, *Silk Road Art and Archaeology*, No. 4, 1995-96, pp. 97-123.
- Dani, A.H. *Gandhara Art of Pakistan*, Peshawar, 1968.
- Foucher, A. Notes on the Ancient Geography of Gandhara, Calcutta, 1915.
- Hall, J. Illustrated Dictionary of Symbols in Eastern and Western Art, London, 1994, rpt. 1995.
- Huntington, S.L. & J.C. *The Art of Ancient India: Buddhist-Hindu- Jain*, New York, Tokyo, 1985.
- Ingholt, H. *Gandhara Art in Pakistan*, New York, 1957.
- Law, B.C., Historical Geography of Ancient India, Paris, 1954.
- Lohuizen-de-Leeuw, J.E.van, *The Scythians*, Leiden, 1949.
- Marshall, J. *Taxila*, 3 vols., Cambridge, 1951.
- Marshall, J. *The Buddhist Art of Gandhara*, Cambridge 1960.
- Mollet, J.W. *Dictionary of Art and Archaeology*, London, 1883, rpt. 1994.
- Rowland, B. *Art and Architecture of India: Buddhist- Hindu- Jain*, London, 1953.
- Sardar, B. *Buddhist Rock Carvings in the Swat Valley*, Islamabad, 2005.
- Schlumberger, D. 'The Excavations at Surkh Kotal and the Problem of Hellenism in Bactria and India', *Proceedings of the British Academy*, Vol. XLVII, 1961, pp. 77-95.
- Swati, M.F. 'Special Features of the Buddhist Art in the Swat Valley', *Āthāriyyāt (Archaeology)*, vol. 1, 1997, pp. 1-60.
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- Swati, M.F. 'Recent Discovery of Buddhist sites in the Swat Valley', *Āthāriyyāt (Archaeology)*, vol. 1, 1997, pp. 151-84.
- Zwalf, W. *A Catalogue of the Gandhara Sculpture in the British Museum*, 2 vols., The Trustees of the British Museum, 1996.

Course Arch-685: Archaeological Conservation

THEORY

Introduction

- Conservation Ethics
- Terms and definitions

A. ARTEFACTS

1. Introduction
 - Definition at terminology
 - The processes of conservation
 - Pre-excavation considerations
 - Field laboratory
 - First-aid treatment to archaeological objects
 - Environmental control of excavated artefacts
 - Different types of material used for the conservation and restoration of archaeological artefacts
 - Conservation in practice: a collaborative exercise
2. Simple Chemistry: Definition of Basic Terms
 - Acid, Base, Alkali, pH
 - Humidity: relative humidity, micro-organisms
 - Temperature
 - Light and its units
 - Conductivity
 - Atmospheric pollution
3. Agents of Deterioration and Preservation
 - Introduction
 - Organisms/Micro-organisms
 - Animals and plants
 - Archaeological environments
 - Agents of decay
 - Water, Oxygen, acidity and alkalinity, redox potential, salts
 - Temperature
 - Conditions in archaeological environments for preservation
4. General Techniques of Conservation
 - Siliceous and related materials
 - Metals
 - Organic materials
 - Preservation of archival materials: paper conservation

B. BUILT HERITAGE

1. Fundamentals of Conservation of Built Heritage
 - Preservation of built-heritage
 - Restoration of built-heritage
2. The Importance of Buildings & works of Historic value

- Ancient monuments, building areas and works
 - Monuments, building areas and works of historic significance still in use
3. Major Documentary Studies
 - Photographic documentation
 - Maps and plans
 4. Material Analysis
 - Chemical analysis of material used
 - The study of degradation and deterioration by biological and environmental factors
 5. Organization and Administration in Conservation and Restoration
 6. Conservation Methods
 - Stone
 - Brick masonry
 - Wood
 - Mud

PRACTICAL

- Application of first-aid techniques to excavated artefacts in the field
- Conservation and restoration of pottery, coins, metals, paper and textiles
- Study, identification and analysis of various constructional materials
- Various applications of constructional materials
- Identification and analysis of various processes of environmental degradation on built-heritage

RECOMMENDED READINGS

- Agrawal, O.P. Conservation in South and South-East Asia, *Museum*, vol. 27, No. 4, Paris, 1975.
- Agrawal, O.P. *Care and Preservation of Museum Objects*, National Research Laboratory for Conservation of Cultural Property, Lucknow, 1977.
- Cronyn, J.M. *Elements of Archaeological Conservation*, London, 1989.
- Dowman, E.A. *Conservation in Field Archaeology*, London, 1970.
- Hamilton, Donny L. *Methods of Conserving Archaeological material from underwater sites*, Conservation Research Laboratory Center for Maritime Archaeology and Conservation, Tex: A & M University, 1999.
- Hodges, H., ed., *In Situ Archaeological Conservation*, Santa Maria, 1987.
- Newton, R. and Davidson, S. *Conservation of Glass*, Place & date?
- Sandra, D. *Conservation and Restoration of Glass*, Butterworth-Heinemann 2003 (2nd edn.)
- Smith, C.W. *Archaeological Conservation Using Polymers: Practical Applications for Organic Artifact Stabilization*, Texas, 2003.
- Teutonico, Jane Marie. *A Laboratory Manual for Architectural Conservation*. ICCROM, Rome 1988.

- Thomson, G. *The Museum Environment: Conservation in the Arts, Archaeology and Architecture Series*, London, 1978.
- Timar, K.H. *Chemical Principles of Textile Conservation, UNESCO, Master Plan for the Preservation of Mohenjo Daro*, 1972.
- Author? *The Conservation of Cultural Property, with Special Reference to Tropical Conditions*, Paris, 1968.
- Wasim Ahmad, 'Requirements for the Preservation of Manuscripts and Rare Collection In Museum Libraries & Archives', *Lahore Museum Bulletin*, Vol. 1 No.1, Lahore, 1988, pp. 79-84.
- Wasim Ahmad, 'Paper Testing and Dating', *Lahore Museum Bulletin*, Vol. I, No 2, Lahore, 1988, pp. 147-54.
- Wasim Ahmad, 'Atmospheric Effects on Archaeological Material in Museum', *Lahore Museum Bulletin*, Vol. II, No.1, Lahore, 1989, pp. 63-68.
- Wasim Ahmad, 'On the Spot Treatment of Archaeological Objects', *Lahore Museum Bulletin*, Vol. II, No. 2, Lahore, 1989, pp. 83-88.
- Wasim Ahmad, 'Conservation of Painted Wooden Doors and Carved Wooden screen in Lahore Museum', *Lahore Museum Bulletin*, Vol. III, No 1, Lahore, 1990, pp. 85-90
- Wasim Ahmad, 'Conservation and Repair of Three Burmese Umbrellas', *Lahore Museum Bulletin*, Vol III, No. 2, Lahore, 1990, pp. 94-104.
- Wasim Ahmad, 'Restoration of Bronze Cooking Pot from Moenjo Daro', *Lahore Museum Bulletin*, Vol IV, No.1, Lahore, 1991, pp. 81-4
- Wasim Ahmad, 'Repair and Restoration of Rare Manuscript Miratul Quds of Akbar's period in Lahore Museum', *Lahore Museum Bulletin*, Vol. IV, No 2, Lahore, 1991, pp.111-116.
- Wasim Ahmad, 'Preservation and Conservation of Library Material', *Lahore Museum Bulletin*, Vol. V, No. 1, Lahore, 1992, pp.115-120.
- Wasim Ahmad, 'Effects of Atmospheric Pollution on Antiquities', *Lahore Museum Bulletin*, Vol. V, No. 2, Lahore, 1992, pp. 97-102.