Instructions: Read the following excerpts from “Uncovering Keys to the Lost Indus Cities” (Jonathan Kenoyer, Scientific American, July 2003) and answer the questions that follow.

The enigmatic Indus Valley civilization was one of the four great early Old World state-cultures, along with Mesopotamia, Egypt and China’s Yellow River civilization. But much less is known about it because, unlike the other ancient urban cultures, linguists have yet to decipher the Harappan script we see on recovered seals, amulets and pottery shards. In our ongoing attempt to understand how the now vanished people of the Indus culture ordered their society and to determine the sources of political, economic, military and ideological (religious) power in this remarkably extensive and urbanized state, my co-workers and I have to draw clues from the miscellaneous material we dig up and from the layout and architecture of the cities and settlements we excavate.

In the 1920s archeologists excavating old mounds of soil and refuse that covered the two large Bronze Age cities of Harappa and Mohenjo Daro (“Mound of the Dead” or “Mound of Mohen”) in what are now the Pakistani provinces of Punjab and Sindh brought the Indus civilization to the world’s attention. That a major state had flourished on the rich floodplains of the great trans-Himalayan river was unexpected. Subsequent surveys and excavations in western India and Pakistan have uncovered more than 1,500 additional settlements distributed over an area the size of western Europe and twice that of Mesopotamia and ancient Egypt. Although the Indus Valley people did not produce monumental stone carvings and did not bury their dead with their wealth, they constructed large, well-planned cities and made exquisite luxury items that were traded and exported to distant markets in the Persian Gulf, Central Asia and Mesopotamia. The similarities in site layout and artifact style throughout the Indus region reflect a surprisingly uniform economic and social structure.

The Indus cities established their economic base on agricultural produce and livestock, supplemented by fishing and hunting. Both the common people and the elite classes derived additional income from the production and trade of commodities, including cotton and woolen textiles as well as a variety of craft items.

The earliest village settlement at Harappa (called the Ravi phase) dates from before 3300 BCE to around 2800 BCE, a time when the Sumerians were building their first ziggurats and elaborately decorated temples and the Egyptians were burying their rulers and vast hoards of wealth in mud-brick tombs. Farming an environment similar to the agricultural lands of the Fertile Crescent in the Middle East, the ancient Indus peoples herded cattle and cultivated wheat, barley, legumes and sesame. Specialized craft technologies spread among the early settlers along trade networks, which likewise disseminated a shared set of religious symbols and artifact styles throughout the region.

A formal writing system, known as the Early Indus script, emerged in this phase as evinced by its appearance on numerous pottery fragments and in impressions that a seal, or stamp, made in clay. Merchants employed seals to indicate ownership of storerooms or bundles of goods by stamping clay tags, or bullae, over a cord or secured door. These square seals, carved in intaglio with geometric or animal motifs, served as economic documentation. Because only a few seals have been discovered, it is likely that they were used by individuals or communities with considerable power, such as landowners, merchants and religious leaders.

Many religious symbols of horned human forms and ritual designs on pottery begin to appear at Harappa and in far-flung corners of the Indus region during the Ravi and Kot Dijan periods, indicating the spread and synthesis of religious and cultural ideas. Whereas in ancient Egypt and Mesopotamia military conquest achieved the integration of distinct regions into single states, this pattern has not been seen in early Indus settlements. The first settlers at Harappa seem to have exploited the rich agricultural and grazing lands along the Ravi River to sustain themselves as they built economic and political power through craft production and trade and then legitimized their standing through religious practices rather than warfare.

