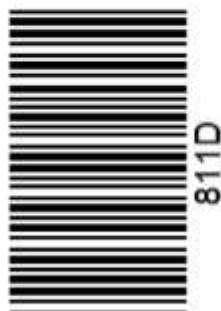


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کد کنترل

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صبح جمعه ۱۳۹۷/۱۲/۳ دفترچه شماره (۲)		«اگر دانشگاه اصلاح شود، مملکت اصلاح می‌شود.» امام خمینی (ره)		
جمهوری اسلامی ایران وزارت علوم، تحقیقات و فناوری سازمان سنجش آموزش کشور				
آزمون ورودی دوره دکتری (نیمه‌متمرکز) - سال ۱۳۹۸				
کلیه رشته‌های امتحانی گروه آزمایشی علوم پایه				
مدت پاسخگویی: ۹۰ دقیقه	تعداد سؤال: ۶۰			
عنوان مواد امتحانی، تعداد و شماره سؤالات				
ردیف	مواد امتحانی	تعداد سؤال	از شماره	تا شماره
۱	استعداد تحصیلی	۳۰	۱۰۱	۱۳۰
۲	زبان انگلیسی - عمومی	۳۰	۱۳۱	۱۶۰
این آزمون نمره منفی دارد.		استفاده از ماشین حساب مجاز نیست.		
حق چاپ، تکثیر و انتشار سؤالات به هر روش (الکترونیکی و ...) پس از برگزاری آزمون، برای تمامی اشخاص حقیقی و حقوقی تنها با مجوز این سازمان مجاز می‌باشد و با متغییرن برابر مقررات رفتار می‌شود.				
۱۳۹۸				

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- 145- Unwilling to submit to the forces of weather and time that break down mountains, Japan, in 1982, erected a wall to halt erosion of the perfectly formed, snow-capped cone of their sacred Mount Fuji.
- 1) tenuous
 - 2) inexorable
 - 3) intrinsic
 - 4) dormant
- 146- A recent study shows that the prevalence and sometimes misuse of cell phones and computers has lead to an in some people about the benefits of technology.
- 1) impression
 - 2) impulse
 - 3) ambivalence
 - 4) ignorance
- 147- One example of a is seen in the life of the butterfly. Butterflies go through a four-stage metamorphosis from egg to larva (a caterpillar) to pupa (the resting stage) to adult.
- 1) transformation
 - 2) disappearance
 - 3) propagation
 - 4) redundancy
- 148- As you plan your speech, make sure your examples are your topic. You should use examples that deal with the subject you are talking about.
- 1) at odds with
 - 2) devoid of
 - 3) germane to
 - 4) replete with
- 149- Many people today enjoy the ease of shopping, banking, and paying bills online. However, if your personal information is not securely, problems can arise.
- 1) intervened
 - 2) divulged
 - 3) disregarded
 - 4) encrypted
- 150- In the 1960s a historian suspected foul play in Napoleon's death in 1821 on the island of St. Helena. Arrangements were made to exhume his body, and a hair sample was then taken. Because hair doesn't, scientists were able to do chemical studies on it checking for toxic substances.
- 1) evolve
 - 2) decay
 - 3) persist
 - 4) sap

PART C: Reading Comprehension

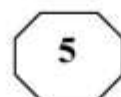
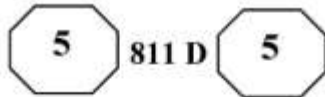
Directions: Read the following two passages and select the choice (1), (2), (3), or (4) that best answers each question. Then mark the correct choice on your answer sheet.

Passage 1:

The cumulative effects of rain and flowing water are in large measure responsible for the surface features of the landforms around us. There are, however, two common misconceptions about the role of water in shaping landforms. The first is that it is the flowing of water down the incline of the ground surface that ultimately produces topographic form, and the second is that valleys are cut by progressive erosion of riverbanks.

These ideas are somewhat inaccurate. The former is erroneous in that water erosion over the surface of a slope, or inclined surface, is only one process, and often a minor one,

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involved in the movement of soil material downslope. The latter idea of the role of erosion by rivers is at best a misleading generalization. A river erodes its bed. As the bed at the foot of a riverbank is eroded, soil material above the water level tends to fall or slide into the river because it is no longer supported sufficiently. Such movements spread upslope, as each time soil slides into the river the soil material that was above it, further upslope, is left unsupported.

The form of the slope, or the nature of the scars and other surface features left by the sliding or other movement of the material, cannot be said to be necessarily the product of river erosion. Landslides, mudflows, and other displacements occur on the slope at points distant from the river without any direct and immediately preceding involvement of the river. Any other agent that removed the support at the base of the slope, such as earthmoving equipment, would initiate similar effects. Within any slope there are forces of gravitational origin as well, which have the potential for causing movements of materials toward lower elevations. Such forces find expression in movements of many types. Counteracting them is the resistance, or strength, of materials comprising the slopes. The form of a slope depends on the properties of the materials of which the slope is composed, which in turn depend on the climate and the history of the slope.

151- What is the main idea of the passage?

