

## Component-I (A) – Personal details:

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Paper : **Indian Epigraphy**  
Module : **Writing Materials**

  
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## Component-I (B) – Description of module:

Subject Name	Indian Culture
Paper Name	Indian Epigraphy
Module Name/Title	Writing Materials
Module Id	IC / IEP / 23
Pre requisites	Knowledge of English Basic Knowledge of Indian Epigraphy, History of India, Inscriptions, Numismatics
Objectives	To know the various types of writing materials To Know the History of writing materials To know the usage of writing materials Significance of the various types of writing materials
Keywords	Indian Epigraphy / Indian History / Epigraphy / writing materials / Inscriptions / stone inscriptions / pillar inscriptions / seals and sealings / coins / metal copper / iron / silver / ivory / palm leaves / brass / gold / paper

### E-text (Quadrant-I) :

#### Introduction

The materials for writing inscriptions are many and varied. Their selection depends mainly on two factors. They are (1) Nature of the documents (2) Availability of suitable materials. Copper and Stone are the most common material in India for writing inscriptions. However they are not the only ones. These materials are of two categories – Metals and other substances than metal. During pre historic period man used to draw paintings on the surface of the rock shelters or on the rock boulders whatever he saw, whatever he thoughts which was depicted on the paintings. They are known as prehistoric paintings. For which he uses natural colour which was available in plenty in the tree leaves and in the mineral stones. It is known as pictograph or Picture writing. This is the beginning stage of the invention of script. Some time, the pre historic man engraved with the sharpened stone and chiselled the rock surface for the drawing. It is known as petro glyphs. In India, Pre historic paintings have been noticed in Bhimbetka of Madhya Pradesh . The associate findings of this place suggest that these paintings belong to Mesolithic period. Many petro glyphs chiselling have also been found in India.



**Bimbetka paintings- Mesolithic period**

## Writing materials in the world

### Mesopotamia

Sumerians of Mesopotamia is one of the earliest urban cultures in the world. They were the pioneer of writing system around 3100 BCE. The Mesopotamian used clay as their medium of writing. Clay is an easily available material for them. The implement is a piece of reed cut to form a rectangular end. These two ingredients define the script. The letters were wedged shaped. When they pressed in the damp clay, a script like wedged shape impressions appeared; it is known as Cuneiform. The name comes from the Latin word *Cuneus* which means wedge. Hence it is called so. These tablets were dried hard in the Sun. It is very difficult for them to send any message to outsiders in this material.



Cuneiform inscription made of clay

### Egypt

Ancient Egyptian writing system is known as Hieroglyphics. In the beginning they also used impressed clay tablets for record keeping. They borrowed this system from Mesopotamia. Around 3000 BCE they introduced the easily portable material for their writing system. Egyptian made flexible smooth surface to write with ink. They invented a new type of writing paper called papyrus. The river plant namely Aquatic plant was used for making papyrus. The life span papyrus is long as well as very strong. Regular use for a longer period they used papyrus.



Papyrus writing

It is easy to cut in to any length, to scroll, to strips. It is easy to roll up and sold in the form of scroll; the papyrus is retained ink without smudge or blur the papyrus is easily available on the banks of river Nile.



Cutting of Papyrus plant on the bank of Nile

The material papyrus is used by Rome, Greece and besides Egypt. It is the predecessor to modern paper. Hence the word paper is derived from papyrus.

### Bamboo books in China

In China a kind of indigenous plant were used for writing. Chinese writing in the early period are in vertical columns. Thin strip of bamboo is unique for writing vertical columns. Two lines of thread link each bamboo strip. Bamboo strips were known as *Chien*, which perforated

and tied together by means of Silken threads of various colours or leather thongs, formed a bundle known as *tse* from which the modern Chinese word for volume was derived. The present Chinese character for book evolves from a pictogram from a pictogram of bamboo strips threaded together. Bamboo books the Chinese used till 400BCE

