24- Red / white

27-Dominant/recessive

25- Gametes

28-Pencrease

29- Growth

30- Blood

26-One



## Under the auspices of the

## Cairo Teachers Syndicate

The Egyptian Gazette newspaper is in terested in boosting community partici pation and offering services to students through providing the strongest educa tional content in various subjects. This comes according to the latest standards of the Egyptian Ministry of Education sion of a group of





2-HgO

**Awatef Ahmed** 



	of the Egyptian Ministry	
Physics Supervisor	and under the supervis	
Fayza Kamel Abdalgaber	the best teachers.	
Question( 1)Complete the	e following :	
1) gas turbid the lin	A STATE OF THE PARTY OF THE PAR	
gas helps in burning.  2) By heating copper hydro	ovide its color	
changes from ir	109.00	
3) Sodium nitrate decomp	oses by heat into	
, whil		
decomposes into copper o trioxide gas.	xide and sulpner	
4) When sodium reacts with	th water , gas	
evolves , while gas	s evolves by heating of	
blue copper sulphate. 5) The changing of the ( Mg) into (Mg+) is		
considered process , while		
the changing of (O - ) into	(C)	
considered proces  6) When the hydrogen gas		
a hot copper oxide , copper oxide changes		
to be and is formed.		
<ol><li>The reaction of salt solutions considered as reactions.</li></ol>		
accompanied with the form		
0)		
<ol><li>In the following reaction , hydrogen gas is considered</li></ol>		
while copper oxide is cons	MOVE AND NOTES	
agent.		
" H <sub>2</sub> + Cu O	H <sub>2</sub> O + Cu "	
9) The metals is arranged of	descendingly according	
to in the chemi	ical activity series.	
10) 2Na + 2H2O → +		
11) 2AI + 6HCI → + 12) Na2CO3 + → 2NaC		
12) Na2CO3 + 7 2NaC	UI T	
-13The potential difference		
poles of the battery when called	the circuit is opened is	
14) Ammeter is symbolize	d with in the	
circuit , while voltmeter is		
15) The appealation that the		
15) The opposition that the		
16) The measuring unit of		
is		
17) The two types of the e are and	lectric resistance	
18) There are two types of	f the traits in the livings	
and		
19) The scientist h principles of heredity.	as conducted the main	
20) The pea plant is	, so it could be self	
pollinated .		
21) The life cycle of the pe 22) Pea plant can be pollin		
23) The trait appe		
generation only, while the		
second with a percentage 24) The color of the p		
dominates the flow		
25) The genetic factors is t		
generation to another thro		
26) Gametes are Carrey factor for each trait .	nereditary	
27) The symbol ( YY ) repre	esents	
the Trait while the	HOUR TO COMMON (CO.)	
( yy) represent	3.7 (-) 4. (-) - (-	
28) is a double fun 29) Gigantism is produce	NACCH 200 (100 (100 T 100 100 100 100 100 100 100 100 10	
hormone.	a as a alsoraer of the	
3) is considered to		
for the hormone to reac		
The answer		
1-carbon dioxide / oxyge	en	
2-Black / red	osmi.	
3-sodium nitrite / oxygen		
4-hydrogen / Sulphur trioxide		
5-Oxidation / reduction 6-copper / water		
7-double substitution		
8-Reduction / oxidation		
9- The degree of their chemical activity		
10-2NaOH / heat 11-2AlCl <sub>3</sub> /3H <sub>2</sub>		
12-HCI /CO <sub>2</sub> + H <sub>2</sub> O		
13-Electromotiv force		
$\circ$		

