

**EGYNYELVŰ  
MINTAFELADATSOR**

**MŰSZAKI**  
**ANGOL**

**B2**  
**KÖZÉPFOK**

**2016**

**KIADJA: BME NYELVVIZSGAKÖZPONT**

**WWW.BMENYELVVIZSGA.BME.HU**

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## Előszó

A BME műszaki nyelvvizsgarendszerének mintafeladatsorát tartod kezédben. A kötetben mind a szóbeli mind pedig az írásbeli részvizsga összes megoldandó feladattípusából találsz mintát, amelyek segítségével pontos képet kaphatsz arról, hogy a vizsgán milyen feladatok várnak Rád.

A kötet első része táblázatos formában mutatja be a vizsga felépítését, az azzal kapcsolatos legfontosabb tudnivalókat és közli a szóbeli feladatok témaköreit. Ezt követően egy teljes beszédkésztség feladatsor következik, amit a beszédértés, a nyelvismeret, az olvasáskészség és az íráskészség feladatok követnek. A kötet végén közöljük a beszédértés, a nyelvismeret, és az olvasáskészség feladatok megoldásait, valamint a beszédértés feladatokhoz tartozó hanganyagok írott változatát. A feladatok mellett a válaszlapok is a kiadvány részét képezik.

A beszédértés feladatokhoz tartozó hanganyag kétféleképpen tölthető le az internetről:

1. Az alábbi linkről:

<http://bit.ly/2gJYIsq>

2. Az alábbi QR kódról:



A felkészüléshez kitartást, a vizsgához pedig sok sikert kívánunk.

BME Nyelvvizsgaközpont

Budapest, 2016. szeptember 30.

## A műszaki egynyelvű vizsga felépítése B2 (középfok)

B2	Mért készség	Feladattípus, szövegtípus	Itemek száma	Pontszám feladatonként	Pontszám készségenként	Teljesítési minimum 40%	A vizsga sikeres 60%- tól	Szótár	Idő
Szóbeli részvizsga	Beszéd- készség	személyes szakmai jellegű beszélgetés	6-7 kérdés	60 pont	60/1,5=40 pont	16 pont	48 pont	nem	25 perc
		szakmai témakifejtés kép(ek) alapján	8-10 gondolati egység						
		táblázat, grafikon, értelmezése, megvitatása	8-10 gondolati egység						
	Beszéd- értés	jegyzetkészítés	10 item	20 pont	40 pont	16 pont			kb 30 perc
		igaz-hamis	10 item	20 pont					
Írásbeli részvizsga	Írás- készség	grafikai stimulusból önálló szövegalkotás		25 pont	40 pont	16 pont	57 pont	igen	180 perc
		üzleti levél (email) írása		15 pont					
	Olvasás- készség	hiányos szövegbe mondatok / (rész)mondatok visszahelyezése	10 item	20 pont	40 pont	16 pont			
		idegen nyelvű kérdésekre idegen nyelvű válaszadás	10 item	20 pont					
	Nyelv- ismeret	szöveg kiegészítése menü nélkül	15 item	15 pont	15 pont	-			

A vizsga során mindig a  
kérdésekre válaszolj,  
igyekezz világosan és  
természetes módon beszélni.  
Ha valamit nem értesz,  
nyugodtan kérdezz vissza,  
de ezt idegen nyelven tedd!



# Oral exam topics

1. Automation
2. Ergonomics, environmentally-friendly environment
3. Environmental issues
4. Energy
5. Virtual reality
6. New technologies in communication (Internet)
7. Computers
8. Space research
9. Quality or quantity
10. New developments in telecommunications
11. Safety technology
12. Labour safety
13. From wheels to space shuttles
14. Car industry
15. Recycling
16. Inventions and inventors

# Speaking

## Part 1

**In the first part of the exam you will be asked questions related to your professional background. Your examiner might ask you questions similar to the ones below.**

Prompts for the interlocutor

1. Tell me a few words about yourself and your studies.
2. What were your reasons for choosing this particular field of engineering?
3. What scientific research have you done so far? Tell us about your achievements.
4. How can you use foreign languages in your studies?
5. If you have already worked in the summer holidays, in what ways did you find work different from university life?
6. How can an engineering student find a good job these days?