- 1) Riverbed erosion causes riverbanks to slide.
- 2) Movement of earth causes riverbed erosion.
- 3) Topographic form is produced by the movement of water over earth.
- 4) The role of water in shaping surface landforms is often misunderstood.

152- What happens as a result of erosion of the bed at the foot of a riverbank?

- 1) Soil falls into the river from the bank above.
- 2) Water trickles down into the river.
- 3) The river flows more smoothly.
- 4) The river becomes deeper.

153- It can be inferred from the passage that the surface of the Earth

- 1) consists of many different interconnected waterways
- 2) is not affected by weather conditions
- 3) is basically stable in form
- 4) is constantly changing

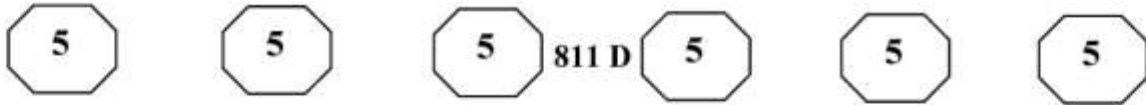
154- The author mentions all of the following as causes for the movement of soil material EXCEPT

- | | |
|---------------|--------------------------|
| 1) landslides | 2) volcanoes |
| 3) mudflows | 4) earthmoving equipment |

155- The effect of gravitation on the slope is limited by the

- 1) strength of materials that make up the slope
- 2) movement of material to lower elevations
- 3) age of the slope
- 4) flow of water

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Passage 2:

Copper ore can be smelted (melted to extract its copper content) at about 750 degrees centigrade, and copper metal melts at just under 1,100 degrees centigrade. Both temperatures were well within the range of early pottery kilns (ovens), and it is most likely that the two technologies (pottery and metals) were initially closely linked.

The introduction of heatproof containers of stone or pottery allowed metalworkers to shape copper by casting—pouring molten metal into a mold. The first molds—for items such as axe heads—were simple open molds carved into the surface of stone blocks. These were followed by two-piece molds that enabled more complex shapes to be formed.

Some copper ores also contain small amounts of other metals, notably arsenic. When smelted, these ores produce an alloy (a substance composed of a mixture of metals) significantly stronger than pure copper, with an attractive silvery color. Some metalworkers seem to have deliberately selected these ores, and arsenical copper remained popular (especially in Egypt) even after it had been superseded by a superior alloy—bronze.

Bronze is a strong, versatile alloy made by mixing copper with tin. Deposits of tin ore are much rarer than copper ores—sometimes tin had to be obtained from sources as much as 1,000 kilometers away—but bronze was well worth the trouble. Copper has several advantages over stone as a material for tools—it is heavier, denser, and does not break so easily—but it is also softer, and copper cutting edges are quickly blunted. Bronze, however, is superior to stone in almost every respect, except cost. Making a stone tool can be a quick, one-person operation, but making a bronze one requires the extraction and combination of two expensive materials, considerable expertise, and far more time.

In about 3200 B.C., Mesopotamia became the first region to organize sufficient supplies of copper and tin to begin producing bronze in quantity. Metalworking was under state control, and virtually all of the production went into prestige personal items and weapons— agricultural tools had a much lower priority.

In Egypt, which was slower to adopt metals, the same pattern of production emerged, whereas in the unwarlike Indus Valley, bronze was put to more utilitarian purposes from the outset.

156- What does the passage mainly discuss?

- 1) The use of molds to cast copper into shapes
- 2) The advantages of copper tools over stone tools
- 3) The early production and use of copper and its alloys
- 4) The close connection between early pottery and early metalworking

157- According to the passage, why is it probable that the technologies of pottery and metalworking were at first closely connected?

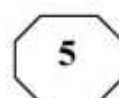
- 1) Metal alloys could frequently be combined with clay in the production of pottery.
- 2) Pottery kilns could attain the high temperature required for metalworking.
- 3) Pottery could not be shaped properly without using molds made of metal.
- 4) Pottery could be used to strengthen artifacts made of metal.

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- 158- Which of the following can be inferred from the passage about bronze in ancient times?
- 1) It was harder than copper but softer than stone.
 - 2) It had a more silvery color than modern bronze does.
 - 3) It was generally manufactured rather than found in nature.
 - 4) It generally contained a higher proportion of tin than of copper.
- 159- According to the passage, which of the following is true about metalworking in Mesopotamia?
- 1) Most bronze objects made in Mesopotamia were weapons or personal items indicating status.
 - 2) Mesopotamia's production of bronze items consisted mainly of farming tools.
 - 3) Mesopotamia controlled the bronze production of neighboring regions.
 - 4) Mesopotamia exported expensive bronze items to Egypt.
- 160- Which of the following can be inferred from the passage about the inhabitants of the Indus Valley?
- 1) Their production of bronze items was very similar to that of the Egyptians.
 - 2) They used bronze mainly for making items of practical use such as tools.
 - 3) They had to import bronze weapons and jewelry from Mesopotamia.
 - 4) They adopted the use of metals even later than the Egyptians did.

This is the end of Section 5.