Question( 1)Complete the following :	
1) gas turbid the lime water, while gas helps in burning.	
2) By heating copper hydroxide, its color	1
changes from into	- 8
3) Sodium nitrate decomposes by heat into	- 8
and, while salt	- 3
decomposes into copper oxide and sulpher	100
trioxide gas. 4) When sodium reacts with water , gas	3
evolves, while gas evolves by heating of	
blue copper sulphate.	3
5) The changing of the ( Mg) into (Mg+) is	3
considered process , while	
the changing of (O - ) into (O) is	
considered process.	-
6) When the hydrogen gas passes on	8
a hot copper oxide , copper oxide changes to be is formed.	
7) The reaction of salt solutions together is	97.0
considered as reactions , which	Š
accompanied with the formation of	3
	3
8) In the following reaction	8
, hydrogen gas is considered as agent	
while copper oxide is considered as	- 8
agent.	3
" $H_2 + Cu O \longrightarrow H_2O + Cu$ "	
9) The metals is arranged descendingly according	3
to in the chemical activity series.	77,77
10) 2Na + 2H2O → + H2 +	1
11) 2AI + 6HCl →+	3
12) Na2CO3 + → 2NaCl + +	377
197ha managarial distriction in the control of the	
<ul> <li>-13The potential difference between the two poles of the battery when the circuit is opened is</li> </ul>	2
called	
14) Ammeter is symbolized with in the	3,575
circuit , while voltmeter is symbolized with	3
15) The opposition that the current faces during	10.00
its motion in the wires is called	3
16) The measuring unit of the electric resistance	9
is	
17) The two types of the electric resistance are and	
18) There are two types of the traits in the livings	200
and	
19) The scientist has conducted the main	g
principles of heredity.	7,5,70
20) The pea plant is, so it could be self	
pollinated .	3
21) The life cycle of the pea plant is	8
22) Pea plant can be pollinated or	
generation only, while the appears in the	
second with a percentage 25 %.	9
24) The color of the pea plant's flower	
dominates the flower color.	
25) The genetic factors is transmitted from one	3
generation to another through	
26) Gametes are Carreyhereditary	1
factor for each trait .	3
27) The symbol ( YY ) represents	0.77
the Trait while the symbol ( yy) representtrait.	
28) is a double function gland.	100
29) Gigantism is produced as a disorder of the	
hormone.	200
3)is considered the only way	3
for the hormone to reach its site of work.	
yer the normanic to reading site of them.	1
The answer	7,0
1-carbon dioxide / oxygen	
2-Black / red	
3-sodium nitrite / oxygen	
4-hydrogen / Sulphur trioxide	
5-Oxidation / reduction	30.0
6-copper / water	
7-double substitution	
8-Reduction / oxidation	3
9- The degree of their chemical activity	7.17
10-2NaOH / heat 11-2AlCl <sub>3</sub> /3H <sub>2</sub>	100
11-2AICt <sub>3</sub> /3H <sub>2</sub> 12-HCl /CO <sub>2</sub> + H <sub>2</sub> O	
13-Electromotiv force	
14 🕔	0.50
15- electric resistance	
16- Ohm	25.50
	-
17- Constant / variable 18-Dominant / recessive	

sulpher	Question( 2) Choose the correct answer
, gas	1) metal doesn't replace the hydrogen of
by heating of	the diluted acids.
1g+) is	(Magnesium – silver – zinc – iron) 2) Which of the following substances doesn't
16.713	produce black product?
	( HgO - Cu(OH)2 - CuSO4 - CuCO3 )
	3) Active metals replace the hydrogen of the
n hanges	water andproduce.
manges	(Metal oxide – metal hydroxide – metal carbonate – metal sulphate)
ether is	4) In the oxidation reduction reactions , the
iich	number of the loosed electrons are the
·	gained electrons.
	( More than – less than – equal to ) 5) When potassium reacts with diluted
agent	hydrochloric acid , hydrogen gas evolves and
	salt is formed.
	( potassium nitrate – potassium sulphate –
Cu "	potassium chloride – potassium hydroxide)  6) Oxidation and reduction are processes.
ngly according	( concurrent – separated – no correct answer )
ty series.	7- Mass of the nucleus is concentrated in the
	( energy levels – nucleus – electrons )
+	8- The source which the atom gets its tremendous energy is known as
n the two	(Nuclear energy – electric energy – heat energy)
it is opened is	9- There is force between the
	components of the nucleus.
in the	( repulsion – attraction – both are correct )
ed with	10- The French scientist is considered the discover of the radioactive phenomenon.
faces during	( Mendel – Ohm – Bequruel )
	11- The radiation that comes out from the
ric resistance	Uranium element is and has the ability
	to penetrate solids.
sistance	( visible – unseen – No correct answer)
s in the livings	12come (s) out from the radioactive element.
50 MARK 10	( rays only – particles only – both are correct)
cted the main	13- The natural sources of the radioactive
could be self	pollution is represented by
todid be self	( Cosmic radiation – nuclear reactors – no correct answer)
	14- Chernobyl accident produces the isotopes of
or	radioactive element.
e first ppears in the	( Uranium – cesium – polonium )
ppears in the	15- Bone marrow can be destroyed as a result of
s flower	exposure to amount of radiation for periods.
	(large and short – long and small – both are
ed from one	correct)
tary	16- Physical effects take place as a result of the
cary	exposure to amount of radiation.
	(Large – small – both are correct)  16- The exposure to the small amount of
	radiation resulted in a 17-cellular effects as
nares a	
nd. sorder of the	(Spleen damaging – changing in the sex chromosomes – changing in the hemoglobin
sorder of the	structure)
vay	18- It is necessary not to be exposed to a
of work.	radiation more than Sievert per year for the
	public human bodymilli sievert
	(1 - 20 - 10)
	19- The area chosen for the storing of the radioactive wastes should be
	(Unstable – away from the volcanoes – both are
	correct)
	20- Hormones are secreted from special organs
	called
	(Duct glands – ductless gland – both are correct) 21- The gland that locates under the brain is
	called
ctivity	(Thyroid – adrenal – pituitary)
	22- Calcitonin hormone is secreted from
	gland.
	(Thyroid – pancreas – testes)
	23- The hormone is secreted from the