## Part 2

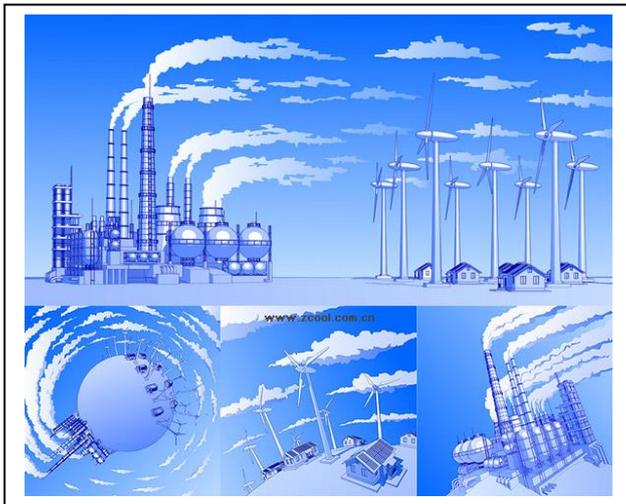
**In the second part of the exam you are expected to discuss a topic generated by visual input. Do not describe the pictures but use them as a starting point for what you say. Remember to link the topic to your specific field of engineering.**

### Environmental pollution and protection

Prompts for the interlocutor

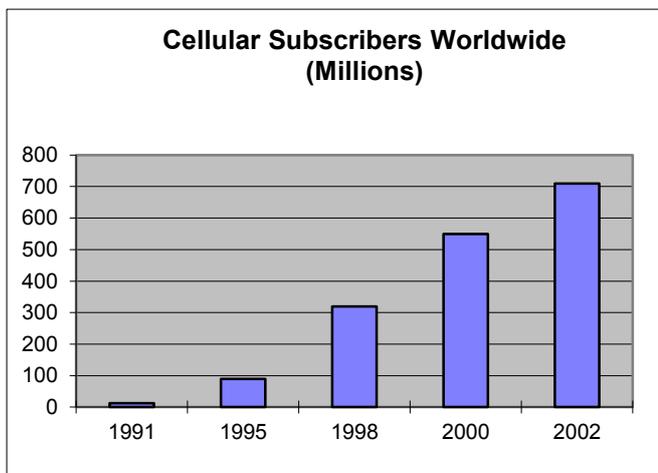
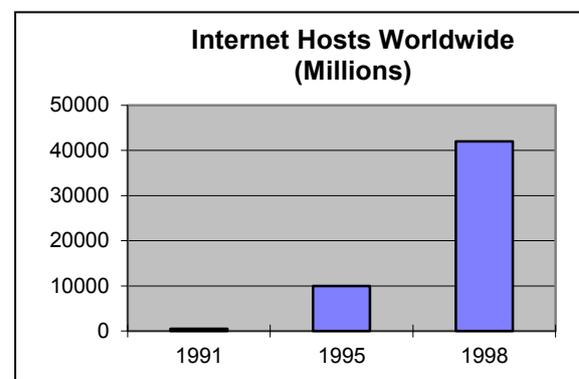
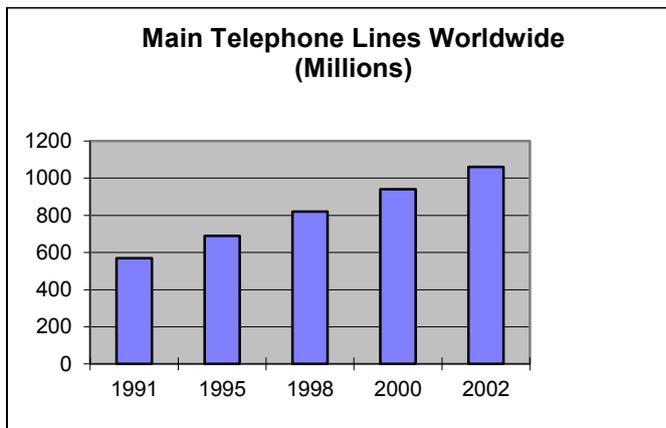
1. What do you know about the greenhouse effect?
2. How could fossil fuel emission be reduced?
3. What do the environmentalists fight for?
4. How does the ozone hole affect life on Earth?
5. What luxury products would you give up to protect the environment?
6. What do you think about using nuclear energy as a substitute for conventional energy sources?
7. What renewable energy sources will be used in the 21st century?
8. Discuss environment related issues in your field of engineering.

