READING PASSAGE 2

*You should spend about 20 minutes on **Questions 14–26**, which are based on Reading Passage 2 below.*

Antarctic research

Thirteen nations took part in the recent International Polar Year

A New Zealand's contribution to International Polar Year was a 52-day voyage by the ship *Tangaroa* in order to conduct research in Antarctica's Ross Sea. Lead scientist Mary Livingston emphasises just what a multi-faceted expedition this was, bringing together zoologists, oceanographers, meteorologists and other scientists from the Ministry of Fisheries, the National Institute for Water and Atmospheric Research, the National Museum and various universities, to study life beneath the seas of Antarctica. Competition for berths – the ship can carry 44 people, including 13 crew – was fierce. Voyage leader Stu Hanchet says, 'We could have filled the science positions four times over … we had so many people requesting a berth … We ended up with a really strong team.'

B It would be hard to overstate how hostile the Antarctic environment is for scientists. The *Tangaroa*'s captain, Graham Leachman, explains that the Ross Sea is subject to *katabatic winds** that sweep down off the Antarctic continent to create rough seas. Another danger is the possibility of the ship colliding with floating ice. 'Even though the ship's officers use all sorts of high-tech equipment … none of it can tell you how thick the ice is,' says Leachman, 'and you still can't beat looking out of the window.' In the dark, he says, you can't tell how thick the ice is, but if you can see its colour, it's possible to estimate. This is why he prefers sailing in summer, when the hours of daylight in these high latitudes are longest, even though this plays tricks with his passengers' body clocks.

C Analysis of what the expedition found continues, but it's likely that several new species have been discovered and numerous other secrets revealed about life 3,000 metres below the surface. 'We have collected huge worms and strange crustaceans,' says Livingston, 'but most impressive of all were the starfish that measured more than half a metre across – that's most abnormal for creatures belonging to this species.' This phenomenon of Antarctic seas is called 'gigantism' – the fact that some species grow to unusually large sizes. Livingston suggests various possible causes for gigantism including the extreme cold, few predators and high levels of oxygen in the seawater, but as yet no final determination can be made. Another interesting discovery was that in some places every inch of the sea floor was covered with life, whereas elsewhere icebergs have scoured out deep scars and ravines in the sea floor as they go by.

** katabatic wind: a wind caused by the local downward motion of cool air*

D By using deep-sea trawl nets, high-definition cameras and water samplers, the team has revealed that many of the creatures that live at extreme depths have a bizarre appearance. Among them were spotted tunicates, plankton-eating animals that are slender structures that appear to be fashioned from glass. The most fearsome-looking fish was the Southern Ocean daggertooth, a species that is 'monocyclic', meaning the fish die after the first spawning. They are also unusual for being capable of shedding their teeth and growing a new set. Another predatory fish brought to the surface was the stareater, an extraordinary species that has an appendage like a piece of cord hanging from its chin. In these deep, dark waters, this glows red and attracts prey to swim within striking distance. Just as impressive and much more beautiful were the basket stars, a species related to starfish that lives on the seabed. The basket stars' five arms branch out numerous times to form a spectacular fan-like structure which they turn to face into the current so that food is brought into their embrace.

E But whatever exciting discoveries were made, everyday life onboard ship in the Ross Sea is unrelenting. Most people share a cabin with one other person – they're allocated so that as one person begins their 12 hours off duty, the other occupant is starting work on deck. The fresh food runs out in a few days and after that most provisions are frozen, canned or dried. Expedition general manager Fred Smits recognises that the cook has an essential role in ensuring the well-being of those onboard. 'When you are at sea for so long,' he says, 'you think a lot about your next meal.'

