
GENERAL PAPER

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Paper 2

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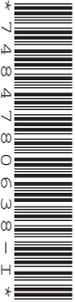
INSERT

1 hour 30 minutes

READ THESE INSTRUCTIONS FIRST

You are required to answer **one** question.

This Insert contains three passages, one for each of Questions 1 to 3. You need to study the passage for the question you have chosen before starting your answer. The time needed to do this is allowed for within the time set for the examination.



This document consists of **7** printed pages and **1** blank page.

Passage 1 Study the magazine article below to answer Question 1 parts (a)–(f).

Eye-tracking systems are about to go mainstream – and they could give us some fascinating insights into our reading habits, writes journalist Paul Marks.

Reading The Reader

Addicted to the Mail Online's* infamous celebrity tittle-tattle and not spending enough time in Hemingway's** company? A new breed of device could soon be logging everything you read, letting you see for yourself whether your reading habits need revamping. The 'quantified self' movement has spawned wearable gadgets like Fitbit and FuelBand, which monitor physical fitness, telling you how far you have walked or how many calories you have burned. How about logging how much you read on screens instead? Like a Fitbit for the mind. 5

A 'cognitive activity tracker' developed by Kai Kunze at Osaka Prefecture University in Japan can tell how many words we read, how often and how fast we read, and even whether we are skim reading or actually concentrating on the content. It could also generate summaries of documents as you read them by logging which passages your eyes dwell on. 10

Such detail about what we look at, whether on a screen or on paper, is being made possible by the emergence of gaze-trackers – devices that monitor our eyes to analyse where we are looking. Swedish firm Tobii Technology is leading the way in commercialising the technology. It has developed a \$99 system that uses infrared cameras trained on the cornea to watch for the eyeball's movements. These cameras can be built into a headset, such as Google Glass, or clipped to the top of a computer screen or tablet. 15

This year Tobii will launch its first consumer eye-tracking system for video games, in conjunction with gaming headset maker SteelSeries of Copenhagen, Denmark. This will allow in-game characters to react to the player's gaze, adding a spooky level of realism. Crucially, the low price puts eye-tracking systems within everyone's reach, says Ralf Biedert, Tobii's chief interaction researcher, based in Stockholm. 20

Kunze is taking the technology in a different direction. In tests on volunteers wearing infrared eye-tracking glasses, his team found that their software could count the number of words read with an accuracy of about 94 per cent, and tell how fast you were reading, purely by looking at the movement of the eyes. By asking their volunteers to read different types of materials – novels, fashion magazines, newspapers, research papers and textbooks – they have shown that these various media can be discerned near perfectly from the way readers' eyes move around their telltale layouts. 25 30

For example, users would get Fitbit-style metrics on how much time they spend – or waste – reading celebrity gossip when they should be revising. Or, says Kunze, publishers could work out if textbook designs need rethinking by seeing how readers navigate their pages. If the software knows what the document is – a novel being read on an e-reader, say – then more advanced features can be used. 'It could lead to adaptive reading materials in which the computer recognises I have trouble understanding a particular word and changes the text in real time to give me the definition in the next sentence,' he says. Kunze will reveal more at the Augmented Human meeting in Kobe, Japan. 35

Eye-tracking experts are abuzz. 'I find it difficult to be consciously aware of my reading habits and my ability to absorb the textual information that surrounds me. So a reading log like this would really provide new insight, and hopefully help me improve,' says Jayson Turner at the University of Lancaster, UK, who has developed a system that lets people drag and drop computer files using an eye-tracker. He thinks Kunze's system will be perfect for quickly summarising what fascinates us. 'It could infer which topics we find interesting, filtering out information we find irrelevant and recording what's important for later recall,' Turner says. 40 45

Biedert says gaze-trackers could have a profound impact. 'It's like when the computer mouse was invented: controlling computers with your eyes will be supported in more and more applications and we cannot tell yet what they will be.'