## India

Paper was introduced only in 11<sup>th</sup> century CE in India. Before that the Bhurj bark and palm leaves were known and used by the Indians. Palm leaf is the most common material widely used for writing in Ancient India. It is known as *Tāḷa patra* or *Tada-patra*. In India, the use of Palm leaves in vogue till recent past. The large-leaved palm trees (*Borassus flabelliformis*, *Corypha umbraculifera* and *C.taliera* – botanical names) are originally indigenous in South India. In south India, the palm trees are grown abundantly. In the Coastal area of Malabar, a type of palm leaves is grown. They used this as writing material. Brich-bark was more popular in northern India. Particularly the use of Brich- bark was prevalent in Punjab and Kashmir regions.

### 1. *Bhurjapatra* (Brich-bark)

As stated earlier, In India to the north of Vindhya, a kind of writing material namely Bhurj-bark were used around 600 BCE. It is taken from a tree *Bhurja* tree (*Baaetula Bhojpatr*). The inner bark of the tree is used for writing purpose. It is a kind of wood available in Northern and Central India.

They prepared this as a paper by putting oil and polish them to make hard and smooth. This



Writings on Bhurj-Bark

was used by the Indians at the time of invasion of Alexander, the Great. Later on widely used by the Buddhist monks and particularly it is referred to as *Lekhana* i.e., writing material. Documents are generally referred to as *Bhurja* in the name of the material. Alberuni refers to the length and width of this *Bhurja* used in North India. The brick-bark was cut into sizes of corresponding to the shape of the palm- leaves. Thus shows that though in North India brick-bark was more popular, the use for palm leaf was also known by the people of North India.

The use of *Bhurja patra* as writing material is still continued by the *pandits* in some part of Kashmir valley. *Bhurja patra* was widely used in North western India then it spread to Central, Eastern and Western part of India. This was replaced by Copper plate in the later stage. The Taxila copper plate belonging to the first century C.E., is also shaped after a palm-leaf.

The *Bhurja patra* found in Stūpas in Afghanistan now at Dhammapada in Khotan region is the earliest known writing documents we have at present. It is in Kharoshthi script.

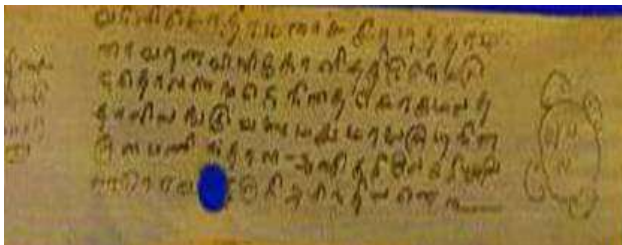
Bhakshaali Manuscript is another kind of document written in this material which is also earliest document.

## 2. Leaves

Leaves were also used for writing. The Buddhist Jātaka s refer to the use of *pañña* (leaves) as a writing material and these were most probably palm-leaves. It is most common material for writing by the Buddhist monks. According to the Chinese pilgrims Yuan Chuwang, the Buddhist tradition was preserved in the leaves. We do not get the evidence which tree leaves used for this purpose. Probably it could be Palm leaves, the *tada* or *tāla patra*. It is otherwise known as *tāla* or *tāli* (*Corypha Umbraculifera*). In south India the use of Palm leaves is common.

## 3. Palm leaves

Palm- leaf manuscripts are widely used in South India until 18th century C.E. It is not



**Palm leaf manuscript**

possible to preserve Palm leaves in the hot and humid climate region. Hence most of the early documents in palm leaves were the recopies of earlier ones. But in the cold and dry climate, old palm leaves can be preserved. Some parts of North

India the old palm leaves records have been found.



**Kind of Palm leaf tree-  
(Kundal panai)**

The earliest specimen of palm leaf record belongs to century C.E obtained from Central Asia. It is a fragmentary portion of a Sanskrit drama. The manuscripts of the *Prajna-paramita hridayasutra* and *Ushnisa vijayadharini* now preserved in the Hori-uzie monastery in Japan appears to have been written in Central India in the 6th century C.E. Some of the South Indian manuscripts written in the Grantha characters of the eleventh century and in the Tamil script of the thirteenth century C.E. have also been recovered from the monasteries in Tibet. The photo state copies of the same are now preserved in the K.P. Jayaswal Research Institute at Patna.

