**R1**

# Electrical Energy from the Ocean

**Paragraph1**：

Solar energy reaching Earth is responsible for differential heating of the atmosphere and thus air circulation as wind. Some of the energy of wind is transferred to the oceans, where it causes waves and is partly responsible for oceanic currents, although Earth's rotation also plays a role in current. Gravitational attraction between Earth and the Sun and Moon generates tides and, along with Earth's rotation, causes most coastal areas to experience a twice-daily rise and fall of sea level. In short, the oceans possess a tremendous reservoir of largely untapped energy.

1. According to paragraph 1, both wind energy and the rotation or Earth contribute to the creation

1. Waves
2. Oceanic currents
3. a gravitational attraction between Earth and the Sun and the Moon
4. tides

**Paragraph2:**

If we could effectively harness the energy possessed by the oceans, an almost limitless, largely nonpolluting energy supply would be ensured.■Unfortunately, ocean energy is diffuse, meaning that the amount of energy for a given volume of water is small and thus difficult to concentrate and use.■Several ways of using ocean energy are being considered or are under development, and one is currently in use, although it accounts for only a tiny proportion of all energy production.■ Of the several sources of ocean energy-temperature differences with depth; currents; waves and tides—only the last shows much promise for the near future.■

2. The word “harness” in the passage is closest in meaning to

1. put into use
2. separate out
3. come to understand
4. identify the location of

**Paragraph3:**

Ocean water at depth might be as much as 25C colder than surface water, a difference that allows for ocean thermal energy conversion (OTEC) OTEC exploits this temperature difference to run turbines and generate electricity. The amount of energy available is enormous, but a number of practical problems must be solved before it can be used For one thing, any potential site must be close to land and also have a sufficiently rapid change with depth to result in the required temperature difference. Furthermore, enormous quantities of warm and cold seawater would have to circulate through an electrical-generating plant, thus requiring that large surface areas be devoted to this purpose.

3. According to paragraph 3, the concept of OTEC is tied to which of the following aspects of the ocean?

1. Deep waters of the ocean are often calmer than surface waters are.
2. Enormous amounts of water are available below the surface of the ocean.
3. Temperatures beneath the ocean's surface water can vary greatly according to the depth of the water.
4. Waves and tides contribute to forming land sites that are ideal for running turbines and generating electricity.

**Paragraph4**

|  |  |
| --- | --- |
| The concept of OTEC is more than a century old, but despite several decades of research, no commercial OTEC plants are | |
| operating or even under construction, although small experimental ones have been tested in Hawaii and Japan. |  |

4. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage?

Incorrect choices change the meaning in important ways or leave out essential information.

1. Although the construction and operation of OTEC plants are expensive, many commercial plants have been built in Hawaii and Japan.
2. Although OTEC is not a new idea experimental OTEC，plants are limited, and commercial OTEC plants do not even exist.
3. Because successful experiments using the concept of OTEC have been conducted in Hawaii and Japan for several decades, there are now commercial plants under construction.
4. After several decades of research, small experimental OTEC plants are being expanded to operate as large commercial plants

**Paragraph5:**

Wind-generated ocean currents, such as the Gulf Stream, which flows along the east coast of North America, also possess energy that might be tapped to generate electricity. Unlike streams that can be dammed to impound a reservoir, any electrical-generating facility exploiting oceanic currents would have to concentrate currents' diffuse energy and contend with any unpredictable changes in direction. In addition, whereas hydroelectric generating plants on land depend on the rapid movement of water from a higher elevation to the turbines, the energy of ocean currents comes from their flow velocity, which is at most a few kilometers per hour.

5. How does the author develop the discussion in paragraph 5 on the possibility of using wind- generated currents to generate electricity?

1. By providing examples of places where ocean currents have been used successfully
2. By describing the process by which wind-generated ocean currents produce energy
3. By contrasting ocean currents with other sources of water-generated electricity
4. By establishing a historical context for modem techniques of generating electricity

**Paragraph6:**

The most obvious form of energy in the oceans lies in waves. Harnessing wave energy and convert it to electricity is not a new idea, and it has been used on an extremely limited scale. Unfortunately the energy possessed by a wave is distributed along its crest and is difficult to concentrate.Furthermore, any facility would have to be designed to withstand the effects of storms and saltwater corrosion.The Japanese have developed wave -energy devices to power lighthouses and buoys and a facility capable of providing power to about 300 homes began operating in Scotland during September 2000

6. By mentioning the Japanese and Scotland in paragraph 6, the author is supporting which of the following points?

1. Some countries have come to depend heavily on power generated by the waves.
2. Unlike other countries, Scotland and Japan have had little success using energy from waves because of the effects of weather and corrosion
3. The use of energy from waves is better suited for industrial purposes than it is for use in homes
4. It is difficult to generate electricity by using ocean waves even though it is being done to a limited extent in some places.

