

MODULE TWO : HEALTH

UNIT THREE : MEDICAL ADVANCES

KEY WORD	MEANING IN ENGLISH	MEANING IN ARABIC
apparatus (n)	the technical equipment or machinery needed for a particular purpose	جهاز / ادوات
appendage (n)	a body part, such as an arm or a leg, connected to the main trunk of the body append (verb)	جزء من الجسم
artificial(adj)	made by human beings rather than occurring naturally artifice (n) . artificially (adv)	اصطناعي
bionic(adj)	describing a limb or body part that is electronically or mechanically powered	الالكتروني حيوي
cancerous(adj)	something that has or can cause cancer, a very serious disease in which cells in the body begin to grow abnormally cancer (noun)	مسرطن
career(n)	a job undertaken for a significant period of a person's life and with opportunities for progress	مهنة
coma(n)	a state of unconsciousness caused by a certain injury and that lasts for an extended period of time	غيبوبة
cope with(phr. v)	to deal successfully with, or handle, a situation	ينجح في معالجة مشكلة
cross(adj)	angry or annoyed	غاضب
decline(v)	to decrease in quantity or importance decline (noun)	يتناقص
dementia(n)	a mental illness the symptoms of which are problems with memory, personality changes and problems with reasoning	اختلال عقلي شديد
drug(n)	a medicine or a substance used for making medicines	عقار / دواء
expansion(n)	the act of making something bigger expand (verb)	تمدد
focus on (phr. v)	to direct your attention or effort at something specific focus (noun) - focused (adjective)	يركز على
implant (n)	a piece of tissue, prosthetic device, or other object implanted in the body implant (verb)	حشوة/ زرعة
limb (n)	arm or leg of a person	طرف: ساق او ذراع
medical trial(n)	trial to evaluate the effectiveness and safety of medications trial (verb)	تجربة طبية
MRI(n)	(Magnetic Resonance Imaging) a scan that uses strong magnetic fields to make a picture of the inside of someone's body for medical reasons	صورة الرنين المغناطيسي
option(n)	something that is or may be chosen optional (adjective)	خيار/بديل
outpatient(n)	someone who goes to a hospital for treatment but does not stay for the night	مريض خارجي
paediatric (adj)	describing the area of medicine that deals with children and their illnesses paediatrics (n), paediatrician (n)	متعلق بطب الاطفال

pill (n)	a small round piece of medicine to be swallowed whole	حبة دواء
practitioner (n)	someone who is qualified or registered to practise a particular occupation or profession practise (verb) - practical (adjective) - practically (adverb)	صاحب مهنة
prosthetic (n)	an artificial body part prosthetics (noun)	طرف اصطناعي
publicise (v)	to give information about something to the public, so that they know about it publicity (noun)	يروج
radiotherapy (n)	the use of controlled amounts of radiation (a form of energy) to treat disease, especially cancer	المعالجة بالاشعاع
raise (v)	raise a question to bring up a problem or cast doubt on something	يطرح (سؤالا)
scanner (n)	a medical instrument that uses radiography to produce images of the insides of the human body scan (verb)	جهاز مسح ضوئي
side effect (n)	effects of medicine on your body in addition to curing pain or illness	اعراض جانبية
sponsor (v)	to financially support a person or an event sponsor (noun) - sponsored (adjective)	يتكفل برعاية
stroke (n)	an illness when a blood tube in your brain bursts or is blocked, resulting in the brain being unable to function normally	سكتة او جلطة دماغية
symptoms (n)	a physical problem that might indicate a disease	اعراض
ward (n)	a room in a hospital, especially for patients needing similar kinds of care ward (verb)	جناح في مستشفى
eyesight (n)		ابصار
device (n)		اداة

Medical Advances.

Q1 p20

Suggested answer

It looks as if these are new medical inventions: the article is probably something about progress in medicine – perhaps about new arms and legs for injured or disabled people that the young inventor has designed.