F Perhaps most controversially, one of the precious berths on the *Tangaroa* was taken up by cameraman Max Quinn, who filmed a documentary about the voyage. Quinn's inclusion wasn't welcomed at first. 'Scientists by nature,' Livingston says, 'tend to be camera-shy and quiet. They're not into having cameras there, so it was difficult getting everyone's permission and agreement.' But in the end Quinn fitted in very well. 'The trick,' he says, 'is to mostly film the scientists at work, in their professional roles … rather than eating their breakfast.' He knows when not to intrude. The documentary is a window on a trip few people get to make and also a peek into what research really looks like. 'Science,' says Livingston, 'is intrepid, more so than people realise. It's not necessarily examining dry samples in the laboratory, but can also mean braving the elements on deck. That's what the documentary captures, the sense of real people with real lives.'

Questions 14–17

Reading Passage 2 has six paragraphs, ***A–F****.*

Which paragraph contains the following information?

Write the correct letter, ***A–F****, in boxes 14–17 on your answer sheet.*

14 details of some equipment used by the scientists

15 a description of the challenging sailing conditions in Antarctica

16 information about the composition of the scientific group

17 the identity of a potentially unpopular person on the ship

Questions 18–23

Complete the summary below.

Choose ***ONE WORD ONLY*** *from the passage for each answer.*

Write your answers in boxes 18–23 on your answer sheet.

The expedition's findings

Analysis continues of the expedition's remarkable discoveries, including a **18** _____, very notable for its unusual width. The reasons why creatures grow so large at great depths in Antarctica may include the highly oxygenated water, the temperature, or the small number of **19** _____. A further fascinating finding was the existence of canyons in the seabed caused by passing **20** _____. Many creatures living at great depth look very strange, such as tunicates, which seem to be made of **21** _____. One frightening-looking fish species is characterised by loss of its **22** _____ and the fact that it spawns only once. Another fish has something like a length of string attached to its **23** _____ that assists with hunting.

Questions 24–26

Look at the following people (Questions 24–26) and the list of opinions below.

Match each person with the correct opinion, ***A–G****.*

Write the correct letter, ***A–G****, in boxes 24–26 on your answer sheet.*

24 Mary Livingston

25 Stu Hanchet

26 Max Quinn

List of opinions

A	The repetitive food was one of the hardships of the voyage.
B	Respecting your subjects' privacy gets the best results.
C	The summer is the best time to sail these waters.
D	The kitchen is one of the most important parts of the ship.
E	Being separated from family was difficult.
F	The nature of scientific work may surprise some people.
G	More applications to join the group were received than there were places.

一、段落配对（Q14–17）

题号	答案	题干翻译	定位段/定位句	定位句翻译	解释（同义替换/排除）
14	**D**	科学家所用**一些设备**的细节	第D段开头："**By using deep-sea trawl nets, high-definition cameras and water samplers**…"	"通过使用**深海拖网、高清摄像机和取水器**，团队揭示了极深处许多生物的怪异外观。"	题干的 *details of some equipment* 与本句逐一列出设备完全对应。B段虽提到 "high-tech equipment"，但**未给出设备细节**，故排除。
15	**B**	对南极**艰难航行条件**的描述	第B段："…Ross Sea is subject to **katabatic winds**… Another danger is… ship colliding with **floating ice**… 'you can't tell how **thick** the ice is…'… prefers **sailing in summer** when **daylight** is longest."	"罗斯海受**下沉风**影响，海况恶劣；还有与**浮冰相撞**的危险；在黑暗中你**无法判断冰层厚度**…因此他更喜欢在**夏季**航行，因为此时**白昼**更长。"	航行风险被多角度描述（风、浪、冰、能见度、季节）。C/D/E/F 段不以 "航行条件" 为核心，故排除。
16	**A**	关于**科研团队构成**的信息	第A段："…bringing together **zoologists, oceanographers, meteorologists** and other scientists from … **various universities/ institutes**…"	"（此次航行）**集合了**动物学家、海洋学家、气象学家及来自多家机构与大学的科学家。"	*composition of the scientific group* = "来自哪些学科与机构的人"。其余段落未系统交代 "队伍构成"。
17	**F**	船上一个**可能不受欢迎的人**的身份	第F段开头："**one of the precious berths** … was taken up by **cameraman Max Quinn**… **Quinn's inclusion wasn't welcomed at first**."	"**摄像师 Max Quinn** 占据了一个宝贵舱位；一开始**并不受欢迎**。"	题干的 *potentially unpopular* 与 "wasn't welcomed at first" 完全同义。A/B/C/D/E 段无 "争议人物" 信息。

