ARAB REPUBLIC

OF EGYPT

E۱۳۰۸/ أول (دمج)

Ministry of Education

General Secondary Education Certificate Examination, Y. \A {First Session}

Biology	Time: Thours	
(الأسئلة في ٦ صفحات)		
Question (1): (A) Choose the correct answ	<u>ver:</u>	
\u2214- The bacteriophage genetic material conta	ains	
a - phosphorus	b - ribose sugar	
c - sulfur	d - protein	
7 - The four cells resulting from the meiotic	e division of spore mother cells	
during the formation of pollen are called	l	
a- microspores	b- Archegonia	
c- Antheridia,	d- ciliated sperms	
τ - The gland that stimulates the mammary	glands to produce milk after	
birth is		
a- ovary	b- pituitary gland	
c- adrenal glands	d- thyroid gland	
٤ - The number of lumbar vertebra in man i	s vertebra	
a- ٤	b- °	
c- Y	d- 17	
• - In the plasmodium life cycle, the fusion	of gametes takes place in	
a- human blood	b - stomach mosquito	
c- saliva of mosquito	d - red blood cells	
7- The Immune cells that can change into ph	nagocytic cells when the microbe	
spread are cells		
a- Basophils	b- Monocytes	
c- Eosinophils d- Neutrophils		
(B) Mention the site and function of each	of the following:	
(by placing the suitable letter in front o	f the numbers that fit):	
The structure:		
Y- Scrotum () Y- Interstitial cells (
£- Sertoli cells () •- Sperm ()	7- Spermatogonia cells ()	
The Sentence:		
a- Cells inside the testis It is believed that,	they have an immunization function.	
b- Cells inside the testis secret testosterone	e hormone.	
c- Diploid cells inside the testis to form of	sperms.	
d- A structure surrounds the human test to	provide a temperature lower than the	
body temperature.	•	
e- Haploid cells inside the testis, they conv	verted into sperms.	

f- Haploid cells inside the testis, they act as male gametes.

صفحة الثانية)	في ال	الأسئلة	(بقية			
· 	_٢_	•		ر تابع) (دمج)	۴۱۳۰۸ <u>اول</u>	<u>'</u>
(C) Look at the opposite drawing, the	hen	Writ	e the	6		
number in front of the appropri	iate	state	ment:		I Series	
• Centrum.	()		5		1
• The transverse processes.	()				
neural cannel.	()			MA	
 Anterior articulating process. 	()		4		
 posterior articulating process. 	()		.3—	2	
• neural spine.	()				
Question (Y):						
(A) Write the scientific term (by put	tting	g the	term nu	mber in fro	nt of the	
suitable sentence:						
The statements:						
a- It is the transferring of pollen grains	s fro	m the	e anther	of a flower to	the stigm	a
of another flower of the same plant	with	the	same spe	ecies.	()
b-A mass of small cells implanted in b	oetw	een t	he folds	of endometri	um at the	
end of the first week of pregnancy.					()
c-Glandular pancreatic cells specialize	ed fo	or the	secretio	n of hormon	es in the	
blood directly to regulate the ratio o	of the	e bloo	od sugar.		()
d-Cells secrete the hormones of the po	oster	ior lo	be of the	e pituitary gla	and. ()
e-A parasite that causes malaria diseas	se.				()
The term:						
\'-The nerve secreting cells in the h	ypot	thalaı	nus	۲- self polli	nation	
۳- morula ٤- Islands of La	inge	rhans		°- Plasmodi	um	
B) Explain the location of each of th	e fo	llowi	ng glan	ds (by placin	g the	
suitable letter in front of each sta	ıtem	ent.				
\ - Pituitary gland. () \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	mus	gland	d. ()	۳- Adrenal	gland. ()
٤- Thyroid gland. () °- Para	thyr	oid g	lands. ()		
<u>Location:</u>						
a- Above the kidneys b- below	the	brain	c- in	the front part	of the nec	k
d- On both sides of the thyroid glan	nd	e	- behind	the sternum	bone	
· · · · · · · · · · · · · · · · · · ·						

	الثة)	إبقية الأسئلة في الصفحة الث)
	-	_٣_	E۱۳۰۸ / أول (تابع) (دمج)
(C) Correct the under	<u>lined w</u>	ords:	
(put the number of the su	iitable co	oncept in front of each	statement of the following)
The statement:			
a-The Protein produced	by T su	uppressor cells (T _S) a	fter destroying the microbes
is called Histamine	. ()	
b-The substances that c	ause inf	lammation and swell	ing of infected tissues called
Interferon.	()	
c-The Proteins produce	d by the	e viral infected cells,	which is not specialized
called Perforin .	()	
d- The perforating prote	eins pro	duced by killer T cel	ls (TC) are called
Interleukins .	()	
e- The Proteins produce	ed by ac	tivated T helper cells	$s(T_H)$ are called
<u>lymphokines</u> .	()	
The Correction:			
۱ - Histamine		۲ - Interferon	۳ - Perforin
٤ - Interlokines		° - Lymphokines	

The third question:

A - Choose from column (B) what is suitable for column (A)

Column (A)	Column (B)
\'- A male gamete resulting from a mitotic	a- the acrosome.
division of gonads () 7- A female gamete resulting from a mitotic	b- gametophyte.
division of gonads ()	c- sporophyte.
r- A female gamete resulting from a meiotic division of gonads ()	d- ovum of honey bee queen.
٤- A haploid stage in ferns. () - A diploid stage in ferns. ()	e- ovum of aphid insect. f- sperm of honey bee male.