## Environmental pollution and protection



In the third part of the exam you are expected to describe and analyse visual input (charts, graphs, tables). Your examiner will extend what you say into a discussion.

**Describe** and **analyse** the charts provided below. **Compare** the changes in the use of traditional and mobile telephones and analyse future trends. Mention your reasons. How does the widespread use of internet affect telephony?



Az első meghallgatás előtt  
nagyon alaposan ismerkedj  
meg a feladattal és próbálj  
következtetni az elhangzó  
szöveg tartalmára!



# Listening

**You will hear a text. Read the candidate copy beforehand. You will have 1 minute for that. Then listen to the text and make notes in English. You will hear the text twice. After the first listening you will have 1 minute to write your answers, after the second listening you will have 2 minutes to finalise them. Copy your answers in English onto the answer sheet.**

*Example:*

- The article is about ...  
**0. how bio-networks can improve life**

**Ways bio-networks can improve life**

1. Soon computer devices will be put .....
2. Data can be collected .....
3. In hospitals it is very difficult to .....
4. Body sensors could make it possible for doctors to .....
5. Bluetooth technology is used by the sensors to .....
6. The sensors create .....
7. Disabled people are helped to .....
8. The SWAN consists of .....  
.....(name 2)
9. In dangerous situations the sensors can measure .....  
.....(name 2)
10. Sensors with GPS receivers can be very useful .....

**(Total: 20)**

**You will hear a text. Read the 10 statements on the candidate copy beforehand. You will have 1 minute for that, then listen to the text. If you think the statement is correct, put a tick under T. If you think the statement is not correct, put a tick under F. You will hear the text twice. After the first listening you will have 1 minute to answer the questions, after the second listening you will have 1 minute to finalise your answers. Copy your answers on the answer sheet.**

### An aircraft pilot

The following text is about a pilot's career.

		TRUE	FALSE
1.	The speaker decided to become a pilot during his first flight.		
2.	Until he was 16, he didn't fly a plane alone.		
3.	He didn't have to pay to get his private pilot's licence.		
4.	He had to do a two-year course to get his commercial pilot's licence.		
5.	He got his first job with the British Airways.		
6.	In his first job he flew 60 passengers at a time.		
7.	He was happy to start flying a Boeing.		
8.	The first officer's job is very similar to the captain's job.		
9.	He always enjoys flying at night.		
10.	He will do a course to become captain.		

(Total: 20)

Sokat segít, ha átgondolod, milyen szófajú lehet a hiányzó elem. Ha nem tudsz egy-egy hiányzó elemet önállóan kiegészíteni, menj tovább, és amikor a szöveg végére értél, térj vissza a problematikus részekhez.



# Use of English

**Complete the text below by writing a suitable word in the space provided. The first one is done for you as an example. Indicate your answers on the Answer Sheet.**

### **Space hotel to be tested by ISS crew**

An inflatable Bigelow pod is going to the International Space Station (ISS) in the near future. The ISS is about **to (0)** get a new room – but first the crew will ... **(1)** ... to blow it up. Later this week, the ISS ... **(2)** ... take delivery of its first additional module since 2011. But unlike the rest of the station, ... **(3)** ... is built from hulking great aluminum cans, the Bigelow Expandable Activity Module (BEAM) will ... **(4)** ... carried to orbit folded neatly inside a SpaceX cargo capsule. The module developed ... **(5)** ... Bigelow Aerospace is made from soft, foldable fabric that ... **(6)** ... withstand the rough conditions of space – the exact material is a commercial secret. It is designed ... **(7)** ... inflate in orbit, allowing modules to launch on compact spacecraft like SpaceX’s Dragon capsule, rather ... **(8)** ... requiring the heavy-lifting space shuttle that was responsible ... **(9)** ... much of the ISS’s construction.

