

لغة انجليزية 2 الفصل الدراسى الثانى : المستوى الاول
مختبرات طبية – هندسة
)

Lecture (1)

Some Medical Laboratories Terminologies

Use your dictionary to search the meaning of the following terms:

- | | |
|---|----------------------------------|
| 1-Lab quality control | 2- Laboratory (Lab) |
| 3- analysis | 4-Microscope |
| 5- Incubator | 6-Water bath |
| 6- sterilization | 7-Autoclave |
| 8- Zero adjustment | 9- Measurement |
| 10-Reagents | 11- Standard R |
| 12- Samples | 13-Whole blood |
| 14- Venous Blood | 15-Serum |
| 16-Plasma | 17-Hemolysis |
| 18-Blood clot | 19-Complete Blood Account (CBC) |
| 21- Red Blood Cells (RBCs) | 22-White Blood Cells (WBCs) |
| 23-Platelets | 24-Haemocytometer |
| 25- Leukemia | 26-Bleeding time |
| 27- Blood groups (A . B . AB . O(+ & -) | |
| 28-Rhesus Factor (Rh) +&- | 29- Disposable |
| 30- Stability | |
| 31- Range expected values | 31- Glucose |
| 32-Blood sugar curve | 33- Random blood Glucose |
| 34-Fasting blood sugar | 35- Kidney Function Tests |
| 36- Uric Acid | 37-Urea |
| 38- Total cholesterol | 38- Urine Analysis |
| 39- Microscopic Examination | 40 - Kidney stone |
| 41- Casts | 42- Pus cells |
| 43-Parasites | 44- Worms |

45-Ovan

46- Antibody

47- DNA: (Deoxy Ribos Nucleic Acid)

48-(MLT): Medical Laboratory Technology

49- anemia

50-Slide

51- Reagent bottle

Lecture 2

Parts of the body

Which of the words in the box combine with **-ache**?

arm

leg

chest

back

elbow

tummy

bottom

thigh

stomach

ankle

wrist

head

tooth

ear

Reading : Read the following about blood , then answer the questions below

Blood

Blood is composed of many different kinds of cells, each with a specific function. Most blood cells are formed in the bone marrow and released into the bloodstream at various stages of maturity.

Red blood cells (erythrocytes) make up 45 percent of blood volume. Their primary function is to pick up oxygen in the lungs and transport it to tissues throughout the body. At the tissue site, red blood cells exchange oxygen for carbon dioxide and carry it back to the lungs to be exhaled. First, they are packed full of hemoglobin, which functions as the oxygen carrier. Interestingly, red blood cells have no nuclei, a feature which makes even more room for hemoglobin. Second, they are shaped like disks. This shape greatly increases their surface area compared with a sphere of the same volume. The large surface area is important because it improves the efficiency of oxygen transfer between hemoglobin and the tissues where the oxygen is needed. Red blood cells are formed in the bone marrow, and they have an average life span of about 120 days. After this period of time, red blood cells tend to become misshapen and they are removed from the circulation by the spleen.

White blood cells (leukocytes) are only /1,000 as numerous as red blood cells in the bloodstream. There are five main types: neutrophils (also called granulocytes), eosinophils, basophils, monocytes, and Iymphocytes. Each plays a distinct and important role in helping the immune system fight infection.

- 1-What does the blood compose of?

 2-Where do the most blood cells form ?

 3-Where do the most blood cells released ?

 4-What is the primary function of red blood cells ?

 5-Why is the large surface area important for red blood cells?

 6-What is the role of white blood cells?

Decide whether the following statements are **true or false**

- 7-Each blood cells have special function
 8-Red blood cells (erythrocytes) make up 55 percent of blood volume.
 9- Red blood cells have an average life span of about 100 days.
 10- There are three main types of white blood cells.

Language : Word formation:

Dictionary work: Word formation

Use a good dictionary and find the word forms stemming from the same root and complete the grid where appropriate.

<u>verb</u>	<u>noun</u>	<u>adjective</u>
.....	irritant	.....
.....	inhalation	.....
.....	.....	combustible
.....	ignition	.....
Breathe	.....	.....
.....	effect	.....
.....	.....	flammable
Digest	.....	.....
.....	.....	Oxidizing

Lecture 3

Dealing with numbers

Note how numbers are written and read in English:

1,350	one thousand three hundred and fifty
45.73	forty-five point seven three
3.05	three point oh five
26%	twenty-six percent

Reading mathematical symbols and fractions:

$1/2$	a half	$2/3$	two thirds
$1/3$	a third	$5/8$	five eighths
$1/4$	a quarter	$3/4$	three quarters
$3 + 8$	three plus eight equals eleven 11		
$16-5$	sixteen minus five		
8×2	eight times two		
$6 \div 2$	six divided by two		
50 kg/sq cm	= 50 kilograms per square centimeter		
70 kph	70 kilometers per hour		
2:3	two to three		
$A < B$	A is smaller (less) than B		
$A > B$	A is greater (more) than B		