**Paragraph7:**

Perhaps tidal power is the most promising form of ocean energy. In fact, it has been used for centuries in some coastal areas to run mils, but its use at present for electrical generation is limited. Most coastal areas experience a twice -daily rise and fall of tides, but only a few areas are suitable for exploiting this energy source. One limitation is that the tidal range must be at least five meters, and there must also be a coastal region where water can be stored following high tide.

7. Why does the author mention the fact that tides have been "used for centuries in some coastal areas to run mills"?

1. To compare how energy from the ocean was gotten in the past with how it is currently gotten
2. To emphasize the difficulty of providing for the energy needs of the coastal areas
3. To explain why some coastal areas had more energy available in the past than inland areas typically did
4. To support the idea that the tides are probably the most easily converted source of energy from the sea

**Paragraph8:**

Suitable sites for using tidal power are limited not only by tidal range but also by location. Many areas along the U.S. Gulf Coast would certainly benefit from tidal power plants, but a tide range of generally less than one meter precludes the possibility of development. Even areas with an appropriate tidal range such as the Arctic islands of Canada offer little potential because of their great distances from population centers.

8. The word "precludes" in the passage is closest in meaning to

1. Prevents
2. Presents
3. Prepares
4. preserves

1. Look at the four squares■ l that indicate where the following sentence could be added to the passage.

**The ocean, therefore, presents a potentially appealing source of energy.**

Where would the sentence best fit? Click on a square■ to add the sentence to the passage.

**Paragraph2:** If we could effectively harness the energy possessed by the oceans, an almost limitless, largely nonpolluting energy supply would be ensured. ■Unfortunately, ocean energy is diffuse, meaning that the amount of energy for a given volume of water is small and thus difficult to concentrate and use.■Several ways of using ocean energy are being considered or are under development, and one is currently in use, although it accounts for only a tiny proportion of all energy production. ■ Of the several sources of ocean energy-temperature differences with depth; currents waves and tides—only the last shows much promise for the near future. ■

1. Drag your answer choices to the spaces where they belong, To remove an answer choice, click on it. To review the passage, click VIEW TEXT

The oceans represent a potentially great source of usable energy.

## Answer Choices

1. Earth s rotation is the most important factor in the formation of oceanic currents.
2. OTEC produces large amounts of energy and is used to run turbines and to produce a great deal of electricity.
3. Problems associated with energy storage, concentrating ocean power, and resource location have limited the use of oceanic energy .
4. Despite the theoretical advantages of waves, currents, and tides as sources of energy, it remains difficult to take advantage of these resources.
5. Experts have tried, mostly unsuccessfully, to solve the practical problems associated with exploiting the temperature differences of the ocean.
6. The Arctic islands of Canada have been shown to be the most suitable sites for tidal power and have benefited the most from the use of this source of electricity.

R2

# Minoan Palaces

## Paragraph1：

The Minoan culture on the island of Crete in the Aegean Sea flourished from about 3000 to 1100 B.C. In what is known as the Palace Period (ca. 2000-1450 B.C.), power was centralized in palaces and, later, in villas. According to one authority, the five primary economic functions of Minoan palaces during much of the Palace era were (1) production of manufactured goods, (2)consumption of food and manufactured goods, (3) regulation of local and internal exchange,

(4) regulation of international and external exchange, and (5) use as depositories (storage facilities)

1. All of the following are mentioned in paragraph1 as possible functions of Minoan palaces EXCEPT

1. providing a market for agricultural and other products
2. providing protection against internal and external threats
3. producing finished goods from raw materials
4. controlling trade

## Paragraph2：

The production and storage of manufactured goods are evident from the archaeological digs at Phaistos and Mallia, important palace sites. Excavations of the earliest phases at Phaistos (those from the so-called First Palace Period, which ended about 1700 B.C.) revealed two areas dedicated to economic activity. ■Unit A contained several large storage vessels originally filled with food stuffs, including liquids such as wine and oil.■Nearby Unit B was the palace workshop.■Here, excavators found tools used for stone working (a lapidary workshop), several loom weights (a weaving workshop), and two potter's wheels (a ceramics workshop). ■Clay sealings from a smaller room in Unit B may indicate where finished products were processed for storage or export. By the Second Palace Period (roughly 1700-

