

کد کنترل

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صبح جمعه

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جمهوری اسلامی ایران  
وزارت علوم، تحقیقات و فناوری  
سازمان سنجش آموزش کشور

«در زمینه مسائل علمی، باید دنبال قله بود.»  
مقام معظم رهبری

## آزمون ورودی دوره‌های کارشناسی ارشد ناپیوسته داخل – سال ۱۴۰۳

علوم زمین (کد ۱۲۰۱)

مدت زمان پاسخگویی: ۱۸۰ دقیقه

تعداد سؤال: ۲۶۵

عنوان مواد امتحانی، تعداد و شماره سؤال‌ها

ردیف	مواد امتحانی	تعداد سؤال	از شماره	تا شماره
۱	زبان عمومی و تخصصی (انگلیسی)	۲۵	۱	۲۵
۲	رسوب‌شناسی و پترولوژی سنگ‌های رسوبی	۲۰	۲۶	۴۵
۳	آب‌های زیرزمینی	۲۰	۴۶	۶۵
۴	زمین‌شناسی ایران	۲۰	۶۶	۸۵
۵	زمین‌شناسی نفت	۲۰	۸۶	۱۰۵
۶	ژئوشیمی	۲۰	۱۰۶	۱۲۵
۷	سنگ‌شناسی	۲۰	۱۲۶	۱۴۵
۸	دیرینه‌شناسی	۲۰	۱۴۶	۱۶۵
۹	زمین‌شناسی مهندسی	۲۰	۱۶۶	۱۸۵
۱۰	زمین‌شناسی ساختاری	۲۰	۱۸۶	۲۰۵
۱۱	چینه‌شناسی	۲۰	۲۰۶	۲۲۵
۱۲	زمین‌شناسی اقتصادی	۲۰	۲۲۶	۲۴۵
۱۳	زمین‌شناسی زیست‌محیطی	۲۰	۲۴۶	۲۶۵

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 متخلفین برابر مقررات رفتار می‌شود.

\* داوطلب گرامی، عدم درج مشخصات و امضا در مندرجات جدول زیر، به منزله عدم حضور شما در جلسه آزمون است.

اینجانب ..... با شماره داوطلبی ..... با آگاهی کامل، یکسان بودن شماره  
صندلی خود با شماره داوطلبی مندرج در بالای کارت ورود به جلسه، بالای پاسخنامه و دفترچه سؤال‌ها، نوع و  
کد کنترل درج‌شده بر روی دفترچه سؤال‌ها و پایین پاسخنامه‌ام را تأیید می‌نمایم.

امضا:

زبان عمومی و تخصصی (انگلیسی):

## PART A: Vocabulary

**Directions:** Choose the word or phrase (1), (2), (3), or (4) that best completes each sentence. Then mark the answer on your answer sheet.

- 1- But at this point, it's pretty hard to hurt my ..... . I've heard it all, and I'm still here.  
1) characterization 2) feelings  
3) sentimentality 4) pain
- 2- Be sure your child wears sunscreen whenever she's ..... to the sun.  
1) demonstrated 2) confronted 3) invulnerable 4) exposed
- 3- Many of these popular best-sellers will soon become dated and ....., and will eventually go out of print.  
1) irrelevant 2) permanent 3) fascinating 4) paramount
- 4- The men who arrived in the ..... of criminals were actually undercover police officers.  
1) uniform 2) job 3) guise 4) distance
- 5- It was more ..... to take my meals in bed, where all I had to do was push away my tray with its uneaten food and fall back upon my pillows.  
1) haphazard 2) reckless 3) convenient 4) vigorous
- 6- His victory sparked a rare wave of ..... in his home country. Nicaraguans poured into the streets, honking car-horns and waving the national flag.  
1) serendipity 2) tranquility 3) aspersion 4) euphoria
- 7- He liked the ease and glitter of the life, and the luster ..... on him by being a member of this group of rich and conspicuous people.  
1) conferred 2) equivocated 3) attained 4) fabricated

## PART B: Cloze Test

**Directions:** Read the following passage and decide which choice (1), (2), (3), or (4) best fits each space. Then mark the correct choice on your answer sheet.