*Mail Online is the website of the *Daily Mail*, a tabloid newspaper in the United Kingdom, and its sister paper *The Mail on Sunday*.

**Ernest Hemingway was a 20th century American novelist, short story writer, and journalist.

Passage 2 Study the material below to answer Question 2 parts (a)–(d).

Part of a newspaper advertisement

Amateur Adventurers Alert	
Do you long for a break from the boring routine of everyday life, a chance to stand up and be counted, an opportunity to stand out from the crowd?	
Do you want to show that you are a team player who is made of the ‘right stuff’, up for a challenge, ready to seek a piece of the action?	5
Do you possess the courage, determination and the willingness to move out of your comfort zone and do something that you have never done before?	
If so, then you might just be the person we are looking for to join us on a great adventure: the Xixys Round The Globe Yacht Race 2018.	
Together we will fight our way through the mighty seas of the North Atlantic, the calms of the Tropics and the storms of the Southern Ocean to glory!	10
For more information, contact ...	

Extracts from the Xixys race website

- a 35 000 nautical mile race around the globe on a 70-foot ocean-racing yacht
- divided into 12 individual races, but participants have the flexibility to choose to complete the whole voyage or just to select certain sections if unable to commit to a whole year at sea
- one of the greatest challenges left on earth and an endurance test without equal
- no previous sailing experience required
- must be keen for adventure and not afraid of the unknown
- must be aged 18 or over, with a very good level of fitness
- race sponsors provide the last word in extreme protection clothing for every participant
- each crew is led by a fully qualified skipper
- previous successful applicants have come from all walks of life – from opticians to oil workers, students to shop assistants, builders to bus drivers
- the training given covers the following: basics of yacht maintenance and management, racing tactics, survival at sea and navigation
- successful applicants learn to fulfil some of the following roles to provide cover for each other: cook, cleaner, electrician, IT specialist, medic, navigator, plumber, sail repairer, tactician and weather forecaster
- required to keep a daily blog for race followers and undertake any publicity events as required by Xixys, the sponsors
- occasionally bursaries are offered by Xixys to particularly deserving individuals
- to apply, you must complete the online application form and be prepared to attend an interview (in London, New York or Sydney)

Three of the applicants**Inge**

She is 23 and from Germany, but currently working on a farm in the middle of the Australian Outback, spending all day on horseback under a blazing sun whilst tending to all the animals and being in charge of catering for the whole team. She has always sought out adventure as she hates sitting at a desk and writing when she could be outdoors, roaming free. All her jobs have been located in isolated areas, otherwise she feels claustrophobic – hemmed in by places and overwhelmed by people. She has never been out to sea proper, just swum and surfed from beaches. She has plenty of savings.

Maxi

She is 36 and the Managing Director of Abus of Cape Town (South Africa), an online retailer she has worked for ever since graduating from university with a degree in marketing and journalism. Fed up with being deskbound all day and regularly working long into the evenings, she has recently taken up jogging to and from work in the week and hiking at the weekends. She enjoys being her own boss and seeing her vision for the company become a successful reality, but finds it hard to take any criticism from clients and becomes frustrated when others do not share her vision. She once spent a holiday sailing between Greek islands, experiencing seasickness on occasion.

Junid

He is 19, unemployed at present and living at home in remotest Canada. On leaving school, he started an apprenticeship as an engineer. All was going very well for him, but, unfortunately, the company lost an important contract and he was made redundant through no fault of his own. There are now no suitable jobs in the local area, but he is loath to leave his family and friends as he is shy and finds it hard to interact with new people initially. He spends a lot of time running and cycling as both are free and keep him in a positive frame of mind about the future. Locally, he is a valued member of both the chess club and the quiz team.

Passage 3 Study the material below to answer Question 3 parts (a)–(d).

Background

Anna, 35, is a very successful lawyer – the youngest person ever to be made a partner in SchmidtCarlino, the capital city’s most prestigious law firm. For the last few years she has been specialising in family law, winning the vast majority of her cases for increasingly important clients.