Question( 2) Choose the correct answer	o-Nuclear energy
question(2) choose the correct answer	9- both are correct
metal doesn't replace the hydrogen of	10- Bequruel
e diluted acids.	11- unseen
1agnesium – silver – zinc – iron)	12- both are correct
Which of the following substances doesn't	13-Cosmic radiation
oduce black product?	14-Cesium
HgO – Cu(OH)2 – CuSO4 – CuCO3 )	15- large and short
Active metals replace the hydrogen of the	16- small
ater and produce.	17- changing in the hemoglobin structure
letal oxide – metal hydroxide – metal	18- 1milli sievert
rbonate – metal sulphate)	19- away from the volcanoes
In the oxidation reduction reactions, the	20- ductless gland
imber of the loosed electrons are the ined electrons.	21- pituitary
Nore than – less than – equal to )	22- Thyroid
When potassium reacts with diluted	23- Estrogen
drochloric acid , hydrogen gas evolves and	24- emergencies
salt is formed.	25- testosterone
ootassium nitrate – potassium sulphate –	
tassium chloride – potassium hydroxide)	Question(3)put ( v ) or ( × )
Oxidation and reduction are processes.	1) Chemical energy can be changed into
oncurrent – separated – no correct answer )	electric energy through the electric
Mass of the nucleus is concentrated in the	generators. ( )
	2) The electric current that resulted from t
nergy levels – nucleus – electrons )	electrochemical cells is known as alternati
The source which the atom gets its	current. ( )
emendous energy is known as	3) In dynamo, the mechanical energy is
luclear energy – electric energy – heat energy )	converted into electric energy. ( )
There is force between the	4) From the advantages of the A.C is its
mponents of the nucleus. epulsion – attraction – both are correct )	ability to be converted into D.C ( )
- The French scientist is considered	5) A.C is resulted from waterfalls. ( )
e discover of the radioactive phenomenon.	6) Electrons flow in the D.C in two different
Mendel – Ohm – Beguruel )	directions. ( )
- The radiation that comes out from the	7) D.C is used in the lightning of the streets a electroplating. ( )
anium element is and has the ability	electroplating. ( ) 8) The electric cells are connected in the
penetrate solids.	circuit is series only. ( )
isible – unseen – No correct answer)	9) The E.M.F of a battery increases when the
come (s) out from the radioactive	cells are connected in series . ( )
ement.	10) The negative pole is connected with
ays only – particles only – both are correct)	another negative in series connection. ( )
- The natural sources of the radioactive	11) The E.M.F of a battery which their cells a
llution is represented by	connected in series is calculated from the
osmic radiation – nuclear reactors – no correct	relation (e.m.f of one cell × N). ( )
swer)	
- Chernobyl accident produces the isotopes of radioactive element.	The answer
Iranium – cesium – polonium )	1- (X)
- Bone marrow can be destroyed as a result of	2- (X)
posure to amount of radiation for	3- (√)
periods.	4- (√)
rge and short – long and small – both are	5- (X)
rrect)	6- (X)
- Physical effects take place as a result of the	7- (X)
posure to amount of radiation.	8- (X)
arge – small – both are correct)	9- (√)
- The exposure to the small amount of	10- (X)
diation resulted in a 17-cellular effects as	10- (X) 11- (√)
pleen damaging – changing in the sex	Question(4): Give reason for:
romosomes – changing in the hemoglobin	Question(4): Give reason for:
ructure) - It is necessary not to be exposed to a	1) Endocrine glands are called ductless.
disting more than	2) Pituitary gland is called "the master gland"