1450 B.c.), there were even more food storage vessels present and an archive room (a room for storing documents)

2. According to paragraph 2, what change had taken place at Phaistos by the Second Palace Period?

1. The vessels used for storing food were larger.
2. More types of food were being stored
3. New kinds of tools were being used in the workshops
4. A room for storing written records had been added

## Paragraph3：

Similar finds appeared at Mallia. In the northwest quarter of the palace, excavators discovered obsidian, soapstone, and a reddish marble called rosso antico, all evidently part of the lapidary (stonecutting) workshop A potter's workshop was also present within the palace walls. During part of this period, the workshop of a bronze smithy was located just outside the palace walls. It is actually surprising that such an industry would be so close to any residential quarters, considering the unpleasant fumes given off by the work and the rather high potential for fires. Nevertheless, at a somewhat later date, the palace walls were extended so that the smithy was located within the palace itself. Clearly, this was an industry over which the palace wanted to keep very close control.

3. The phrase "potential for" in the passage is closest in meaning to

1. cost of
2. likelihood of
3. concern about
4. frequency of

4. In paragraph 3, why does the author mention that the bronze smithy gave off unpleasant fumes?

1. To show that the manufacturing industries of the Palace Period had certain drawbacks
2. To help explain why the palace walls were extended enough to bring the bronze smithy inside
3. To support the idea that the palace must have had a strong interest in controlling what happened in the bronze smithy
4. To explain why archaeologists believe that the bronze smithy was located outside the palace walls

## Paragraph4：

The role of Minoan palaces as depositories and regulators of local distribution and trade may be seen in the koulouras large, stone lined pits located at Knossos, Phaistos, and in a slightly altered guise, at Mallia. There is continued debate as to the purpose of these huge storage bins. It was originally suggested that they were rubbish pits. Some modern scholars believe that they were giant tree planters. But the usual intertion is that they were for grain storage, with the koulouras at Knossos being able to hold enough grain to feed 1000 people and the koulouras at Phaistos being able to hold enough for 300 people. In such a case, the palace would have received a substantial portion of the agricultural produce of the surrounding farms, stored it, and then distributed it to the more specialized, nonagricultural populace of the palace region.

5. The phrase "altered guise" in the passage is closest in meaning to

1. dated style
2. changed form
3. improved version
4. reduced area

6. According to paragraph 4, each of the following has been proposed as the purpose served by the koulouras

EXCEPT as

1. containers in which trees were planted
2. containers for trash and other waste materials
3. bins in which grain to feed the nonagricultural population was stored
4. bins in which farmers could store grain for their own private use

## Paragraph5：

Palatial control over foreign trade is more difficult to prove archaeologically, as there is often no

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| --- | --- | --- |
| way to determine where on Crete any specific item found abroad was made. | | One argument often |
| brought to the fore is that only the palaces would have the capital (to use a modern term) to | | |
| finance the goods and shipping for long trade journeys not to mention to handle the risks of | | |
| possible sea wrecks. | Another argument, however, lies in the nature of the Minoan goods found | |

abroad. For example, Kamares ware pottery from Minoan Crete has come to light on the coasts of Cyprus and in areas of the Near East such as Egypt and Syria. This Kamares ware is clearly a product of palatial manufacture. The ceramics from before and after the classical Kamares wares are clearly local creations -Knossian ware being distinct from Mallian ware. By contrast, the Kamares ware made in the palaces is similar from palace to palace but is utterly distinct from the provincial wares. The number of foreign goods stored in the palaces, especially Zakro, also gives evidence for the palatial control of international exchange.

7. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage?

Incorrect choices change the meaning in important ways or leave out essential information.

1. One argument is that the risks of possible sea wrecks have been ignored in estimates of the palaces' ability to finance goods and shipping in overseas trade.
2. One argument is that the palaces had enough capital to finance the manufacture of trade goods but not enough to handle the risk of sea wrecks
3. One argument is that only the palaces had enough wealth to finance the goods and to take on the risks and shipping costs involved in overseas trade.
4. One argument is that the palaces are the only institutions that would have needed capital to finance the goods, shipping, and risks involved in overseas trade

8. According to paragraph 5, why did the discovery of Kamares ware in a number of places outside Crete provide support for the idea that the palaces had some control over foreign trade?