However, despite all her success, she has been feeling increasingly dissatisfied with her career choice and has decided to find a more fulfilling role for herself in another sphere, which would also allow her to devote more time to her mother who has health problems.

Her research into other possible jobs has yielded three potential areas of interest:

University lecturer in ‘Law and Ethics’

The successful candidate will have a good bachelor degree (70% and upwards) in a relevant subject and hold a master’s degree and/or a PhD, or be working towards one, as well as having academic work published. In addition, he/she will need to have experience of teaching, or be able to show that he/she has the potential to teach. To deliver this course, the university would prefer the appointee to have several years’ relevant experience. Long hours might be required, including evenings, but he/she could arrange the timings of some aspects of work to suit, such as research hours and student tutorials. A year out to do research work and part-time contracts will be considered favourably. Prerequisites include enthusiasm to motivate and inspire students, and the confidence to deliver lectures.

Salary range: \$47 000 – \$77 000 per annum.

Fundraiser for a leading international charity

The successful candidate could come from a wide range of backgrounds (marketing, media, business, public relations) as skills, experience and commitment to working in the charity sector are more important than formal qualifications. Experience of working in a charity as a volunteer is preferred too. Graduate training schemes and online training courses can be offered if necessary. The hours are 40 per week, including regular weekend and evening work. The job is a mix of mainly office-based tasks and working from home, with travel nationally and internationally being required. The appointee will have the following skills: creativity and imagination; excellent written and spoken communication, presentational, organisational and budget management skills; the ability to motivate and manage others and to work under pressure. A strong commitment to the charity’s cause is expected.

Salary range: \$25 000 – \$70 000 per annum.

Seaside restaurant owner

In the small town of Bearive there is a fish restaurant called Bonito for sale at \$300 000. It is successful (annual turnover approximately \$200 000), but the current owners want to retire. It is in a great location – in the square overlooking the harbour, so well placed for local suppliers and with the potential for lots of passing trade. There are no other seafood restaurants in town and Bonito is rated by online reviewers as the best in Bearive, so the new owner could charge high prices. All the staff are very experienced, but the chef, though talented and famous, is highly temperamental. The decor is a little tired and needs updating; the number of diners that can be accommodated is small, and during bad weather the fishing boats are unable to put out to sea, resulting in a limited menu, and the occasional need to close down. The empty building next door is also on the market.

Additional information

- 1 Anna's annual bonus from SchmidtCarlino is now in the tens of thousands of dollars.
- 2 Her degree is a joint honours degree in Law and Social Policy from Finlo University.
- 3 Currently, she is feeling physically exhausted and mentally drained by the long hours of overtime she has to work on very complicated, high-profile lawsuits.
- 4 Beaurive is a beautiful seaside town, popular with wealthy tourists all year round.
- 5 During her time at university she volunteered at a shelter for homeless people once a week, undertaking any task asked of her – no matter how menial.
- 6 Whether at school, university or work, she has been a mentor to younger students and junior employees.
- 7 Her brother, Timo, works on an offshore oil rig.
- 8 Her least favourite task is doing her annual accounts; she finds it so boring.
- 9 Since childhood, being by the coast has been her favourite way of spending her leisure time.
- 10 Between leaving school and starting university she worked as a teaching assistant in a school overseas for a year.
- 11 She started to experience panic attacks recently, making her think that she needed to change jobs very soon.
- 12 Her favourite subject at school was food technology and she belonged to her university's cookery club, winning the University Baker of the Year competition three times in a row.
- 13 She has a mortgage on her house and leases her car.
- 14 She enjoys studying new subjects as she likes to feel that she is always developing her skill set.
- 15 Her boyfriend Mischal, an accountant, is very supportive of her intention to change career.
- 16 Ever since starting work she has saved money every month, just like Mischal.
- 17 She enjoys working as part of a team.
- 18 Her mother is very proud that Anna is a successful professional.

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