## References of using palm leaves



**Country palm tree**

Sculptures of India some Gods and Goddess have palm leaves on their hands as *pusthaka*. Many paintings of medieval period the palm leaves are shown as documentary evidence or writing material.

In the Chola paintings at Brihadisvara temple at

Kind of Palm leaf plant- 9Kundalpanai )

Thanjavur, the story of Sundarar is narrated. In which all the people are having palm leaves in their hands by checking the document is authentic one or not supplied by Sivan in the form of an old man.



Brihadisvara temple- Chola paintings- Checking the authenticity of writing on the painting

In the innumerable inscriptions of South India the reference of using palm leaves as writing material are mentioned. Before engraving either on the wall or on the copper plate the oral order of the king was written in Palm leaves. The king appointed the royal writer for this purpose and he was referred to as *ōlai nāyagam* in Tamil.

These documents have been preserved in the documents office by certain *pattolai*, an officer in charge. He placed the palm leaf manuscript placing wooden plates on both sides, strings together with a rope and finally covered with silk cloths. Hence he was called as *paṭṭōlai*. The documents were kept in the office it was known as *āvaṇakilari*. Common people also used this palm leaves as their writing materials. The people who contested in the election used the palm leaf as a ballot paper and writing their names on the leaves. Palm leaves are widely used in South India from time immemorial. They used various types of stylish as pen and they had the capacity to write on the palm leaves.

### Preparation of Palm-leaves

Palm leaves are specially prepared to ensure flexibility and longevity. There are two kinds of palm leaves one is referred to as *Kūndal panai* another is country palm tree. They are abundantly grown in the Southern part of Tamil nadu. The leaves of the tree are first dried, next boiled or soaked in water, then dried again and finally polished with a smooth stone or conch-shell and cut in to the proper sizes. Their lengths vary from one to three feet while in breadth they range from one to four inches. In North India Ink was used in writing on palm-leaves. But in South India, they were written with a stylus and then the leaves were besmeared with soot or powder of charcoal. The leaves are punched



Dried palm leaves

with a hole, usually in the middle and occasionally on the left side of the palm-leaves. Through the hole strings (*sūtra* or *sarayantraka*) are passed in order to keep them together. The lengthy palm leaves some time two holes have been seen on either side of them.

## Other permanent writing materials

### Stones

Large number of inscriptions in India is written on the permanent material known as Stone either slab stones or dressed stone or Pillars or on the walls of stone temples. Hero stones are all made of stone. Stones were usually used as a medium of writing material for a long time. Stone Pillars, cave surface, Stone slabs are permanent media to preserve documents. In India Stone were used as a writing material since pre historic time. As already mentioned many petro glyphs were found on the surface of the hills. Stone became permanent writing material from nearly 2500 years B.P. Major portion of the temple inscriptions is found incised on the walls of temples in South India. The selection of temple walls for recording inscription was due to the fact that in ancient days temple was served as a social and religious centre and they were considered as the achieves of records of day to day life of the people. More over the donations to the temples were recorded in the temple walls.

In the early period, many rock cut caves were scooped by the kings, they issued many donations and the details of the donations have been engraved on the pillars or lintels or on the surface of the wall. During Pallava period, many inscriptions have been incised on the pillars of the rock cut temples or brick temples. Separate stone slabs were used for writing inscriptions in the brick temples and other perishable materials. These stone slabs were planted within the temple complex and some time in villages.

In some the temples in South India, the inscribed stone slabs were used as the pavement or floor of the temple. During the time of renovation in the later period, the old stones were used as the pavement of the floors or ceiling of the roof of the temple. For instance, many early inscriptions at Tiruvorriyūr temple near Chennai have been fixed on the floor and some of the inscriptional stone slabs were foxed as the ceiling stones of the Kailāsanātha temple at Kanchipuram. The renovator did not know the importance of inscriptions and placed them in the recent times. But our ancestors knew the value of the inscriptional records and kept them in proper places in the temple.