Because the technology is still ... **(10)** ... tested, astronauts on the ISS won’t occupy BEAM full time. ... **(11)** ... all goes to plan, the module will stay on the station for two years, allowing Bigelow and NASA to confirm it is ... **(12)** ... to resist the potentially damaging micrometeoroids that sometimes hit the ISS, along ... **(13)** ... maintaining the correct temperature and radiation resistance. “... **(14)** ... that astronaut steps inside the module attached to the ISS, it will be ... **(15)** ... historic moment,” says Bigelow’s Mike Gold. “It will be one small step for that astronaut, but one giant leap for Bigelow Aerospace and expandable technology.”

**(Total: 15)**

# Reading

Először próbáld meg szótár  
nélkül megérteni a szövegeket és  
csak ezután nézd meg a  
legfontosabb szavak jelentését!  
Ne feledd:  
a nyomtatott szótár használatát is  
be kell gyakorolni!



Read the article below from which 10 sentences have been removed. Match the list of sentences (A-K) with the gaps (1–10) and decide where they fit. Indicate your answers on the Answer Sheet. Remember there is *one extra sentence you do not need to use*.

### Where the smart is

THE fanfare has gone on for years. Analysts have repeatedly predicted that the “internet of things”, which adds sensors and internet capability to everyday physical objects, could transform the lives of individuals as dramatically as the spread of the mobile internet. ... **(1)** ... But so far consumers have been largely resistant to making their homes “smart”.

That’s not for want of trying by tech firms, which have poured cash into their efforts. In 2014 Google acquired Nest, a smart thermostat-maker. ... **(2)** ... But it is also a warning about how long it will take for such gadgets to enter the mainstream.

Nest has undoubtedly disappointed Google. It sold just 1.3m smart thermostats in 2015, and only 2.5m in total over the past few years.

Nest’s problems are symptomatic. Only 6% of American households have a smart-home device, including internet-connected appliances and home-monitoring systems. ... **(3)** ... By 2021 the number will be just over 15%. Too few consumers are convinced that the internet has a role to play in every corner of their lives.

There are several reasons for muted enthusiasm. ... **(4)** ... One of Samsung’s smart fridges, with cameras within that check for rotting food and enable consumers to see what they are short of while shopping, sells for a cool \$5,000. ... **(5)** ... Appliances such as fridges are also ones that households replace infrequently: that slows the take-up of new devices.

The technology is not perfect yet, either. The smartphone, the link between the customer and smart-home device, has raised consumers’ expectations. Smartphones have trained users to expect a level of quality and seamless ease of use. ... **(6)** ...

There are exceptions. Devices that are easy to install and offer obvious benefits are gaining in popularity. For some devices, such as smart smoke detectors, insurance companies offer financial incentives. But consumer apathy has forced firms to rethink how they might woo customers.

... **(7)** ... It failed miserably in its ambition to develop a smartphone and now it is showing the way. Amazon Echo is a smart speaker that can recognize and respond to voice commands. It shares information about the weather and sports scores, plays music and turns lights on and off. The device, which costs around \$180, is not yet a big seller. ... **(8)** ...

Apple is also expected to announce new smart-home capabilities. There are rumours it could launch a stand-alone hub in the Echo vein. ... **(9)** ... That Apple,

despite its large base of affluent acolytes, has not yet cracked the smart home is a sign of its difficulty.

Each tech giant has a different reason for trying to overcome the indifference of consumers. The Echo can help Amazon learn how people spend their time. Google, whose main business is advertising, also wants to draw from a fresh well of data. ... **(10)** ... Apple, with a track record of simplifying and creating ecosystems where others before it could not, wants its devices to be the gateway through which people go to organise their lives.

- A. Its smart-home platform has been a failure so far.
- B. Perhaps the biggest surprise is Amazon.
- C. The products that fill houses are diverse, personal and durable.
- D. By learning as much about users as possible, it can target them with appropriate ads.
- E. It is now one of the best-known smart-home brands.
- F. Providers have focused on the home with different types of products
- G. Breakneck growth is not expected.
- H. People who can afford that probably don't do their own shopping.
- I. Smart-home devices seem to struggle to replicate this.
- J. Yet it is the talk of Silicon Valley.
- K. For example, many smart gadgets are still too expensive.