3-Metal hydroxide 4-equal to 5-Potassium chloride 6- Concurrent 7- Nucleus 8-Nuclear energy the

2) Pituitary gland is called "the master gland". 3) Pancreas is a double function gland. 4-The recessive trait is always pure. 5-Mendel let the pea plant self-pollinate for several generations. 6) Uranium is one of the radioactive elements.

than direct current 9) The rheostat is used in electric circuit . 10) Some celle connected in the electric circuit in series .

8) Alternating current is preferable in using

7) Radiation has genetic effects.

The answer:

1- Because they secrete their hormones directly in the blood without passing through ducts. 2- Because it secretes hormones regulates the

activities of most other endocrine glands.

3-Because the pancreas secretes the insulin

hormone and glucagon hormone and the function of each hormone contradicts the function of the other hormone. 4- Because it doesn't appear unless the two genes of recessive trait aggregate. 5- To be sure the purity of the trait. 6- Because its nucleus contain a number of neutrons more than the number required for its 7- because radiation causes change in the six chromosomes composition for living organisms which produce abnormal birth.

8- because it can be transferred for along distance through wires and can be change into direct current.

9- To control the electric current intensity and the potential difference in the different parts of

10- To obtain a battery , the e.m.f. of it is high

## Question(5)Problems

1-An electric appliance works with a potential difference 220 volts and electric resistance 20 Ohm. Calculate the current intensity and the amount of electric charges through 5 seconds.

q= 1 x time = 11 x 5= 55 column

2- Calculate the amount of charges that flow through a wire if the electric intensity equals 6 amperes through 3 seconds.

The answer

 $q=1 \times time = 6 \times 3 = 18 \text{ column}$ 

3- Calculate the work done to transfer electric charge is 50 coulomb if the p.d between two terminals of the wire = 12 volts. The answer

 $W = V \times q = 12 \times 50 = 600$  joule

4- Calculate the time of transferring of electric charges = 10 coulombs in an electric circuit if the current intensity = 5 amperes.

## The answer:

 $t = \frac{q}{r} = \frac{10}{s}$  2 second

Question: Show by drawing only: 1) The connection of 3 cells each of 1.5 volts to get an e.m.f with:

a. 1.5 volt b. 3 volt c. 4.5 volt The answer

To get battery 1.5 volt we connect the cells in parallel way



The e.m.f of the battery = 1.5 volt

To get battery 4.5 volt we connect the cells in series

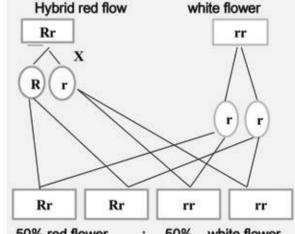
The e.m.f =  $1.5 \times 3 = 4.5 \text{ volt}$ 



To get battery 3 volt we connect 2 cells in series

And one in parallel The e.m.f =  $1.5 \times 2 = 3$  volt

...... 2- Using symbols to express the results of mating between Hybrid red flower pea plant (Rr ) and white flower pea plant (rr)



50% red flower 50% white flower : 1

22-selfe- pollination / mixed - pollination

18-Dominant / recessive

23- Dominant / recessive

19- Mendel

21-Short

20-Bisexuale

(Estrogen - testosterone - insulin)

the case of .....

- growth)

The answer

testes.

1- silver

24- Adrenaline is a hormone that is secreted in

(Increase of the sugar percentage - emergencies

25- The ...... hormone is secreted from the

(Adrenaline - testosterone- Estrogen )

stability.