Exercise : Write the following in words:

- | | |
|-------------------------|---------------------------|
| a) $88 \div 7$: | b) $156-5$: |
| c) $2,547 + 18$: | d) $P > A$: |
| e) $C < B$: | f) 74×17 : |
| g) $9/4$: | h) 73% : |
| i) 23,650 : | j) 1,200,000: |
| k) 1,000,000,000: | |

Note the following pairs:

Weigh - weight

Long – length

Wide – width

Deep – depth

Exercise: Fill in the gaps ,use the words above:

1. The bridge is 25 m _____, or it is 25 m in _____ .
2. It _____ 30 tons, or the _____ of the bridge is 30 tons.
3. At this point the river is 4 m _____ , or the _____ of the river is 4 m.
4. The river is 20 m _____, or the _____ of the river is 20 m.

Lecture 4

Speaking of illness

Fill in the prepositions

In for by out to off from under at

1. his life is hanging ___ a thread
2. he is fighting ___ his life
3. he is ___ a coma
4. she is not responding ___ treatment
5. he has come ___ of the coma
6. she is a bit ___ colour
7. he is still ___ the stress
8. she is suffering ___ pneumonia
9. he is allergic ___ dust
10. you are ___ perfect health
11. I am sickening ___ something
12. he is showing signs ___ coming round
13. he could go ___ any second

Language : Phrasal Verbs

Natural English conversation includes many phrasal verbs. These are verbs made up of two words: a verb and a preposition. For example: 'I *get up* at eight o'clock'. Complete the sentences below using the phrasal verbs in the box. You will have to change the forms of some of the verbs to make the grammar of the sentence correct. The first one has been done for you as an example.

Phrasal verbs**Explanation**

<i>break down</i> =	to start to cry and become upset
<i>bring up</i> =	to cough up material such as mucus from the lungs or throat
<i>cough up</i> =	to cough hard to expel a substance from the trachea
<i>drop off</i> =	to fall asleep
<i>get around</i> =	to move about
<i>get over</i> =	to become better after an illness or a shock
<i>give up</i> =	not to do something any more
<i>go down</i> =	to become smaller
<i>knock out</i> =	to hit someone so hard that he or she is no longer conscious
<i>look after</i> =	to take care of a person and attend to his or her needs
<i>pass out</i> =	to faint
<i>pick up</i> =	to catch a disease
<i>prop up</i> =	to support a person, e.g. with pillows
<i>take after</i> =	to be like one or other parent
<i>take off</i> =	to remove something, especially clothes

1. He *got over* his cold.
2. The nurses are _____ her very well.
3. He must have _____ the disease when he was travelling in Africa.
4. She often _____ in front of the TV.
5. When we told her that her father was ill, she _____.
6. She _____ and cried as she described the symptoms to the doctor.
7. He _____ his father.
8. The doctor asked him to _____ his shirt.
9. He was _____ mucus.

10. Since she had the accident she _____ using crutches.
11. I was advised to _____ smoking.
12. He was _____ by a blow to the head.
13. The nurse _____ the patient with pillows.
14. The swelling has started to _____.
15. She became worried when the girl started ----- blood.

Lecture (5)

Language Use : Opposites

Exercise 1.

Match the words in italics with their **opposites** in the box on the right. The first one has been done for you as an example.

- | | |
|--|-------------|
| 1. The opposite of <i>back</i> is <i>front</i> | alive |
| 2. The opposite of <i>acute</i> is | chronic |
| 3. The opposite of <i>dead</i> is | closed |
| 4. The opposite of <i>improve</i> is | deteriorate |
| 5. The opposite of <i>healthy</i> is | front |
| 6. The opposite of <i>open</i> is | ill |
| 7. The opposite of <i>major</i> is | increase |
| 8. The opposite of <i>reduce</i> is | malignant |
| 9. The opposite of <i>smooth</i> is | minor |
| 10. The opposite of <i>benign</i> is | rough |

Prepositions

The sentences in this exercise contain **mistakes**. The mistakes are all in the prepositions and there are three types:

1. missing preposition : I spoke ^him about this last week. **to**
2. wrong preposition : We're meeting again in ^Tuesday. **on**
3. unnecessary preposition: I'll telephone to you tomorrow.

Exercise :

Find the mistakes and correct them.

1. The hospital has installed new apparatus through the physiotherapy department.
2. Her lips were cracked of the cold.
3. The boy's little toe was crushed the door.
4. The tissue was examined on the microscope.
5. It is important that needles used at injections should be sterilized.
6. He is recovering from a bout flu.
7. She was given to a pain-killing injection.
8. Some types of wool can irritate to the skin.
9. This report quotes the number of cases of cervical cancer from thousand patients tested.
10. The doctor put the patient to sleep within a strong narcotic.
11. She burnt her hand at the hot frying pan.
12. We have no spare beds on the hospital at the moment.
13. He will have an operation to remove of an in growing toenail.
14. Please ensure that the patient takes of his medicine .