The fully urban phase of Harappa began around 2600 BCE and continued until around 1900 BCE. For seven centuries, Harappa was one of the largest and most powerful economic and political centers in the Indus Valley, despite the seeming lack of an army. During the spring and late-summer trading seasons, the city would have hosted hundreds of traders who attracted thousands of people from the surrounding rural area. Depending upon the time of year, 40,000 to 80,000 people may have lived in the city. Wealthy patrons and entrepreneurial competition stimulated the development of new technologies and more extensive trade networks.
In its prime, Harappa measured more than 150 hectares in area—more than five kilometers in circuit, encompassing three large raised mounds and associated suburbs. The modern town of Harappa, with a population of around 20,000 still occupies a third of the ancient site. The city’s architecture and street layout were organized to facilitate access to the different neighborhoods and to segregate the public and private areas. Massive mud-brick walls enclosed each of the raised mounds, and narrow gates limited access, permitting only a single oxcart to pass at a time. Masons employed kiln-fired brick to build multistory homes that were placed along north-south and east-west street grids. Major avenues spanned more than eight meters, and some featured central dividers that may have regulated two-way bullock-cart traffic.

Builders dug drinking water wells in and around the city, and Harappan houses were equipped with bathing areas, latrines and sewage drains. Linked to larger mains, which eventually emptied outside the city walls, the sewers of Harappa would have removed wastewater from the habitation areas, depositing fertile sludge on the surrounding agricultural fields. Save for the Indus cities, no other city in the ancient world featured such a sophisticated water and waste management system. Even during the Roman Empire, some 2,000 years later, these kinds of facilities were limited to upper class neighborhoods.

Previously scholars argued that the Indus cities were suddenly abandoned around 1750 BCE, but our recent work at Harappa has clearly demonstrated that during its late phase, from 1900 to 1300 BCE, Harappa was indeed inhabited. In fact, signs that drains and city walls were not maintained provide proof of crowding and a breakdown of civic order. The remains suggest that the ruling elites were no longer able to control the day-to-day functioning of the urban center. This loss of authority must have eventually led to a reorganization of society, not just in Harappa but throughout the entire region that the upper classes had dominated for 700 years. Similar changes were occurring at the other big cities, such as Mohenjo Daro to the south and Dholavira in western India.

The crisis led to a cessation of the hallmarks of Indus elite culture. The distinctive pottery with ritual motifs and Indus script and traditional square seals with unicorn and other animal motifs disappeared. Cubical weights for taxation and trade fell into disuse, and the international trade networks began to deteriorate. Shells from the coastal regions no longer made their way to the northern sites, and lapis lazuli from the north failed to reach the sites in the plains. In Mesopotamia the texts that had recorded ongoing trade with a region called Meluhha, which is probably the Indus Valley, no longer mentioned it.

There seems to have been no single cause of the decline and reorganization of the Indus civilization but rather an array of factors. The growth of trade and the expansion of Indus settlements onto the Ganges River plain, as well as into what is now the state of Gujarat in western India led to the overextension of the Indus political and economic system. Around 1900 BCE, one of the major rivers of the Indus Valley, the Ghaggar-Hakra (also called the Saraswati) began to shift its course and eventually dried up, leaving many sites without a viable subsistence base. These communities would have migrated to other farming regions or to cities such as Mohenjo Daro and Harappa, resulting in overcrowding and civic disorder. Without a tradition of army-enforced social integration, leaders had no mechanism for maintaining trade networks and controlling the movement of peoples as they spread out into new regions.

A hectare is 10,000 square meters and is equal to 2.471 acres.

Intaglio is a design or figure carved into or beneath the surface of hard metal or stone.

1. Define the following words:

   a. Motif:

   b. Exquisite:

   c. Legumes:

   d. Sophisticated:
2. From the excerpt, which of the following is most probably the author’s occupation?
   a. Geographer  
   b. Historian  
   c. Archeologist  
   d. Anthropologist

3. How did the Indus Valley civilization differ from the Mesopotamian and Egyptian civilizations with regards to political integration?

4. Reference question 3, how does the author indicate that this may have caused the Indus Valley civilization to later disintegrate as an single political – cultural unit?

5. Describe the other two ways the author indicates that the Indus Valley civilization differed from those of Egypt and Mesopotamia?

6. Reference question 5, how do these differences probably contribute to the author’s calling the Indus civilization enigmatic?