Roman education had its first “primary schools” in the 3rd century BCE, but they were not compulsory ..... (8) entirely on tuition fees. There were no official schools in Rome, nor were there buildings used specifically for the purpose. Wealthy families ..... (9) private tutors to teach their children

at home, while less well-off children were taught in groups. Teaching conditions for teachers could differ greatly. Tutors who taught in a wealthy family did so in comfort and with facilities; ..... (10) been brought to Rome as slaves, and they may have been highly educated.

- |     |                                    |                                     |
|-----|------------------------------------|-------------------------------------|
| 8-  | 1) which depending                 | 2) and depended                     |
|     | 3) for depended                    | 4) that depended                    |
| 9-  | 1) have employed                   | 2) employed                         |
|     | 3) were employed                   | 4) employing                        |
| 10- | 1) some of these tutors could have | 2) because of these tutors who have |
|     | 3) that some of them could have    | 4) some of they should have         |

### PART C: Reading Comprehension

***Directions:*** Read the following three passages and answer the questions by choosing the best choice (1), (2), (3), or (4). Then mark the correct choice on your answer sheet.

#### PASSAGE 1:

The Taftan Volcano, located in Sistan and Baluchistan Province, southeast of Iran, is 4050 m in height. It is currently dormant. The volcano consists mainly of two mountains, Narkuh and Matherkuh, together with a thin horse-saddle-like part. The Mt. Matherkuh is covered with thick and young andesite lava flows, showing fumarolic activity. Most of the edifice of the Taftan Volcano consists of pyroclastics, tuffs, ignimbrites and lava flows, usually containing andesite, dacite, rhyolite and low andesite-basalt. In addition, there are plagioclase, biotite, hornblende, quartz, pyroxene and olivine. Plagioclases are characterized by coarse and fine grains, euhedral to sub-hederal crystals, diverse twinning, zoning (simple and oscillatory), sieve textures, and solution channels. Biotite and hornblende minerals mostly show solution and opacitization and occasionally are intergrowths. Pyroxene and olivine are low minerals and euhedral, is present in pyroxene andesite and basaltic rocks. The stratigraphic sequence of the Taftan Volcano can be classified as three groups: pre-volcanic deposits, syn-volcanic deposits, and post-volcanic deposits.

- 11- The word “dormant” in the passage is closest in meaning to ..... .
- |               |             |
|---------------|-------------|
| 1) inactive   | 2) aflame   |
| 3) underwater | 4) erupting |
- 12- All of the following statements are true about the Taftan Volcano EXCEPT that ..... .
- 1) it is 4050 m in height
  - 2) it consists mainly of two mountains
  - 3) it is located in Sistan and Baluchistan
  - 4) it has a horse-riding track in the middle of two mountains
- 13- All of the following terms are mentioned in the passage EXCEPT ..... .
- |                |             |
|----------------|-------------|
| 1) ignimbrites | 2) zinc     |
| 3) biotite     | 4) pyroxene |

- 14- According to the passage, which of the following statements is true?
- 1) Narkuh shows fumarolic activity.
  - 2) Matherkuh, unlike Narkuh, consists of pyroclastics, tuffs, ignimbrites and lava flows.
  - 3) The stratigraphic sequence of the Taftan Volcano can be classified as three groups.
  - 4) Narkuh, unlike Matherkuh, usually contains andesite, dacite, rhyolite and low andesite basalt.
- 15- What does the passage mainly discuss?
- 1) A volcano located in southeast of Iran
  - 2) The topography of Sistan and Baluchistan
  - 3) Two mountains in southwestern part of Iran
  - 4) The current volcanic activities of the Taftan Volcano

### **PASSAGE 2:**

Exploration around the Falklands Islands started in the late 1970s, with the acquisition of a regional speculative seismic dataset by two different oil service companies. These data were not used to start exploration drilling at the time because the Falklands Islands Government (FIG) was not then ready to offer drilling licences. The Argentine invasion of the Islands in 1982 curtailed further exploration. The British Geological Survey (BGS) was contracted by the FIG to identify and promote exploration opportunities in 1992. [1] Following an initial investigation which revealed the presence of several Mesozoic basins, more seismic surveying followed. Although attempts were subsequently made to license areas all around the Islands based on these new data, the only exploration interest at the time of the first licensing round in 1996 lay in the North Falkland Basin, an elongate rift basin located under relatively shallow water. [2] The other basins to the south and east of the Islands present a more difficult technological challenge, and although possibly have good potential for oil production, lie under water depths often of several thousand meters.