**(Total: 20)**

**Read the text below and answer the questions in English. Give short answers. Indicate your answers on the Answer Sheet.**

### Self-healing concrete

Mineral-producing bacteria have been found that could help mend micro-cracking in concrete. Dr Henk Jonkers, a micro-biologist at Delft University in the Netherlands, talked to *Ingenia* about research developments in producing bio concrete that could bring benefits for civil engineering projects.

Self-healing concrete could solve the problem of concrete structures deteriorating well before the end of their service life. Concrete is still one of the main materials used in the construction industry, from the foundation of buildings to the structure of bridges and underground parking lots. Traditional concrete has a flaw: it tends to crack when subjected to tension.

Tiny cracks on the surface of the concrete make the whole structure vulnerable because water seeps in to degrade the concrete and corrode the steel reinforcement, greatly reducing the lifespan of a structure.

Structures built in a high water environment, such as underground basements and marine structures, are particularly vulnerable to corrosion of steel reinforcement. Motorway bridges are also vulnerable because salt is used to de-ice the roads penetrate into the cracks in the structures and can accelerate the corrosion of steel reinforcement.

Repairs of conventional concrete structures can be particularly time consuming and expensive because it is often very difficult to gain access to the structure, especially if they are underground or at a great height.

Self-healing concrete is a product that will biologically produce limestone to heal cracks that appear on the surface of concrete structures. Specially selected types of the bacteria genus *Bacillus*, along with a calcium-based nutrient known as calcium lactate, and nitrogen and phosphorus, are added to the ingredients of the concrete when it is being mixed. These self-healing agents can lie dormant within the concrete for up to 200 years.

Testing has shown that when water seeps into the concrete, the bacteria germinate and multiply quickly. They convert the nutrients into limestone within seven days in the laboratory. Outside, in lower temperatures, the process takes several weeks.

Starting this year, there will be full-scale outdoor testing of self-healing concrete structures. A small construction will be built with the self-healing material and observed over two to four years.

Some other constructions will be fitted with conventional concrete structures so that the behaviour of the two can be compared. Cracks will be made in the concrete that are much larger than the ones that have healed up in the laboratory to determine how well and fast they heal over time.

Laboratory tests are being carried out to accelerate the ageing process of self-healing concrete. The tests will subject the concrete to extreme environments to simulate changing seasons and extreme temperature cycles, wetter periods and dryer periods.

If the life of the structure can be extended by 30%, the doubling in the cost of the actual concrete would still save a lot of money in the longer term. The Delft team is currently working on the development of an improved and more economic version of the bacteria-based healing agent which is expected to raise concrete costs only by a few euros.

1. What field of study does the inventor of self-healing concrete work in?
2. Name two civil engineering projects where concrete is used. (a., b.)
3. What happens if water gets into cracks?
4. Mention one especially risky areas concerning deterioration.
5. Why is structure maintenance pricey?
6. How long is Bacillus able to remain in “standby” mode?
7. Was the time period of germination the same during both outdoor and laboratory testing? (Write only YES/NO)
8. Why are self-healing concrete parts and parts with conventional concrete used along?
9. How much does the price of the new concrete differ from the traditional one?
10. What are scientists currently working on?

