28 November 2017

١٤٣٩.. النصف الدراسي الاول .. دفعة ١٨.. الدوري الثاني

د. جمال الشعراوي

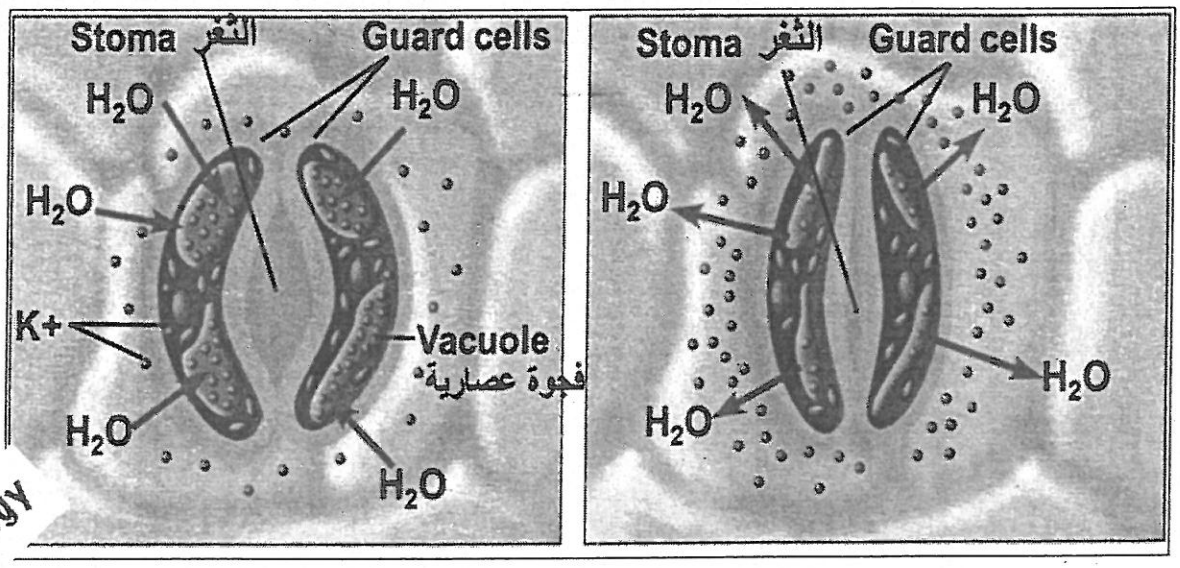
جامعة الملك عبد العزيز

جزء ٢

Chapter (8):- Nutrition

٦ ورقات

Biology Biology Biology Biology Biology



Biology

28 November 2017

1. _____ is example of organic molecule produced by plants

- phosphorus
- Carbon dioxide
- lipids
- Nitrogen

2. The inorganic molecule taken up by plants include _____

- Carbon dioxide
- carbohydrates
- lipids
- Nucleic acids

3. The macronutrients are _____

- elements that make up 2% of plant dry weight
- elements that required in relatively small amounts by plants
- elements that make up 98% of plant dry weight
- often act as cofactors

4. The micronutrients are _____

- Elements that make up 98% of plant dry weight
- Elements that required in relatively large amounts by plants
- components of organic molecules
- elements that required in relatively small amounts by plants

5. The conversion of N2 to ammonia is called _____

- ammonification
- nitrification
- Carboxylation
- nitrogen fixation

6. The conversion of organic matter into ammonium is called _____

- nitrogen fixation
- nitrification
- Carboxylation
- ammonification

7. The conversion of ammonium into nitrates is called _____

- ammonification
- nitrification
- Carboxylation
- nitrogen fixation

8. **Nitrogen fixation** is the conversion of _____

- N2 to ammonia
- organic matter into nitrates
- organic matter into ammonium
- ammonium to nitrates

9. **Ammonification** is the conversion of _____

- N2 to ammonia
- organic matter into nitrates
- organic matter into ammonium
- ammonium to nitrates

10. **Nitrification** is the conversion of _____

- N2 to ammonia
- organic matter into nitrates
- organic matter into ammonium
- ammonium to nitrates