1. Because it is possible to determine in what part of Crete any particular piece of Kamares ware was made
2. Because Kamares ware can be clearly identified as coming from palace production centers
3. Because it is known that Kamares ware was produced only during a certain period
4. Because classical Kamares ware was produced only within Crete

1. Look at the four squares■ l that indicate where the following sentence could be added to the passage.

**The exact use of other work areas is less certain, though often a good guess can be made.**

Where would the sentence best fit? Click on a square■ to add the sentence to the passage.

**Paragraph2** ： The production and storage of manufactured goods are evident from the archaeological digs at Phaistos and Mallia, important palace sites. Excavations of the earliest phases at Phaistos (those from the so-called First Palace Period, which ended about 1700 B.C.) revealed two areas dedicated to economic activity. ■ Unit A contained several large storage vessels originally filled with foodstuffs, including liquids such as wine and oil.■Nearby Unit B was the palace workshop. ■ Here, excavators found tools used for stone working (a lapidary workshop), several loom weights (a weavingworkshop), and two potter's wheels (a ceramics workshop). ■Clay sealings from a smaller room in Unit B may indicate where finished products were processed for storage or export By the Second Palace Period (roughly 1700- 1450 B.c.), there were even more food storage vessels present and an archive room (a room for storing documents)

1. Palaces in Crete between 2000 and 1450 B.C. were centers of economic power and control.

**Answer Choices :**

1. Palaces served as depositories for various food stuffs, and for goods produced in palace workshops, such as ceramics and bronze objects.
2. Evidence concerning koulouras has led some archaeologists to conclude that the palaces played only a small role in regulating local trade and distribution
3. Discoveries outside of Crete of goods from palace workshops, plus evidence of foreign goods stored in palaces, indicate that foreign trade was probably conducted from the palaces.
4. Excavators have discovered evidence showing that palace workshops and the goods they produced changed greatly after the First Palace Period
5. It seems likely that palaces collected much of the agricultural produce from surrounding farms, stored it, and later gave it to people involved in nonagricultural work.
6. The discovery in Cyprus and the Near East of goods made in Minoan Crete indicates that an extensive trade network developed between Crete and these areas during the Palace Period.

**R3**

# The Productivity of Wet Rice Farming

## Paragraph1：

The wet rice fields of Asia are the most productive of all preindustrial intensive agricultural systems. ■As the term "wet rice" suggests, the method involves flooding the fields for most of the growing season.■ In some areas the water comes entirely from the natural rainfall of the monsoons,but the water level often is controlled by artificial irrigation■

Most wet rice is, therefore, grown on the floodplains of rivers. ■In parts of Southeast Asia, southern China, and the

Himalayan fringes,wet rice is grown on terraced hillsides originally constructed centuries ago.

1. Paragraph 1 suggests which of the following about the artificial irrigation of wet rice?

1. It is used only in areas where there is little natural rainfall.
2. It is most easily accomplished when the rice fields are located on the floodplains of rivers.
3. It is considered one of the most important developments of industrial agriculture.
4. It was not yet in use when the terraced hillsides were originally constructed.

## Paragraph2：

Perhaps the most remarkable feature of wet rice cultivation is the capability of a plot to yield a harvest year in and year out, with little or no need to be left uncult·ivated for extended periods in order to recover its fertility. Indeed, where the seasonal availability of water is adequate, the same plot may yield two and even three harvests in a single year, being under almost continuous cultivation. This capability has been attributed to four factors: the protection from erosion the water gives the soil, the high water table of the rivers 1 floodplains that reduces the leaching of nutrients from the soil, the replacement of soil nutrients by the silt carried in the rivers' flooding, and nitrogen fixation (the conversion of atmospheric nitrogen into forms usable by plants) from the blue-green algae that live in the floodwater. The chief benefit of wet rice its ability to grow in the same field year after year is then related to the practice of flooding the fields and allowing the water to remain throughout most of the maturation period.

2. The phrase "attributed to" in the passage is closest in meaning to

1. divided into
2. reduced
3. explained by
4. proven by

3. According to paragraph 2, the flooding of wet rice fields is responsible for each of the following benefits EXCEPT

1. reduced erosion
2. harvests that increase yearly in amount
3. the regular addition of nutrients to the soil
4. nitrogen fixation

4. What is the role of the last sentence of paragraph 2?

1. To apply the ideas of the paragraph to a new case
2. To summarize the ideas of the paragraph
3. To emphasize a surprising consequence of the ideas of the paragraph
4. To explain why the ideas of the paragraph are important