Q2 p20

word	synonym
1. apparatus	equipment
2. appendage	limb
3. artificial	prosthetic
4. sponsor	fund

Q4 p21

Answers

- 1 Sheikh Hamdan was interested in Adeeb's invention of a prosthetic limb for his father. He offered Adeeb the world tour to help to give him more self-confidence and to inspire other young inventors from the UAE.
- 2 He got the inspiration when he was at the beach with his family. His father couldn't swim because he couldn't risk getting his prosthetic leg wet.
- 3 Adeeb will be staying with relatives in Germany. He will be working with a doctor to build his new invention of the waterproof prosthetic leg, as well as attending a course to find out more about prosthetics.
- 4 It means 'to provide protection against'.
- 5 The in-car heart monitor will be used to keep an eye on those with a heart problem while they are driving or in a car. It is built into the seat belt so that when the driver or passenger wears it, it is near their heart.

Quotation p21

حين يُعشَق الطَّبُّ تُعشَقُ الإنسانِيَّة.

It

means those who love medicine also love people because they want to help to make them better or keep them well

اجابة مقترحة
الحياة في المستقبل

Life in the future will never be as life these days. Many of the aspects of our daily routine will be completely different and others will disappear in the coming future. Hospitals will have robots, which can test patients and prescribe the appropriate medicine for patients while they are at home. Moreover robots could participate in making medical surgeries all over the world.

At school, weather conditions will never be a problem anymore because students can attend the class while they are at home or even if they are at hospitals. Finally, at home, parents will be able to have an eye on their children while parents are away from home. This will make life easier.

Ex 8 p21

1. Why was Sheikh Hamdan interested in helping Adeeb?
.....
2. Why did Sheikh Hamdan offer Adeeb the gift of a world tour?
.....
3. How did Adeeb get his inspiration for a waterproof prosthetic leg?
.....
4. Who will Adeeb be staying with in Germany, and what will he be doing there, other than sightseeing?.....
5. What does the suffix **-proof** mean (waterproof, fireproof)?
.....
6. What is the purpose of the in-car heart monitor? Why do you think that it is built into the seat belt?.....
7. Sheikh Hamdan helped Adeeb to travel to seven countries. What did Sheikh Hamdan do to make this come true?
.....
8. How did Adeeb catch the attention of Sheikh Hamdan bin Mahmmd?
.....
9. The Crown Prince of Dubai hopes that Adeeb's tour to seven countries will achieve two purposes. Write down these two purposes.
.....
10. What inspired Adeeb to invent a waterproof prosthetic leg for his father?
.....
11. During his tour, Adeeb is going to visit many countries. Write down two of these countries.
12. While he is in Germany, Adeeb will do several things, other than sightseeing. Write down two of these things.
.....
13. Apart from the waterproof prosthetic leg, Adeeb invented several other devices. Write down two of these devices.
.....

14. What is the main benefit of the fireproof helmet which Adeeb invented.
.....
.....

16. What does the underlined word "appendage" mean?
.....

1. Sheikh Hamdan was interested in Adeeb's invention of a prosthetic limb for his father.
2. He offered Adeeb the world tour to help to give him more self-confidence and to inspire other young inventors from the UAE.
3. He got the inspiration when he was at the beach with his family. His father couldn't swim because he couldn't risk getting his prosthetic leg wet.
4. Adeeb will be staying with relatives in Germany. He will be working with a doctor to build his new invention of the waterproof prosthetic leg, as well as attending a course to find out more about prosthetics.
5. It means 'to provide protection against'.
6. The in-car heart monitor will be used to keep an eye on those with a heart problem while they are driving or in a car. It is built into the seat belt so that when the driver or passenger wears it, it is near their heart.
7. He organised and funded a tour to seven countries.
8. The boy caught Sheikh Hamdan's attention with his invention - a prosthetic limb for his father.
9. He hopes the tour that he is sponsoring for Adeeb will give the young inventor more self-confidence and inspire other young Emirati inventors.
10. He got the inspiration when he was at the beach with his family. His father couldn't swim because he couldn't risk getting his prosthetic leg wet.
11. Adeeb is going to visit the USA, France, the UK, Ireland, Belgium, Italy and Germany.
12. He will be working with a doctor to build his new invention of the waterproof prosthetic leg, as well as attending a course to find out more about prosthetics.
13. a tiny cleaning robot and a heart monitor, which is attached to a car seat belt. He has also invented a fireproof helmet.
14. This special equipment, which has a built-in camera system, will help rescue workers in emergencies.
15. ~~_____~~
16. a body part, such as an arm or a leg, connected to the main trunk of the body.