11. **Epiphytes** النباتات المعلقة

- Grow in soil
- grow anchored on other plants
- absorb organic molecules from other plant
- Trap and digest small animals

ملخص

12. **Parasites** النباتات المتطفلة

- found in nutrient poor environments
- absorb organic molecules from host plant
- absorb inorganic elements from prey
- grow anchored on other plants

ملخص

13. **Carnivorous plants** النباتات آكلة اللحوم

- Trap and digest small animals such as insects
- Grow anchored on other plants
- Roots tap into the host plants vascular system
- Absorb organic molecules from host plant

ملخص

14. **Parasites are incapable of photosynthesis therefore absorb _____ molecules from host plant.**

- Soluble
- Inorganic
- ✓ Organic
- Macromolecules

15. **In intracellular route _____**

- ✓ Water and solutes are selectively taken up by a root epidermal cell, usually a root hair
- ✗ Water and solutes do not enter any cell plasma membrane until they reach root endodermis
- ✗ The Casparian strip regulates uptake of minerals that enter the root
- ✗ water and solutes pass into the root in the porous cell walls of root cells

16. **In the extracellular route _____**

- ✗ water and solutes are selectively taken up by a root epidermal cell, usually a root hair
- ✓ water and solutes pass into the root in the porous cell walls of root cells
- ✗ Casparian strip plays no role in uptake of water
- ✗ water transported from cell to cell through plasmodesmata

17. **A sugar source is a plant organ that _____**

- ✓ is a net producer of sugar via photosynthesis
- store the starch
- store glucose
- is a net consumer of sugar

✓ breakdown the starch

18. **A sugar sink is a plant organ that _____**

- ✓ is a net consumer of sugar
- breakdown glycogen
- is a net producer of sugar via photosynthesis

✓ store the starch

19. **The A horizon soil is _____**

- ✓ layer contains humus (decayed organic matter)
- layer contains dissolved elements
- layer contains clay
- layer contains rocks

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20. **The B horizon soil is** _____

- topsoil subject to weathering
- layer contains dissolved elements
- layer contains humus (decayed organic matter)
- layer contains many soil organisms

21. **The C horizon soil is** _____

- topsoil subject to weathering
- layer contains rocks
- layer contains clay
- layer contains many soil organisms

22. **Stomata open** _____ فتح الثغور

- when guard cells take up water
- when potassium levels fall.
- as a result of a rise in CO2
- at night time

23. **Stomata close** _____ غلق الثغور

- when potassium levels fall.
- as a result of a rise in potassium
- at day time
- when guard cells take up water

24. **Plants can only absorb nitrogen as ammonium or nitrates from the soil, they cannot absorb it from** _____

A) Solutes B) Air

C) Concentrate D) Water

25. **Plant can only absorb nitrogen in the form of** _____

A) Ammonium B) Nitrates

C) Nitrogen gas D) A and b are correct.

26. Soil _____ can convert nitrogen gas from the air into a from usable by plants via several process.

A) Macroorganisms B) Fungi

C) Amoebes D) Bacteria

27. Parasites send their roots to tap the vascular system of _____ plants.

A) Adjacent B) alternate

C) Host D) small

28. Parasites their roots tap the _____ system of host plants.

A) cambium B) xylem

C) vascular D) phloem

29. Carnivores plants absorb inorganic element from _____ and they are abundant in nutrient-poor environment.

A) Arthropods B) host

C) Parasite D) Prey

30. _____ plants trap and digest small animals such as insects.

A) Parasite B) Carniovers

C) Epiphytes D) Predators

31. Plant parasites are incapable of _____ Therefore absorb organic molecules from host plants.

A) Breathing. B) Photosynthesis.

C) Absorbing water. D) Cellular respiration.

32. Casparian strip regulates uptake of _____ that enter the root via extracellular route.

A) water B) minerals

C) acids D) bases

33. The plant cells of endodermis contain a waxy barrier called the __ strip

A) Soluble B) permeable

C) Casparian D) Tough

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34. The plant cells of __ contain a waxy barrier called Casparian strip.