A drilling campaign, comprising seven firms and a number of contingent wells, was committed to by the oil companies when they bid for North Falkland Basin licences in 1996. [3] Six of these wells have been drilled to date: two by Shell and partners, two by Amerada Hess and partners, one by Lasmo and partners and one by Lundin Oil and partners. Further seismic data have since been acquired to the south of the southernmost well, over the portion of the North Falkland Basin closest to the Islands. [4]

- 16- According to paragraph 1, the Argentine invasion of the Islands in 1982 ..... .
- 1) destroyed the oil wells
  - 2) resulted in rise in oil prices
  - 3) restricted further explorations
  - 4) increased explorations immediately
- 17- The word “comprising” in paragraph 2 is closest in meaning to ..... .
- 1) offering
  - 2) including
  - 3) buying
  - 4) ordering
- 18- All of the following companies are mentioned in paragraph 2 EXCEPT ..... .
- 1) Lasmo and partners
  - 2) Nabors and partners
  - 3) Lundin Oil and partners
  - 4) Amerada Hess and partners



- 19- According to the passage, which of the following statements is true?
- 1) The basins to the south and east of the Islands, located under water depths often of several thousand meters, are more challenging in terms of the technology necessary for oil production.
  - 2) The speculative seismic dataset acquired in 1970 in the exploration around the Falkland Islands were used to start exploration drilling at the time by the permission of FIG.
  - 3) When the oil companies bid for North Falkland Basin licences in 1996, the BGS was not yet contracted by the FIG to identify and promote exploration opportunities.
  - 4) Falklands Islands Government, after the discovery of the presence of several Mesozoic basins, hired British Geological Survey to drill wells in the late 1970s.
- 20- In which position marked by [1], [2], [3] or [4], can the following sentence best be inserted in the passage?
- These wells were all planned for the first 5-year term of the new licences.**
- 1) [1]
  - 2) [2]
  - 3) [3]
  - 4) [4]

**PASSAGE 3:**

The Zagros Fold Belt extends over more than 1800 km through Iraq and southern Iran in front of the Zagros Mountain chain. It represents one of the oldest and richest oil and gas provinces in the world. The surface expressions of the geological structures are often spectacular and have been used commonly for figures in geological textbooks, for example the so-called 'whale-back anticlines'. Through the activities of the petroleum industry, extensive knowledge has been gathered from the 'Simple' Zagros Fold Belt in front of the Mountain Front Fault (MFF), where most of the oil and gas fields have been discovered. In contrast to this, the more interior orogenic zones have been studied to a much lesser extent. The reasons for this may have been the higher degree of structural complexity, the often rugged surface topography resulting in reduced accessibility and the lack of adequate technology to cope with these complications. In the area between the MFF and the High Zagros Fault (HZF), little seismic data have been acquired previously; some wells have been drilled – several with petroleum discoveries – often based exclusively on surface geology without seismic control. Behind the HZF, however, no data other than detailed surface geological mapping have ever been acquired.

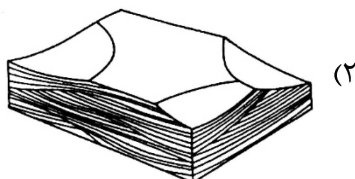
The Zagros and its foreland have traditionally been understood as a fold-dominated terrain with, south of the HZF, only minor thrust-faulting or thrusting restricted to a single décollement plane at the Hormuz level. Only recently have more modern structural concepts been applied, taking techniques such as section balancing into consideration. However, these studies have suffered from limited availability of adequate geophysical and well data.