S.B p22

Ex 2 p22

Answers:

Illnesses and other medical conditions: coma, dementia, side effect, stroke, symptom

Medical apparatus or treatment: drug, implant, medical trial, pill, scanner

Ex 4 p 23

Suggested answer

This website is promoting medical advances, so its information may be exaggerated. The new drug may be less effective than the article claims. In addition, the text says 'so far' treatment is going well; it does not say it has been proven to work.

Ex 5 p23

Answers

- 1 He hopes to become a teacher one day.
- 2 I intend to apply for a job when I finish university.
- 3 Many hospitals plan to use robots to help nurses in the future.
- 4 How do you intend to solve the problem?
- 5 Our school hopes to raise enough money to build a new library.
- 6 Do you intend to buy tickets for the play?

4.

1. Brain implants that scientists have already developed can allow disabled people to use their thoughts in order to perform two tasks. Write down these two tasks.

2. Write down the sentence which indicates that research on some animals showed that a brain implant improved their mental abilities.

3. The writer says that there are several reasons which could cause brain damage for people. Write two of these reasons.

4. The writer says that it is possible for neuroscientists to communicate with some patients in a coma. How could they manage this?

5. Doctors plan to use brain-scanning techniques in the future to find out some information about patients in a coma. Write down two things that doctors wish to know.

6. What does the scanner which was used on a man who has been in a coma for more than twelve years prove?

7. Look at the third sub-heading in the article. How far do you think this is true? Give reasons.

8. Doctors hope that the new cancer drug which is being tested in some countries may be helpful to patients and will achieve two goals. Write down these two goals.

9. What are the usual side effects of undergoing traditional forms of cancer treatment?

10. Write down the sentence which refers to the mechanism that explains how the new drug works.

11. What are the advantages of the new drug over the other cancer medications?

12. Write down the sentence which indicates that the patients who were interviewed a year after starting the treatment are showing progress.

13. What do the underlined words refer to?

14. What does the underlined word "prosthetic" mean?

15. Find a word in the text which means the same as "a physical problem that might indicate a disease".

16. What do you think the implications will be for the world if people live longer? Should we be using technology to help us to improve life expectancy?

Answers

1. They allow disabled people to use their thoughts in order to control prosthetic limbs like arms, legs or hands, or operate a wheelchair.
2. In 2012 CE, research on monkeys showed that a brain implant improved their decision-making abilities.
3. dementia, a stroke or other brain injuries.
4. by using a special brain scanner called an MRI.
5. Doctors plan to use similar brain-scanning techniques in the future to find out whether patients are in pain, or what they would like to be done in order to improve their quality of life.
6. It proves that he has a conscious, thinking mind - a fact that had previously been disputed by many.
7. Suggested answer
This website is promoting medical advances, so its information may be exaggerated. The new drug may be less effective than the article claims. In addition, the text says 'so far' treatment is going well; it does not say it has been proven to work.
8. doctors hope will extend the lives of cancer patients and reduce their symptoms overnight.
9. the sickness and hair loss

10. The new treatment works by blocking a protein which causes cancerous cells to grow.
11. It is taken as a single pill every morning, and so far patients have shown none of the usual side effects such as the sickness and hair loss that are experienced when undergoing other forms of cancer treatment. It will improve patients' life expectancy and quality of life much more quickly than any other treatment.
12. The patients were interviewed a year after starting the treatment and are fit and well, saying that they are definitely going to continue the trial.
- 13.
14. an artificial body part
15. symptoms
16. Students' own answers

شتوية 2018

Scientists have already developed brain implants that improve vision or allow disabled people to use their thoughts in order to control prosthetic limbs like arms, legs or hands, or operate a wheelchair. In 2012 CE, research on monkeys showed that a brain implant improved their decision-making abilities. How will humans benefit from this research? Scientists hope to develop a similar device to help people who have been affected by brain damage, which could be caused by dementia, a stroke or other brain injuries.