## Paragraph3：

Despite the advantages of their methods, wet rice farmers must solve problems relating to the management of water, because the proper supply of water at the proper time is so important for a good yield. It is more efficient if storage ponds or tanks, canals, ditches, and other-improvement sare held and managed communally, because less labor is required to construct and maintain them than if each family owned its own. Water may be stored in small lakes or ponds or captured and held in tanks until it is used to flood the fields. The water level must be controlled fairly precisely while the rice is growing. If it rises too high, the plants will be unable to photosynthesize; and if it falls too low, the benefits of having standing water in the fields will be reduced. Unless the land is naturally flat, the plots, therefore, must be leveled to keep the height of the water constant in different areas of the field.The water level must be controlled by low dikes, usually constructed of earth, which can be easily breached to drain the plot for the harvest.

5. The word "captured in the passage is closest in meaning to

1. transported
2. shared
3. leaned
4. trapped

6. According to paragraph 3, uneven land must be leveled before it is suitable for wet rice growing because

1. less water is needed to flood every part of a field when the field is level
2. the height of water in which rice plants are growing must be kept constant
3. the water levels in the fields must be reduced for the harvest
4. draining the plots for the harvest is faster when the land is leveled

## Paragraph4：

Managing the supply of the water that is so critical in growing wet rice requires sophisticated organization, especially with respect to cooperative labor patterns and rights of access to both land and water. Each family may work its lands on its own, but who will construct and maintain public irrigation works? Who will decide when dikes, dams, ditches, and tanks need to be repaired, and how will the labor to repair them be coordinated? The water used on the fields of one family is not available to other families. How shall the consumption of water be coordinated? Who will get how much water and when? How, in short, will use rights to water be determined?

7. According to paragraph 4, in wet rice areas all of the following are problems that require cooperation to solve EXCEPT

1. deciding how available water should be distributed among its different users
2. organizing labor to repair water storage facilities
3. arranging for the construction of irrigation works
4. ensuring that enough workers are available to cultivate each plot

## Paragraph5：

In one example of organizing the allocation of water to the fields, the Sinhalese of the dry zone of Sri Lanka draw water from a collectively owned rain-fed reservoir constructed of earth. All of the cultivated land of a village is in a single area, below the reservoir. The entire field is laid out into diked plots of equal size. Each plot receives a fixed amount of water from the communal reservoir,though the number of families working a single plot varies: Poor families must share water rights of access to one plot with other families, whereas richer families have access to several plots.Assigning each plot (rather than each family) the same proportion of irrigation water reduces the chance that a given plot will receive insufficient moisture.

8. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage?

Incorrect choices change the meaning in important ways or leave out essential information

1. Poor families who must share a plot have access to less water from the communal reservoir than do rich families who have their own plots
2. Each plot receives the same amount of water from the communal reservoir regardless of the number of families who work that plot, which varies depending on their wealth
3. Because each plot receives the same amount of water from the communal reservoir, poor families have access to just as much water for their plots as wealthy families do.
4. The amount of water each plot receives from the communal reservoir is fixed according to the wealth of the families who have access to that plot.
5. Look at the four squares■ l that indicate where the following sentence could be added to the passage.

**Moreover, wet rice is cultivated more widely and feeds more of this continent's rural populations than any other crop.**

Where would the sentence best fit?Click on a squarel■ to add the sentence to the passage.

**Paragraph1** ： The wet rice fields of Asia are the most productive of all preindustrial intensive agricultural systems. ■ As the term "wet rice" suggests, the method involves flooding the fields for most of the growing season.■ In some areas the water comes entirely from the natural rainfall of the monsoons, but the water level often is controlled by artificial irrigation■ Most wet rice is, therefore, grown on the floodplains of rivers. ■In parts of Southeast Asia, southern China, and the Himalayan fringes, wet rice is grown on terraced hillsides originally constructed centuries ago.

1. Wet rice farming ensures high yearly productivity for the cultivation of individual plots of land.

## Answer Choices

A. The most remarkable feature of wet rice farming is that crops can be continuously grown under water without the need for nutrients.

B. Storing water and controlling the level of the water are essential for successful wet rice farming.

C. Although most of the cultivated land of a Sinhalese village is restricted to a particular area below the reservoir, other plots are located outside the dry zone of Sri Lanka.

D. The practice of flooding wet rice fields and allowing the water to remain for extended periods allows the fertility level of individual fields to remain stable while the land is cultivated year after year.

E. Organization of communal water storage labor, and distribution requires a sophisticated management system.

F. Each Sinhalese family not only works its own lands but also helps to determine how much of its water consumption should be shared with other families