Inscriptions were incised on the rock surfaces, boulders or on the slopes of the hills. The rock edicts of Asōka are fine example of this type. The musical inscription at Kudumiyanmalai in Tamil nadu is also engraved on the surface of the rock. The surface of the rock could accommodate more inscriptions. Hence, many places in India, we have come across many inscriptions of different dynasties. For instance the Girnar rock contains not only the Asōkan edicts of 3<sup>rd</sup> century BCE, it has an inscription of Kshatrpa king Rudradāman of 150 C.E. There are number of Early Tamil- Brahmi inscriptions have been found in a single place on the surface or on the rock beds of natural cavern in Tamil nadu. Among the stone inscriptions the stone pedestal of many sculptures, Hero stones, pillars are placed in this category. The pillar Edicts of Asōka and Allahabad pillar inscription are example of this category.

## 4. Metals

### 4:1 Gold:

Buddhist *Jātaka* stories mention that wealthy merchants were used Gold plates as writing material. Many *yantras* or magical designs with inscriptions were made in Gold. A gold plate with a votive inscription in Kharoshthi has been discovered in the Buddhist Stūpa at Gangu near Taxila.

### 4:2 Silver

The use of silver as writing material is known in India from early centuries of Common Era. This metal is not so costly as gold. A short inscription on silver has been recovered from the Buddhist Stūpa at Bhaṭṭiprōlu in the Krishna District of Andhra Pradesh is note worthy to mention. The Batavia Silver plate inscription of Nayaks of Thanjavur is another important record incised on silver plate. This record mentions the grant of Nagapattinam to the Dutch East India Company by the last Nayaka ruler Viyaragava nayakkar. Ekoji, the first Maratha king of Thanjavur also issued a silver plate inscription to Dutch company in the year 1676.

### 4:3 Brass:

Brass was seldom used for writing independent inscriptions, even though many brass statues have label inscriptions on their pedestals or on the back side of the statues. The votive brass image at Gaya is fine example of this variety. An inscribed seal-ring in brass bearing inscription of Gupta period is note worthy to mention. In some Jaina temples at Abu have brass plates with religious formulas inscribed thereon.

### 4.4 Bronze:

This metal like brass was rarely used for independent writing. Some bronze seals have legends in kharoshthi, Brahmi and Greek. Some bronze images in Tamil nadu bear the label inscriptions on their pedestal. Nagapattinam Buddhist bronzes are note worthy of this kind.

### 4:5 Copper:

Copper is also most important writing material- Several copper plates have been discovered in India. When the king issued some royal order, first it was written on the palm leaves and then to Copper plates and to stone. It is referred to in the inscriptions too as "*kallilum* (stone) *sempilum ezuthik kolga*". (Order should be written both on stone as well as copper plates). The largest number of inscriptions incised on metal is one sheets of copper of varying sizes and number. They range in size from about 2 ½ inches by 17/8 inches in the case of a small and very early record. The Sohgaura copper plate considered to be the earliest copper plate in India which has the above size. In South India, the copper plates more or less looks like a palm leaves and vary in size, while in North India birch bark was the model of copper plate. In the later period, Vijayanagara issued copper plates which are the model of birch bark.

The number of plates required depended on the content of the document. In some cases a single plate was used; and it was inscribed some times on only one side of it, sometimes on both. The biggest copper plate records so far discovered belong to the Chola period in Tamil country. The Larger Leiden grant of Rajaraja I have twenty one plates with four hundred and



forty three lines of writing. The Tiruvalangadu plates of Rajendra I consists of thirty one sheets which, together with the massive ring, weigh 7,980 *tolas*, containing eight hundred and sixteen lines of writing. The Karandai copper plates issued by the Rajendra I contains fifty five plates. Recently, the Department of State Archaeology of Tamil nadu recovered a copper plate of the Cholas at Tiruvindalur, a village in Nagapattinam District of Tamil nadu. This is the largest copper plate in India so far found in India. It consists of eighty five sheets strung together with a copper ring with a seal. The plates of the set measure, almost uniformly forty four cm in length and twenty one cm in breadth. If a grant contains more plates than one, they are used to be strung. Many numbers of Copper plates of the Pallavas consist of many plates attached with a ring and seal.