In 2010 CE, neuroscientists confirmed that it was possible to communicate with some patients in a coma, by using a special brain scanner. They suggested that, in the future, more meaningful dialogue with patients in a coma would be possible. Two years later, it has finally happened. The scanner, used on a man who has been in a coma for more than twelve years, proves that he has a conscious, thinking mind - a fact that had previously been disputed by many.

A new cancer drug is being trialled in Plymouth, UK, which doctors hope will extend the lives of cancer patients and reduce their symptoms overnight. It is taken as a single pill every morning, and so far patients have shown none of the usual side effects such as the sickness and hair loss that are experienced when undergoing other forms of cancer treatment. The new treatment works by blocking a protein which causes cancerous cells to grow. It will improve patients' life expectancy and quality of life much more quickly than any other treatment.

Question Number One

1. There are two side effects which appear when patients undergo the usual cancer treatment. Write down these two side effects. (2 points)
2. Brain damage can be caused by different factors. Write down two of these factors. (4 points)
3. Quote the sentence which explains how the new cancer drug works. (3 points)
4. Find a word in the text which means "a medical instrument that uses radiography to produce images of the insides of the human body". (3 points)
5. What does the underlined word "they" refer to? (2 points)
6. The dramatic improvement of life expectancy that characterized the 20th century is due to many reasons. Suggest three of these possible reasons. (3 points)
7. Health services in Jordan are among the best in the Middle East. Think of this statement and, in two sentences, write down your point of view. (2 points)

7

Listening

7 Look at this photograph showing the subject of a talk. What do you think the talk is going to be about? Listen and check.

Answer:

The talk is about robots and how the medical sciences will be using them in the future.

Audioscript

Presenter: Welcome to the Science and Technology Conference! Our speaker today is Professor Wilkins. He's going to talk about robots and how the medical sciences will be using them in the future.



Professor: Thank you. As I'm sure you are aware, technology is rapidly changing the way medical science is being used. We already use robots in lots of different areas of medicine. I know a lot of you in the audience are nurses. You might be wondering, will I still be working as a nurse in ten years' time, or will a robot be doing my job?

It's true that, in the future, robots will be doing more and more jobs in hospitals. In the USA, the UK and Australia, hospitals are using robots to interact with patients after they've had operations, collect **drugs** from the hospital pharmacy, and even visit patients in the ward when the doctor is not available. The doctor can talk to the patient via the screen on these robots. In Japan, scientists have been working on a robot which can lift a patient off the floor and into a wheelchair. Lifting patients is one of the most difficult tasks for nurses and can be carried out as many as 40 times per day. Medical professionals hope that robots like this one will be doing a lot of this kind of work in the future.

It also seems very likely that robots **will be carrying** out surgery, too. There are a few surgical operations that require a lot of detailed work. For example, in cancer cases it is vitally important to remove all the cancer cells, but leave the healthy cells in place. In some operations, **scanners** are used to locate these **cancerous** cells, and these locations **are sent** directly to the robot surgeon.

So, to conclude, if you are a nurse, don't worry about losing your job to a robot. In ten years' time, a robot will probably be working alongside you, but only to make your job easier. It certainly won't replace you.

It is also very likely that robots will be sorting and delivering drugs, a task that requires absolute accuracy and speed.

Comprehension

SB 23

8 Listen again and answer the questions.

- 1 How will robots be able to help doctors when they are not available for face-to-face consultations with patients?
- 2 In Japan, what task are scientists developing robots to perform?
- 3 What kind of operations will robots be used in? Why?
- 4 Why are robots particularly suited to sorting and delivering medicine?