(بقية الأسئلة في الصفحة الرابعة)
٠٠٠ الله الله الله الله الله الله الله ا
(B) Mention the name of the hormone responsible for the following functions:
(Put the number in between brackets in front of the right statement)
The function:
a- converts glycogen to glucose. ()
b- converts glucose to glycogen. ()
c- is secreted from the seminiferous tubules in the testis. ()
d- is secreted from the interstitial cells in the testis. ()
e- is secreted from the cells of the stomach wall in the blood. ()
The hormone
۱- Gastrin ۲- Insulin ۳- Glucagon ٤- Sperms ٥- Androgens
(C) <u>Underline the odd (anomaly) word in each set of the following:</u>
\ - Mast cells - B cells - killer cells - T cells - Red blood cells.
7 - Testes - Prostate gland - Uterus - Cowper's glands
^r - The humerus - The radius - The ulna - The wrist - The patella.
٤ - Light chain - Heavy chain - The complement binding site - Hydrogen bond
- Antigen binding sites.
°- corpus luteum - polar body - The ovum - acrosome - Graafian follicle.
Question Four
A- Put ($\sqrt{\ }$) or sign (x) in front of the following phrases
\. The scapula is a curved bone that is bent down and connected from the back by
the centrum of the vertebra and its transvers process. ()
7. The sternum is a flat bone pointed at its lower part which is cartilaginous that
connects the ribs anteriorly. ()
The floating ribs are a pair of ribs and do not reach the sternum.
² - The acetabulum cavity is a cavity that is located at the outer edge of the
scapula bone in which the shoulder joint is settled. ()
o- The glenoid cavity is a cavity where the hip joint move and located at
the position of attachment of ilium and ischium bones. ()

B- Give reason for the following: (Put the letter of suitable answer in the front of the statement).

The statement:

- \. The Presence of girdles at the connection of the animal's limbs with its axial skeleton.
- γ- Some plants have hypersensitive response when they infected with a microbe.
- ν- The corms and bulbs are pulled down words to a suitable level under the soil surface ()
- [£]. Sporogony is considered as the best forms of asexual reproduction.
- o. Usually the human beings refuge to plant breeding.

The reasons

- \. Because of the presence of pulling roots.
- Y. Because it achieves several advantages such as quick production, tolerance to hard conditions and distribution to long distances.
- To be articulated with the limbs to facilitate the movement.
- ² to obtain plant strains resistant to diseases and insects.
- •. To prevent the spread of the microbe from infected tissues to the healthy tissues.

C) Mention the chromosomal number ($N-\Upsilon N-\Upsilon N$) for each of the following structures:

\. The endosperm tissue ()
Y - Sertoli cells ()
σ - Spermatids ()
٤- Secondary oocyte ()
o- Spermatogonia ()

Question Five:

A. What is meant by each of the following: (put the suitable letter in front of the suitable phrase)

\. Bacterial transformation. ()
Y.Chromosomal mutation. ()	
۳. DNA. ()	
٤. The genome. ()	

o. Deoxyribose sugar. ()
The meaning
a-A nucleic acid that carries the genetic information of most organisms.
b- All genes and DNA that are present in the body cell.
c- Pentose sugar get in the structure of the genetic material of the human.
d- Mutations occur as a result of changing the number and structure of
chromosomes. The phenomenon of change one of the heaterial strains into enother strain.
e- The phenomenon of change one of the bacterial strains into another strain.
B- Mention an example of each of the following: (put the suitable letter in
front of each statement).
The statement:
۱. An animal whose somatic cell contains amount of DNA ۴۰ times more than that
of the human cell. ()
7 - A plant reproduces by alternation of generations. ()
^π - Toxic chemical compounds act as plant protection materials in the form
of non-protein amino acids. ()
² . Toxic chemicals that kill or inhibit the growth of pathogens when the
plant is infected with the microbe. ()
o- An animal reproduce asexually by regeneration. ()
The Examples:
A - Cephalosporin B - Sponge C – Salamander D – Polypodium E -
Phenol
(C) What happens (nut the suitable letter in front of each statement)
(C) What happens: (put the suitable letter in front of each statement). The statement:
\(\cdot \) - Removing the thyroid glands of a baby. (\) \(\cdot - \) The tendril did not find a support. (\)
7 - Shortage of oxygen in some muscles. ()
ξ - The atrophy of the interstitial cells in the testis. ()
o- The vascular system of the plant is exposed to cut. ()
What happens:
A – leads to delay sexual maturity
B - infected with cretinism.
C - Formation of tyloses.
D-die and another new will formed.
E-fatigue occurs.