Though inscriptions on copper plates are common, inscriptions have been incised on copper vessels and other utensils also, an inscription on Tamil language of *Chitramēḷi periyanaṭṭār* found engraved on the copper plough with an emblem of that agricultural organization. A casket in the form of a miniature Stūpa with a harmika and umbrella of a conventional shape made of copper with an inscription in the Kharoshthi inscription has been found from Kurram near Peshawar.

#### **4:6 Iron**

Iron is used mostly for making weapons, implements. It was very rarely used as a writing material. The iron pillar at Meharauli (near the Qutub Minar-Delhi) is the best example of this type. This iron pillar has the inscription of the king Chandra. The column measuring 23 feet 8 inches is estimated to weigh more than six tones. Persian inscription of Akbar found at Dhar iron pillar contains the personal names in Nagari and Persian characters are another example of this type.

#### **Other materials**

Inscriptions were incised on various other materials like crystals, wooden pillars, tablets, earthenware, brick and terracotta, conch tortoise shell and ivory plaques.

#### **Crystal:**

Inscriptions on crystals are very rare. Crystal is a hard material and also not easily available. A hexagonal piece of crystal with an inscription has been found in Bhaṭṭiprōlu in the District of Krishna of Andhra Pradesh. On all the six faces of this crystal are seen the scratches of letters. This is the votive offering.

#### **Bricks:**

Inscriptions on Bricks have been reported abundantly in North India. Bricks were commonly used for writing purposes in Mesopotamia and other parts of Western Asia. In the state of Uttarpradesh, there is place Bhitari where we get an inscription of Gupta period. It records the name of the king "Sri Kumaraguptasya". At Gopalpur in the Gorakhpur District some brick tablets have been found bearing Buddhist Sutras. In the excavations at Jagatgam on the valley of Yamuna, large number of inscribed bricks has been reported. They belonged to 3<sup>rd</sup> century C.E., on palaeographical grounds.

## Clay and Terra-cotta:

Clay and Terra cotta inscriptions are found abundantly in India. The clay tablets are mostly votive offerings to the Buddhist faith. At Sunnet in the Ludhiana District of Punjab have the names of Gods Sankara and Narayana. The clay seals also found abundantly in the excavations of Andhra, Orissa and other parts of northern India. In the excavations at Basar in the Muzaffarpur District of West Bengal more than one thousand and one hundred clay seals have been recovered. These seals are mostly related officials and guilds, corporations and private individuals. A clay seal of Buddha Gupta found in Nalanda. The seals in terracotta of the Maukhari king Sarvavarman found in the same place at Nalanda. A clay seal bearing the name *Kōvēta* is found in Srilanka in the recent times.

## Potteries:

Potteries bearing inscriptions largely found in the early Historic sites in Tamil nadu. Nearly 25 excavated sites in Tamil nadu have potteries with Tamil brahmi inscriptions of individual names. At Kodumanal, a place in Erode District of Tamil nadu alone we have nearly 600 and odd pot shreds yielded Tamil Brahmi letters. Most of the sites related to Sangam period invariably yielded inscriptions on the potteries which show the literacy of the Tamils of the early Common Era. Uraiyur, Vallam,



Inscription on Pottery



Kodumanal- Tamil= Brahmi potsherd

Arikamedu, Kiladi, Alagankulam, Kanchipuram, Karur, Korkai, Teriruvelli, Kaveripumpattinam, Porur are some of the places where we get inscriptions on Potteries. Vattamanu, Nagarjunakonda and Amaravathi, Salikundam, Nanduru are some of the Buddhist sites yielded Brahmi letters on the potteries. Besides, Tamil-Brahmi inscriptions on potteries have also been found in the excavations at Quasir-al-quatham, Bernike, and Kor-ori in the Red sea area. It shows that the ancient Tamils went up to Mediterranean regions through sea trade and their maritime contacts were attested by foreign scholars and Tamil literature of the early Common Era.