- 21- The word "it" in paragraph 1 refers to ..... .
- 1) Iran
  - 2) Iraq
  - 3) Zagros Mountain chain
  - 4) The Zagros Fold Belt

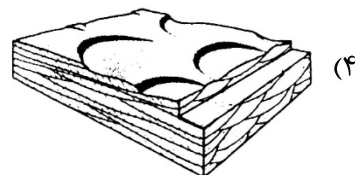
- 22- According to paragraph 1, which of the following statements is true?
- 1) The activities of the petroleum industry have created spectacular geographical structures as well as caused irreparable damages to the environment.
  - 2) Most of the oil and gas fields have been discovered in a region commonly known as whale-back anticlines.
  - 3) The surface expressions of the Zagros Fold Belt's geological structures are commonly used for figures in geological textbooks.
  - 4) Extending over more than 1800 km, the Zagros Fold Belt is confined within the geography of Iran.
- 23- According to paragraph 1, in the area between the MFF and the HZF ..... .
- 1) no data other than detailed surface geological mapping have ever been acquired
  - 2) some plans are underway to fully map the geographical features of the area
  - 3) enough studies have been done to give us a clear picture of its topography
  - 4) little seismic data have been acquired previously
- 24- The word "adequate" in paragraph 2 is closest in meaning to .....
- 1) enough
  - 2) authentic
  - 3) published
  - 4) official
- 25- The passage provides sufficient information to answer which of the following questions?
- I. When did the petroleum industry start to work in the Zagros Fold Belt?
  - II. Who first characterized the Zagros and its foreland as a fold-dominated terrain?
  - III. Why has extensive knowledge been gathered from the 'Simple' Zagros Fold Belt in front of the MFF?
- 1) Only II
  - 2) I and II
  - 3) I and III
  - 4) Only III

رسوب‌شناسی و پترولوژی سنگ‌های رسوبی:

- ۲۶- محیط تشکیل کدام نوع سیمان کربناته، با بقیه متفاوت است؟
- (۱) آویزه‌ای
  - (۲) سوزنی آراگونیتی
  - (۳) هم ضخامت رشته‌ای
  - (۴) خوشه انگوری
- ۲۷- کدام دانه غیراسکلتی، شاخص محیطی، بهتری است؟
- (۱) دانه‌های مرکب
  - (۲) پلوئید
  - (۳) اینتراکت
  - (۴) پیروئید
- ۲۸- کدام نوع فرایند دیاژنزی، نشانگر وقوع نوشکلی افزایشی در سنگ‌های کربناته است؟
- (۱) جان‌شینی کلسیت
  - (۲) زیست آشفستگی
  - (۳) تشکیل میکرواسپار
  - (۴) میکرایتی شدن قطعات اسکلتی
- ۲۹- ورود زیاد رسوب به حوضه (sediment supply) با ..... ارتباط مستقیم و با ..... ارتباط معکوس دارد.
- (۱) توریدایت - تبخیری
  - (۲) توریدایت - زغال
  - (۳) تبخیری - زغال
  - (۴) زغال - توریدایت
- ۳۰- کدام شکل، ساخت رسوبی، نوع لایه‌بندی مورب پشته‌ای (HCS) را نشان می‌دهد؟



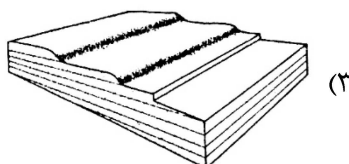
(۲)



(۴)



(۱)



(۳)

# کلید سوالات کنکور ارشد ۱۴۰۳

## علوم زمین کد ۱۲۰۱

شماره سوال	گزینه صحیح	شماره سوال	گزینه صحیح	شماره سوال	گزینه صحیح
1	2	31	4	61	3
2	4	32	2	62	4
3	1	33	3	63	3
4	3	34	3	64	2
5	3	35	2	65	4
6	4	36	3	66	2
7	1	37	4	67	4
8	2	38	2	68	2
9	2	39	4	69	1
10	1	40	1	70	3
11	1	41	3	71	4
12	4	42	2	72	3
13	2	43	1	73	1
14	3	44	4	74	4
15	1	45	2	75	2
16	3	46	1	76	4
17	2	47	1	77	1
18	2	48	2	78	4
19	1	49	4	79	1
20	3	50	4	80	2
21	4	51	4	81	3
22	3	52	2	82	2
23	4	53	2	83	1
24	1	54	1	84	3
25	4	55	1	85	3
26	1	56	4	86	1
27	4	57	3	87	3
28	3	58	3	88	1
29	1	59	2	89	1
30	1	60	2	90	3