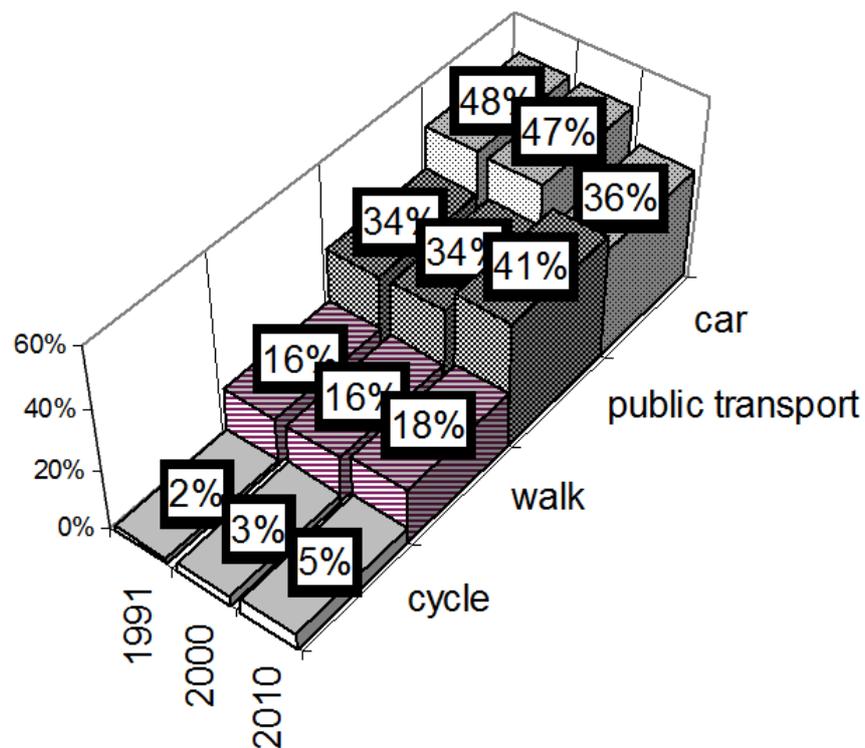
**(Total: 20)**

Tervezd meg a szöveg tartalmát és szerkezetét, gondolataidat tagold, és ügyelj a logikai összefüggések megteremtésére! Írj minden tartalmi szempontról! Próbálj nyelvileg változatos szerkezeteket használni! Ne feledd, mindkét feladatot meg kell oldanod!



# Writing

Edinburgh Transportation Co. aims to achieve a healthier environment, and wants to encourage people to use public transport instead of their own cars. You are a public transportation system expert. A journalist needs your help to analyse the changes to be expected in Edinburgh for an article. Interpret the data provided by Edinburgh Transportation Co. and write a report of 150-200 words.



(Total: 25)

**You are looking for a new job. Your friend has found two advertisements that he thinks would suit you. Choose the one you would like to get and write a letter of application. Give reasons why you have chosen that job. Write 100-120 words.**

### **DESIGN ENGINEER**

We are seeking an experienced, practical, conscientious and resourceful **Mechanical Engineer**. The candidate should have extensive experience in design for manufacturing processes such as sheet metal, injection moulding and die-casting as well as have hands-on knowledge of transferring products from design to production stage. It will be preferable if this is related to consumer electronics products.

Working within our research and development unit you will be able to perform well as a team member, using the most advanced CAD facilities. The successful candidate will enjoy working in a very challenging and rewarding environment at our state-of-the-art Huntingdon Plant.

Letters of applications plus full C.V. should be sent to:  
Annett Mepham  
**Mission.**  
Centralforce Ltd.  
Huntingdon  
PF16ED

### **CAMPDEN & CHORLEYWOOD FOOD RESEARCH ASSOCIATION**

#### **Knowledge Engineer**

We require a knowledge software engineer to work in our multidisciplinary team developing knowledge-based systems for the international milling, baking and allied industries and to provide support for existing products.

Applicants should have a computer science degree and at least two years' experience in the following areas: kbs development, C++, developing marketable software products.

Starting salary is £ 13,000 to £ 16,000 though we would be willing to pay more for an exceptional candidate.

The position is currently located in Chorleywood, Hertfordshire, with relocation to Chipping Campden, Gloucestershire in 2009.

*Call Mrs Janet Fewster on 01923 28-111 for an application form.*

Closing date for applications: 7 April 2008.

**(Total: 15)**

Ne maradjon üres hely a  
válaszlapon, próbáld meg  
minden kérdésre válaszolni!



# Answer sheets

Name: \_\_\_\_\_ No. 

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Date of birth: \_\_\_\_\_ Date: \_\_\_\_\_

Mother's maiden name: \_\_\_\_\_

**Part 1**

	Answers in English	
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Correct answers 

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 x 2 = 

--	--

**Part 2**

	T	F
1.		
2.		
3.		
4.		
5.		

	T	F
6.		
7.		
8.		
9.		
10.		

