XRA 209　　第一級海上無線通信士
YRA 209　　第二級海上無線通信士　　「英語」試験問題
ZRA 209　　第三級海上無線通信士

5問　1時間30分

1.　次の英文を読み、それに続く設問A−1からA−5までに答えなさい。解答は、それぞれの設問に続く選択肢1.から3.までの中から答えとして最も適切なものを一つずつ選び、その番号のマーク欄を黒く塗りつぶしなさい。

The British-led Nekton scientific mission on Thursday completed a seven-week expedition in the Indian Ocean aimed at documenting changes beneath the waves that could affect billions of people in the surrounding region over the coming decades.

Little is known about the watery world below depths of 30 meters, the limit to which a normal scuba diver can go. Operating down to 450 meters with manned submersibles and underwater drones off the island nation of the Seychelles, the scientists were the first to explore areas of great diversity where sunlight weakens and the deep ocean begins. The oceans' role in regulating climate and the threats they face from global warming are underestimated by many. Scientific missions are crucial in taking stock of underwater ecosystems' health.

Principal scientist Lucy Woodall called the mission "massively successful," saying that members believe they have found evidence near several coral islands of a so-called rariphotic zone, or "twilight zone," located between 130 and 300 meters deep. "The rariphotic zone has been shown in a number of papers in the Atlantic and Caribbean but has never previously been shown in the Indian Ocean," Woodall said, adding that months of analysis will be needed to confirm the discovery. In this twilight zone that sunlight barely reaches, photosynthesis is no longer possible and species that cannot move toward the ocean's surface rely on particles falling from above for sustenance. Woodall also said she was excited to see "vibrant" communities of fish during the mission. "We're seeing schools of small fish — that middle of the food chain — but we're also seeing a large number of big predators — the sharks and all the other fish predators as well that are there," she said.

With the expedition over, the long work of analysis begins. Researchers conducted over 300 deployments, collected around 1,300 samples and 20 terabytes of data and surveyed about 30 square kilometers of seabed using high-resolution multi-beam sonar equipment. Woodall estimated her team will need up to 18 months of lab work to process and make sense of the data gathered during the expedition. The data will be used to help the Seychelles expand its policy of protecting almost a third of its national waters. The initiative is important for the country's "blue economy," an attempt to balance development needs with those of the environment.

＜注＞ submersible　潜水艇　　rariphotic　希少光の　　photosynthesis　光合成　　sustenance　栄養
vibrant　活気に満ちた　　deployment　展開　　seabed　海底

（設問）

A−1　According to the article, what was the main purpose of the scientific study?
1. To measure changes in the climate around the Seychelles
2. To compare underwater ocean activity in different parts of the world
3. To investigate what is happening deep beneath the surface of the Indian Ocean

A−2　What is special about the seven-week expedition and the following lab work?
1. The expedition has explored the ocean at depths where little is known.
2. The scientists were able to investigate ocean life during the night, when there was no light.
3. This is the first ever scientific mission to take stock of the effects of global warming on underwater life.

A−3　How does the scientist, Lucy Woodall, evaluate the mission?
1. She is very pleased with both the quantity and the quality of the data collected.
2. She is a little disappointed that the researchers were not able to collect data from greater depths.
3. She is sad the mission was unable to protect fish in the middle of the food chain from larger predators.

A−4　What is the next step for the research team?
1. The scientists now need to meet their counterparts in the Seychelles.
2. The team now needs to analyze the large amount of data for up to 1.5 years.
3. The next big task is to confirm their findings using multi-beam sonar equipment.

A−5　According to the article, what will be one of the principal uses of the data collected by the expedition?
1. The data will be used to develop the tourism industry in the Seychelles.
2. It is hoped that the survey will help protect the waters of the Seychelles.
3. The study's findings will help the government improve transportation in the Seychelles.

2. 次の英文A−6からA−9までは、無線通信業務に関する国際文書の規定文の趣旨に沿って述べたものである。この英文を読み、それに続く設問に答えなさい。解答は、それぞれの設問に続く選択肢1.から3.までの中から、答えとして最も適切なものを一つずつ選び、その番号のマーク欄を黒く塗りつぶしなさい。

A−6 Those coast stations assuming a watch-keeping responsibility in the GMDSS shall maintain an automatic digital selective calling watch on frequencies and for periods of time as indicated in the information published in the List of Coast Stations and Special Service Stations (List IV).

（設問） What must a coast station with watch-keeping responsibilities in the GMDSS do?

1. Check the time regularly during each period of watch-keeping responsibility.
2. Maintain watch on listed frequencies during the periods shown in the relevant publications.
3. Publish relevant information in the List of Coast Stations and Special Service Stations (List IV).

A−7 Ship or ship earth stations in receipt of a distress alert or a distress call shall, as soon as possible, inform the master or person responsible for the ship of the contents of the distress alert.