Punctuation and symbols

1. full stop	.
2. comma	,
3. exclamation mark	!
4. question mark	?
5. single quotes	'Hello'
6. double quotes	"Hello"
7. dollar sign	\$
8. percentage sign	%
9. ampersand	&
10. asterisk	*
11. hash	#
12. brackets	()
13. left bracket	(
14. square brackets	[]
15. underscore	_
16. hyphen	-
17. plus sign	+
18. equals sign	=
19. colon	:
20. semicolon	;
21. "at" sign	@
22. forward slash	/
23. backward slash	\
24. arrow	

Lecture (6)

Engineering

Terms / Vocabulary:

1-The following words/phrases are all followed by 'engineering :

Chemical Civil Electrical Electronic Highway

Industrial Mechanical Mining Petroleum production

Production Industrial

2-Equipment in engineering :

Boiler crane gas engine turbine machine tool pump

Word formation:

Notice the following adjective endings:

1-Chemical 2- Mechanical 3-Physical 4-Structural
5-Industrial 6-Electronic

Notice the following nouns which are a plural form but are normally used with a singular verb:

Mathematics physics mechanics

Exercise :

Complete the following sentences with a form of the word in brackets.

- 1- In the industry, develop processes for producing plastics, fibres, medicines, etc. from simple chemicals. (chemistry)
- 2- Producing steel using the Bessemer process is one of the best-known processes. (industry)
- 3- Most devices need oil as a lubricant. (mechanics)
- 4- Following the earthquake. every building had to be inspected to see whether it had suffered any damage. (structure)
- 5- Certain chemicals are added to glue to it. (hard)
- 6- Excavators and power shovels are two types of equipment used by when they are removing rocks from the ground. (mine) .

Exercise :

Fill in the gaps by choosing one of the words from the box:

machines	highway	mechanical	chemical	civil
physics				
electrical	develop	production	electronic	

- 1- Engineering students should have an understanding of math, and Chemistry.

- 2- engineer is trained to understand, design, control, and investigate material flows.
- 3- If you enjoy problem solving and find projects such as the Channel Tunnel and the Three Gorges Dam interesting, engineering may be for you.
- 4- If your interest is in road building then you may decide to follow a specialized course in engineering .
- 5-By studying and engineering you learn about the design of complete systems, such as computers, controllers, power and transport systems .
- 6-..... engineers plan, design and a wide range of things: washing machines, cars and spacecraft.
- 7- engineers work very closely with mechanical engineers, to make new products at the right price, on time and in the correct quantity.
- 8- As well as designing and selecting and materials, they also organize people and finance.

Lecture (7)

Grammar:

The table shows the range of relative pronouns:

Person	who, whom, whose	Time	when
Things	which, that	place	where

Exercise :

Choose the appropriate relative pronoun in each of the following sentences.

- 1- A load-bearing wall is a wall that/where supports a vertical load as well as its own weight.
- 2- An architect is someone whose/who draws up plans for buildings and other structures.
- 3- An unheated building, a cellar or a basement are examples of places which/where are often damp.
- 4- Manufacturing takes place in factories when/where finished products are made.
- 5- Marconi was the scientist who/whom first received signals across the Atlantic.

- 6 -You are invited to attend the meeting on Tuesday which/when details of the project will be discussed.
- 7- The company has opened a new workshop where/which engineering parts will be produced.
- 8 The operations manager, whom/whose office is on the first floor, is dealing with the problem.

clauses of result and purpose

Forms, uses , examples:

Clauses of result and purpose are subordinate clauses. There are three possible constructions:

1- (*in order/so as*) *to* + infinitive . eg:

Benton have defined quality control standards (in order) to meet minimum product specifications.

2- a *subordinating conjunction* followed by a verb. Eg :

1-*We sample and monitor all processes so that customer needs are exceeded.*
(purpose)

2-*Last year Markham introduced new quality standards so (that) they detected defective products . before completion.* (result)

3 -*for* + no un followed by an infinitive + *to*

For zero defects to be achieved, we will have to introduce tighter prevention controls.
(= *so that zero defects can be achieved, we ...*)

The main *subordinating conjunctions* are: *in order that* . *so that*

Before the infinitive + *to* you can put: *for* . *in order (to)* . *so as (to)*

Exercise:

Rewrite the following sentences using the words in brackets.

1 They introduced computer-guided robots because they wanted to increase efficiency. (in order to).
.....

2 Close the valve. That way the system won't overheat. (so that)
.....

3 Scientists are carrying out research. They want to find a cure for AIDS. (so as to)
.....

4 Circuit breakers have be en installed because they don't want the system to overload. (so that... no't)
.....

5 The system is sealed. They want to stop water and dust getting in. (in order to)
.....

6 He is taking anti-malarial drugs. He doesn't want to get malaria. (so that)
.....