Correct answers 

--	--

 x 2 = 

--	--

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1st examiner

--	--	--	--	--

2nd examiner

Date: \_\_\_\_\_

No.

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**Space Hotel to be tested by ISS crew**

	Answers	Score
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

Correct answers

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1st examiner

--	--	--	--	--

2nd examiner

Date: \_\_\_\_\_

No.

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## Part 1

Where the smart is

	Answers	Score
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Correct answers 

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 x2 = 

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1st examiner

--	--	--	--	--

2nd examiner

Date: \_\_\_\_\_

No.

--	--	--	--	--	--

## Part 2

### Self-healing concrete

	Answers in English	Score										
1.												
2.	a. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> b. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>											
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												

Correct answers 

--	--

 x2 = 

--	--

--	--	--	--	--

1st examiner

--	--	--	--	--

2nd examiner








**For examiner's use only:**

<b>Communicative value</b>	<b>5</b>	
<b>Expressiveness</b>	<b>5</b>	
<b>Grammatical accuracy</b>	<b>5</b>	

--	--	--	--	--

1st examiner

--	--	--	--	--

2nd examiner

Hozd magaddal a  
nyelvvizsgára a  
személyi  
igazolványodat!



# Keys

**Part 1**

**WAYS BIO-NETWORKS CAN IMPROVE LIFE**

<b>Answers in English</b>	
<b>1.</b>	on our clothes - incorporating them into our bodies
<b>2.</b>	about the carrier itself, the surrounding environment or both
<b>3.</b>	keeping track of the enormous file of paperwork
<b>4.</b>	have instant access to the patient's files
<b>5.</b>	use Bluetooth technology to transmit information to a cell phone
<b>6.</b>	call a feedback loop
<b>7.</b>	navigate through unfamiliar environments
<b>8.</b>	an array of sensors including a GPS, a pedometer, an electronic compass, RFID tags and RF sensors and inertial sensors device, a pedometer (any 2)
<b>9.</b>	the wearer's breathing and heart rates as well as their temperature and blood oxygen levels (any 2)
<b>10.</b>	where conditions can change quickly

**Part 2**

**AN AIRCRAFT PILOT**

	<b>T</b>	<b>F</b>
<b>1.</b>		√
<b>2.</b>	√	
<b>3.</b>	√	
<b>4.</b>	√	
<b>5.</b>		√

	<b>T</b>	<b>F</b>
<b>6.</b>		√
<b>7.</b>	√	
<b>8.</b>	√	
<b>9.</b>		√
<b>10.</b>		√

## SPACE HOTEL TO BE TESTED BY ISS CREW

	<b>Answers</b>
<b>1.</b>	have
<b>2.</b>	will
<b>3.</b>	which
<b>4.</b>	be
<b>5.</b>	by
<b>6.</b>	can, should, could
<b>7.</b>	to
<b>8.</b>	than
<b>9.</b>	for
<b>10.</b>	being
<b>11.</b>	If
<b>12.</b>	able
<b>13.</b>	with
<b>14.</b>	when
<b>15.</b>	a

**Part 1 WHERE THE SMART IS**

	Answers
1.	F
2.	E
3.	G
4.	K
5.	H
6.	I
7.	B
8.	J
9.	A
10.	D

**Part 2 SELF-HEALING CONCRETE**

	Answers in English
1.	micro-biology
2.	foundation of buildings / structure of bridges / underground parking lots <b>(any two)</b>
3.	it degrades concrete / it corrodes concrete reinforcement
4.	high water environment / underground basements / marine structures <b>(any one)</b>
5.	it is difficult to gain access to the structure
6.	(up to) 200 years
7.	no
8.	so that the behaviour of the two can be compared
9.	double / twice as much
10.	to improve a more economic version of the bacteria-based healing agent

# Tapescripts

## **Tapescript 1**

### **WAYS BIO-NETWORKS CAN IMPROVE LIFE**

We're rapidly heading toward a future in which computers are pervasive -- and maybe even invasive. We already have computers in our houses, offices and cars, radio identification tags on packaging and GPS in our cell phones and cars. But before much longer we'll be wearing devices on our clothes and perhaps even incorporating them into our bodies.