Answers

- 1 The robot can visit the patient in the hospital and the doctor can talk to the patient via a screen.
- 2 In Japan, scientists are working on a robot which will be able to lift a patient off the floor and into a wheelchair.
- 3 They will be used to help in operations that require detailed work. This kind of work is better suited to robots than humans.
- 4 The task requires accuracy and speed, something that is very suitable for robots.

8.

ex 9 p23

THE WORD	PHONETIC TRANSCRIPTION
importance	/ɪm'pɔ:təns/
audience	/'ɔ:diəns/
healthy	/'helθi/
carrying	/'kæriɪŋ/
angry	/'æŋɡri/
exercise	/'eksəsaɪz/
school	/sku:l/
calm	/kɑ:m/
technology	/'tek'nɒlədʒi/
fluently	/'fluəntli/

ex 10 p23

Writing skills: Using rhetorical devices

مهارات الكتابة: استخدام الصيغ البلاغية

1- **sensory descriptions**:- are any descriptions that appeal to the five senses of touch, smell, taste, sight or hearing;

وصف الحسي: - هي الأوصاف التي تشابه الخمس الحواس مثل اللمس والشم والذوق والبصر أو السمع. مثال:-

2- **onomatopoeia** :- is the name given to words that sound like the noises they represent such as pop, ping, fizz; hum, buzz

Everywhere we go we will hear the constant buzz and hum of technology

المحاكاة الصوتية: - هو الاسم الذي يطلق على الكلمات التي يبدو أنها تمثل أصواتا مثل صوت نزول المطر، بينغ، أز. مثال- في كل مكان نذهب إليه سنسمع طنين مستمر و همهمة التكنولوجية.

3- **simile** :- is a way of comparing two things using like or as ... as ...:

Some robots will look and sound very like humans, because technology will have advanced a great deal.

Treatment and medicines will taste as delicious as real food.

التشبيه: - هو وسيلة للمقارنة بين استخدام شئين مثل أو ... كما ...؟ بعض الروبوتات تبدو سليمة جدا مثل البشر، لأن التكنولوجيا سيكون قد حققت قدرا كبيرا. العلاج والأدوية سيكون مذاقهما لذيذا مثل الغذاء الحقيقي.

4- **personification** :- is giving human characteristics to an object such as The sun shone warm and welcoming..

Our computers and mobile phones will take care of us, by telling us when to wake up, eat and sleep.

تجسيد: - يعطي خصائص الإنسان إلى كائن مثل اشرفت الشمس والترحيب الحار. مثال- حواسيبنا وهواتفنا الخلوية سنتهم بنا، بإخبارنا متى يستيقظ، ومتى نأكل وننام.

5- **Metaphor**: The world will be at your fingertips.

without using like or as

الاستعارة: إن العالم سيكون في متناول يدك.

C- Study the following sentence and answer the question that follows:-

- Some robots will look and sound very like humans, because technology will have advanced a great deal.

-What is the rhetorical device that is used in the above sentence

(2 points)

Study the following sentence and answer the question that follows. (2 points)

2017 مستوى

The world will be at your fingertips. Identify the type of the rhetorical device used in the above sentence.

1. Why does the King Hussein Cancer Center need to expand?
.....
2. Give three reasons why patients from other countries visit the centre.
.....
3. What is one of the disadvantages of the KHCC for patients who live far from Amman?
.....
4. What plans are there for increasing cancer care facilities in other parts of Jordan?
.....
5. The King Hussein Cancer Center provides cancer treatment for two categories of patients. Who are these two categories?
.....
6. The writer mentions many reasons that make patients from other countries come to the King Hussein Cancer Center for treatment. Write down two of these reasons.
.....
7. What did the King Hussein Cancer Center do to meet the increasing demand for treatment?
.....
8. According to the text, The King Hussein Cancer Center will have witnessed many developments by 2016. Write down two of these developments.
.....
9. The education center in the special ten-floor outpatients' building will include two facilities. Write down these two facilities.
.....
10. Find a word in the text which means the same as "**the act of making something bigger**"
.....