二、摘要填空（Q18–23, ONE WORD ONLY）

题号	答案	题干关键词（中）	精准定位	定位句译文	同义替换/解题要点
18	**starfish**	"一种**宽度**很特别的发现"	第C段："most impressive of all were the **starfish** that **measured more than half a metre across**"	"最令我们印象深刻的是**海星，直径超过半米**。"	文中用 "across（直径/宽度）" ⇒ 对应题干 "unusual **width**"。写作 **starfish**（单词），符合 ONE WORD。
19	**predators**	深海巨型化的原因之一：**捕食者数量少**	第C段："possible causes… extreme cold, **few predators**, high levels of oxygen"	"可能原因：极端低温、**捕食者少**、海水含氧高。"	题干 "small number of ___" = "few ___"。与 oxygen、temperature 并列。
20	**icebergs**	海底峡谷由经过的**冰山**造成	第C段末："**icebergs** have scoured out **deep scars and ravines** in the sea floor **as they go by**"	"**冰山**经过时在海底**刮出深槽与峡谷**。"	题干 "canyons" ≈ "ravines"；"passing" ≈ "as they go by"。
21	**glass**	海鞘看起来像由**玻璃**制成	第D段："tunicates… appear to be fashioned from **glass**"	"海鞘看起来像由**玻璃**做成。"	直给同义。
22	**teeth**	可怕外形的鱼：**掉牙**+只繁殖一次	第D段："daggertooth… is 'monocyclic' (die after first spawning). They are also unusual for **shedding their teeth**"	"短吻刀齿鱼 '**单周期**'（首次产卵后死亡），且会**脱落牙齿**。"	题干把两特征并列：*loss of its ___* + *spawns only once* ⇒ **teeth**。
23	**chin**	另一种鱼：下巴有像**绳子**的附器用于捕食	第D段："stareater… has an appendage like a piece of cord hanging from its **chin**… this glows red and **attracts prey**"	"'食星鱼' 下巴垂着像**细绳**的附器，发红光以**引诱猎物**。"	"length of string" ≈ "piece of cord"；"assists with hunting" ≈ "attracts prey"。

三、人物观点配对（Q24–26）

题号	人名	答案	题干翻译	定位段/定位句	定位句译文	解释与错误项排除
24	Mary Livingston	**F**	科学工作的本质可能会**让人惊讶**	第F段末："'Science,' says **Livingston**, 'is **intrepid, more so than people realise**… not necessarily… laboratory, but also **braving the elements** on deck.'"	"利文斯顿说：'科学**比人们以为的更勇敢**，不仅是实验室里的样品，还得在甲板上**迎风冒雪**。'"	与选项 **F** 完全同义。A（食物单调）、D（厨房重要）出现在E段（**Fred Smits**），C（夏季最佳）出现在B段（**船长**），均非Livingston。
25	Stu Hanchet	**G**	**报名远多于名额**	第A段：Hanchet："We could have **filled the science positions four times over**… we had **so many people requesting a berth**."	"'科学岗位可以**招满四遍**，申请上船的人**太多了**。'"	对应 **G**。其余选项与他无关。
26	Max Quinn	**B**	**尊重被摄对象的隐私**效果最好	第F段：Quinn："The trick is to **mostly film the scientists at work**… rather than **eating their breakfast**. He **knows when not to intrude**."	"奎因：诀窍是**主要拍工作场景**，而不是**吃早饭**这类私密时刻；知道**何时不该打扰**。"	这体现 "尊重隐私 → 最佳结果"，即 **B**。A/D 属 E 段的后勤；C 属 B 段船长观点。