（設問） What must be done immediately after receiving a distress alert or a distress call?

1. The distress transmission must be retransmitted by the master or person responsible for the ship.
2. The master or person responsible for a ship shall alert the appropriate station about the contents of the cargo.
3. Ship or ship earth stations receiving a distress alert or a distress call should immediately let the master or person responsible for the ship know the contents of the alert.

A−8 On ships engaged on voyages in sea areas A3 and A4, the availability of radio equipment shall be ensured by using a combination of at least two methods such as duplication of equipment, shore-based maintenance or at-sea electronic maintenance capability, as may be approved by the Administration, taking into account the recommendations of IMO.

（設問） How should the availability of radio equipment be secured during voyages in sea areas A3 and A4?

1. Only shore-based maintenance or at-sea electronic maintenance may be used.
2. Two or more methods as may be approved by the authority should be employed.
3. Officially approved duplication of equipment is considered a sufficient guarantee.

A−9 Every person in charge of or performing radio duties on a ship required to participate in the GMDSS shall hold an appropriate certificate related to the GMDSS, issued or recognized by the Administration under the provisions of the Radio Regulations.

（設問） What is required by the above regulation with regard to the qualification of the person in charge of or performing radio duties on a ship required to participate in the GMDSS?

1. Only the person in charge or master of a ship required to participate in the GMDSS is permitted to perform radio duties with no radio operator's certificate.
2. Radio duties may be performed by any individual on a GMDSS ship who knows the provisions of the Radio Regulations.
3. Anybody in charge of or performing radio duties on a ship required to participate in the GMDSS needs to hold a recognized qualification for such duties.

3. 次の設問**B−1**の日本文に対応する英訳文の空欄（ア）から（オ）までに入る最も適切な語句を、その設問に続く選択肢1.から10.までの中からそれぞれ一つずつ選びなさい。解答は、選んだ選択肢の番号のマーク欄を黒く塗りつぶしなさい。

（設問）

B−1　京都大学とオックスフォード大学の研究者は、23頭の野生のチンパンジーの顔認証に、人工知能（AI）を用いて90パーセント以上の正確さで成功したと言っている。この新たな顔認証技術は、個体間の交流を定量化することを通してチンパンジー社会の変容を分析するのに使うことができる。

Researchers from Kyoto University and the University of Oxford say they have succeeded in using artificial (　ア　) (AI) to recognize the faces of 23 wild chimpanzees with more than 90 percent (　イ　). This new facial (　ウ　) technique can be used to analyze (　エ　) in chimpanzee society through the quantification of (　オ　) between individuals.

1. accuracy	2. acknowledgement	3. conversations	4. correction
5. information	6. intelligence	7. interactions	8. interface
9. recognition	10. transformation		

4. 次の設問**B−2**の日本文に対応する英訳文の空欄（ア）から（オ）までに入る最も適切な語句を、その設問に続く選択肢1.から10.までの中からそれぞれ一つずつ選びなさい。解答は、選んだ選択肢の番号のマーク欄を黒く塗りつぶしなさい。

（設問）

B−2　最後の氷河期末期に地中海沿岸で築かれた古代の防潮堤は、文明が海水面上昇から自らを守ろうとした最古の証拠である。7千年前に現在のイスラエル北部で築かれた100メートルの長さの壁は、気候変動の危機から身を守る村人達の初期の試みだったが、その村は氷河が解けてしまったために大昔に海に沈んだ。

An ancient seawall erected along the Mediterranean coast at the end of the last ice age is the oldest (　ア　) of a civilization trying to defend itself (　イ　) rising sea levels. The 100-meter-long wall, built 7,000 years ago in (　ウ　) is now northern Israel, was an early (　エ　) by villagers to fend off the (　オ　) of a changing climate but the village was long ago submerged by the sea due to glacial melting.

1. against	2. attempt	3. attention	4. chance
5. evidence	6. monument	7. perils	8. what
9. where	10. with		

5. 次の設問**B−3**の日本文に対応する英訳文の空欄（ア）から（オ）までに入る最も適切な語句を、その設問に続く選択肢1.から10.までの中からそれぞれ一つずつ選びなさい。解答は、選んだ選択肢の番号のマーク欄を黒く塗りつぶしなさい。

（設問）

B−3　遭難通信は、遭難船舶が要請する即時の救助に関係するすべての通報からなり、それには捜索及び救助の通信並びに現場通信も含む。遭難通信は、できる限り無線通信規則の関連する条項に含まれる周波数で行う。

Distress traffic (　ア　) all messages (　イ　) to the (　ウ　) assistance required by the ship in distress, including search and rescue communications and on-scene communications. The distress traffic shall as far as (　エ　) be on the frequencies (　オ　) in the relevant article of the Radio Regulations.

1. able	2. connection	3. consists of	4. contained
5. immediate	6. immediately	7. insists on	8. issued
9. possible	10. relating		