11. There are plans to extend cancer care facilities to other parts of Jordan. What is the main reason for that?
.....
12. Cancer patients from northern Jordan face difficulties going to Amman for radiotherapy treatment. What is the solution for these problems in the future?
.....
13. Why will King Abdullah University Hospital in Irbid have radiotherapy machines in the future?
.....
14. What do the underlined words refer to?
.....
15. What does the underlined phrasal verb "**cope with**" mean?
.....

Answers

1. The hospital needs to expand because there is more demand for treatment.
2. It has an excellent reputation, the costs are lower and there are cultural and language similarities.
3. The journey to and from the hospital is often difficult.
4. There are plans to set up radiotherapy machines in Irbid.
5. adult patients and paediatric patients.
6. It has an excellent reputation, the costs are lower and there are cultural and language similarities.
7. In order to cope with the increase in demand for treatment, the KHCC has begun an expansion programme.
8. The hospital will have more than doubled its capacity by 2016 CE, increasing space for new cancer cases from 3,500 per year to 9,000.
By then, they will have added 182 extra beds, along with bigger units for different departments, including radiotherapy. New adult and paediatric wards will have opened. Additionally, they will have built a special ten-floor outpatients' building, with an education centre which will include teaching rooms and a library.
9. teaching rooms and a library
10. expansion
11. Many cancer patients live far away from Amman, where the KHCC is located, and the journey to and from the hospital is often difficult.
12. In the near future, King Abdullah University Hospital in Irbid hopes to set up radiotherapy machines
13. so that cancer patients from northern Jordan will not have to go to Amman for radiotherapy treatment.
- 14.
15. to deal successfully with, or handle, a situation

ex1 p.24

Suggested answers

- 1 It might get more difficult for the government to help people, and taxes might increase.
- 2 The government should spend more money making sure there are enough facilities for everyone.

ex4 p.25.

Answers


- 1 The hospital needs to expand because there is more demand for treatment.
- 2 It has an excellent reputation, the costs are lower and there are cultural and language similarities.
- 3 The journey to and from the hospital is often difficult.
- 4 There are plans to set up radiotherapy machines in Irbid.

1. Which hand is Sorensen wearing now? Why?
.....
2. What do the underlined words refer to ?
.....
3. Find a word that is the opposite of 'natural' in the first and third paragraphs.
.....
4. Write down the sentence which refers to the latest invention in the field of prosthetic limbs.
.....
5. Write down the sentence which indicates that the invention of a prosthetic hand with a sense of touch needs more development.
.....
6. It is believed that the invention of the new artificial hand will make a revolution in the field of prosthetic limbs. What is expected to happen in the near future in this regard?
.....
7. Write down the sentence which reveals the personality of the man who first tried out the new invention.
.....
8. Who invented the new prosthetic hand? What is special about it?
.....
9. Using the new prosthetic hand helped Dennis to do many things. Write down two of these things.
.....
10. Write down the sentence which indicates that Sorensen's both hands have almost the same sensations.
.....
11. Why was Sorensen only allowed to wear the prosthetic hand for a month?
.....

12. In your opinion, in what ways would a prosthetic hand improve someone's life? What problems might it cause?
.....

13. Why does Dennis Sorensen need a prosthetic hand?
.....

Answers

1. his old artificial hand, because the new hand is not yet ready for general use
2. 
3. artificial
4. Scientists have successfully invented a prosthetic hand with a sense of touch.
5. It is an exciting new invention, which they plan to develop.
6. It is possible that similar artificial arms and legs will have taken the place of today's prosthetic limbs.
7. Dennis Sorensen, a 39-year-old from Denmark, was the first person to try out the new invention.
8. Swiss and Italian scientists; it allows the wearer to feel objects.
9. With it, Sorensen could not only pick up and manipulate objects, but he could also feel them.
10. He said that the sensations were almost the same as the ones he felt with his other hand.
11. He was only allowed to wear it for a month, for safety reasons. Also, the new hand is not yet ready for general use
12. Students' own answers
13. because he lost his left hand in an accident 