## Wood:

Though wood is not considered as enduring material, inscriptions are occasionally found incised on the wood. An inscription of Brahmi characters of 2<sup>nd</sup> century belonging to Western Kshatrapa mentions the use of writing board. Brahmi inscription is found engraved on a wood rib of Bhaja chaitya. The Buddhist literature *Viṇayapīṭaka* often mentioning of wood as a writing material in the early period is quite interesting. The use of wood as *phalaka* to write letters is common in early India. With the help of chalk (*pāṇḍulēkha*) they have written on the board

## Conch and Ivory:

Inscriptions on conch shell, Ivory plaques are very rare. A white conch with a Brahmi inscription has been found in the excavation of Salihundam. An inscribed ivory seal of

Mauryan period has been reported in the excavation at Rupar in Punjab State. In the excavations at Kausambi and Besnagar ivory inscription have been found. Some of the inscriptions have been found in Patna is of Glass objects. Carnelian is a kind of semi precious stone. Some of the seals issued by Vishnuvarman of Malaysia are written in Carnelian. Bone was also occasionally used as writing material in Ancient period.



**Inscription on  
Conch shell**

### **Cotton Cloth:**

Cotton cloth was also served as writing material in ancient time. It is variously referred to as *paṭa*, *paṭika* or *kārpāsika-paṭa*. The earliest epigraphical reference to *paṭa* as writing material is recorded from Nasik inscription of Satavāhana period. According to Brunel and Rice, the traders of Karnataka used to have cotton cloth for writing their accounts. It is referred to as *Kanata* which was covered with a paste of tamarind-seed. Marwari merchants of Tamil nadu used cloth for keeping their accounts. Old records on cotton have been kept in Sringeri matha in damage condition. Like paper cotton is also easy to damage by moisture and moths.

### **Paper:**

Paper was first used by the Chinese in 11<sup>th</sup> century C.E. This was introduced to India during the time of Muslims in this century. But Nearchos, the Greek writer who has been with India during Alexander invention to India mentions that Indians knew the art of preparing paper from Cotton. The earliest manuscript on paper was discovered from Kashgar in Central Asia. It belongs to Gupta period of 5<sup>th</sup> century C.E but it travelled to such a far of place around 14<sup>th</sup> century C.E. The hand- made paper replaced by machine papers; the *Mōḍi* letters of Marathas are written in papers in 18<sup>th</sup> and 19<sup>th</sup> century.



**Paper manuscript**

### **Leather:**

In ancient times leather was used as a writing material in Western Asia, Egypt and Europe. It is believed that some of the Buddhist works have been written on the skins of animals including *Vāsavadattā* of Subandhu. However no leather manuscript is recovered in India so far.

### **Ink:**

Some kind of ink has been used by Indians for writing on the Birch-bark and cotton cloth. The word *mashi* or *masi* used for ink appeared in *Grihyasūtras*. The earliest specimen of writing with ink is found on the inner side of the lid of the relic vessel from a *Stūpa* at Andher of 3<sup>rd</sup> or 2<sup>nd</sup> century BCE. Different kinds of inks were used; still black was the most common. Coloured inks also were used. Red was also most common while yellow was sometimes used in manuscripts.

## 5. Summary

From the above information, it is a known fact that the Indians used various kinds of material for their writing system. The permanent and dominant media of writing materials is stone till today. The installation of stone boards in the Government Buildings is common till today. There are references about the writer, writing materials various kinds of styles used by the Indians. The small knife and Hammer used for engraving the letters on the surface of the stone. After the invention of Paper in India, all the above materials were lost their importance. And at present, computer and other Electronic media slowly reduce the utilization of paper usage and other writing materials.