These computing devices will create biosensor networks. You can probably guess what a biosensor network is from its name. It consists of several networked sensors mounted on or implanted in a living being. The sensors collect data about the carrier itself, the surrounding environment or both. Then the sensors put that data through a preliminary analysis and send it wirelessly to other devices for further processing.

There may be several fields of application. One of them are hospitals where keeping track of the enormous file of paperwork is a huge task. A biosensor network coupled with a networked facility could help hospitals perform more efficiently. Patients could wear gowns that incorporate sensors that transmit data about their location. And doctors and nurses could wear sensors that interface with the patient's body sensor network. In this way doctors would have instant access to the patient's files.

Biosensor networks can help alert patients and doctors to changing health conditions before they become dangerous. For example the wearable HealthGear system uses a blood oximeter to measure a person's oxygen levels. Other sensors detect and record the patient's pulse. The sensors use Bluetooth technology to transmit information to a cell phone.

With the right biosensors, doctors will be able to take specific measurements of patients and potentially customize drug treatments so that the patient receives the right amount at the right time. The sensors create what doctors call a feedback loop. The sensors scan the patient, help the doctors determine the right course of medication, then monitor the patient's progress through recovery.

Scientists and doctors are working on ways to use biosensors to help people who suffer sensory problems. Some projects are using sensors in conjunction with virtual reality or augmented reality systems to help people navigate through unfamiliar environments. Others are exploring surgical approaches that will implant sensors into a patient's ears or eyes.

The System for Wearable Audio Navigation, or SWAN, consists of an array of sensors including a GPS device, a pedometer, an electronic compass, RFID tags and RF sensors and inertial sensors. In other words, it's everything you need to detect where you are and where you're going in real time.

Biosensor networks will also come in handy in industrial environments and other potentially hazardous situations. These sensors will likely share a lot of similarities with the devices used to monitor patients. They'll measure the wearer's breathing and heart rates as well as their temperature and blood oxygen levels. Some may also check for signs of dehydration. The sensors will be able to alert officials of a problem before the employee is even aware of it. Other kinds of sensors could include GPS receivers and environmental sensors. This could be particularly useful in situations where conditions can change quickly. We can expect to see biosensor networks deployed in environments like mines where the sensors could allow mine operators to keep an eye on both the health of the miners and the conditions of the mine itself.

## Tapescript 2

### AN AIRCRAFT PILOT

I'm John McMillan. I'm first pilot with Britannia where I mainly work on international flights.

I wanted to be a pilot ever since I was 10. I'd sit looking out of the classroom window, watching planes flying out of Liverpool and remember the excitement of my first flight at the age of six when we flew to Majorca.

I joined the Air Training Corps at 12, which was great because I got to learn about planes. I even got to do aerobatics in dual-control Chipmunk and went on various gliding courses until I was allowed to fly a gliding solo at the age of 16. A year later, the Air Training Corps awarded me a flying scholarship which paid for me to do my private pilot's licence.

I left school at 18 with 8 O-level and 4 A-level exams and went on to a two-year training course with British Airways to get my commercial pilot's licence.

When I finished in 1976, there was a glut of pilots so I didn't get a job with British Airways, like the majority on the course. I didn't have many job offers, finally I found work flying a six seater pleasure plane on the Isle of Wight. When a job as first officer came up with Britannia in 1987, I happily jumped at the chance to fly Boeings.

Suddenly I was piloting planes with 130 passengers instead of six.

As a first officer I copilot with the captain. He has final responsibility and authority in the plane, but otherwise our roles are the same.

I still find flying very thrilling. Sitting in the cockpit as you fly through the night still feels very romantic to me. I love seeing the stars and the setting sun.

The low spots are when you have to fly through the night when you'd much rather be asleep.

Also, there are always times when you suddenly have to cancel an outing with friends because flight plans have changed.

After 12 years, I'm about to be made captain after completing my training last year. It will mean a lot financially. As first officer I get around £ 22,000 a year, while a captain can earn more than £ 65,000. A pretty good pay, isn't it? All the same for me flying is not about making good money. Each time I line a plane up on the runway, it feels like the start of a great adventure.