A) Endodermis
B) Epidermis
C) Hypodermis
D) Outer wall

35. The plant cells of Endodermis contain a waxy _____ called casparian strip.

A) polymer
B) barrier
C) monomer
D) solution

36. Roots and other _____ organs in plants produces sugar via breakdown of starch

A) Transporting
B) functional
C) Respiratory
D) storage

37. Sugar source Roots and other storage organs produce sugar via _____ of starch.

A) Transporting
B) storage
C) Breakdown
D) photosynthesizing

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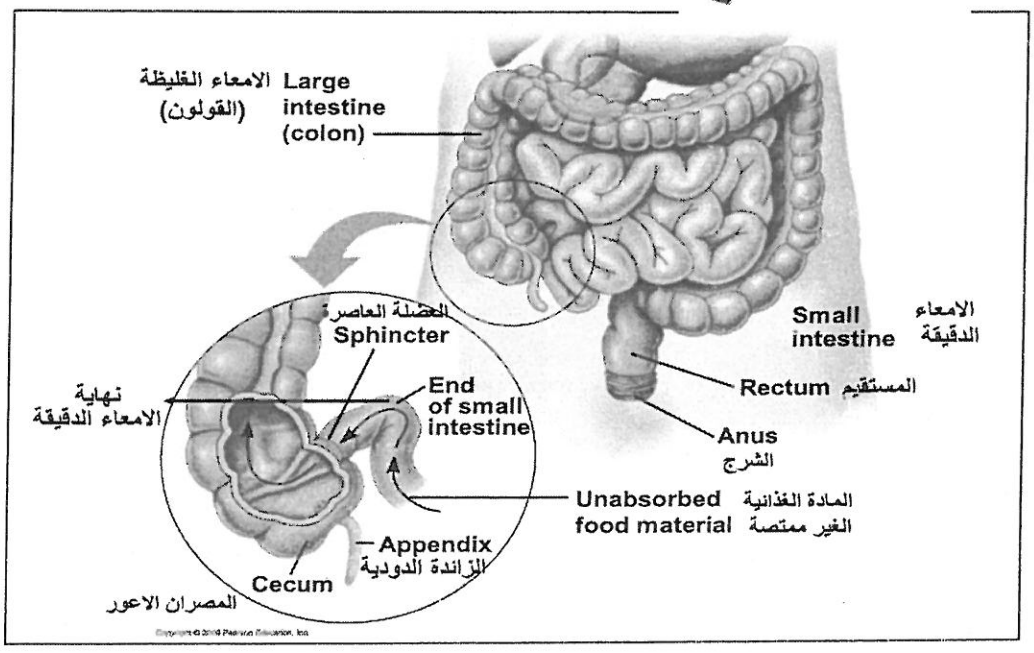
١٤٣٩.. النصف الدراسي الاول .. دفعة ١٨.. الدوري الثاني

د. جمال الشعراوي

جزء ١

Chapter (8):- Nutrition

٨ ورقات



1. **Nutrition** _____ (التغذية)

- ✓ Includes nutrients interaction
- ✗ Is breaking down of foods into smaller pieces
- ✗ Is hydrolysis of large organic molecules into their components
- ✗ Is enzymatic breaks down of large organic molecules into their components

ملخص

2. **Substances that we must have in our diets in order for our cells to function properly include** _____ (يجب أن نحصل عليها بانتظام)

- Carbon dioxide
- ✓ Carbohydrates
- Carbon monoxide
- Aflatoxins

ملخص

3. **HDL cholesterol** _____ (الجيد)

- ✓ Its level increases by exercise
- Contributes to higher blood pressure
- Contributes to blocked blood vessels
- Is harmful to our bodies

ملخص

4. **LDL cholesterol** _____ (الضار)

- Tends to reduce blocked blood vessels
- Its level increases by exercise
- its level decreases by smoking
- ✓ contributes to blocked blood vessels

ملخص

5. _____ **is (are) member(s) of kinds of diets** (أنواع الغذاء)

- Hydrolysis
- disaccharide
- Cellulose
- ✓ Carnivores (آكلة لحوم)

- ✓ *Herbivores*
- ✓ *Omnivores*

6. **Herbivores** _____ (آكلة الأعشاب)

- one Example of them is roaches
- one Example of them is hawk
- one Example of them is spider
- ✓ one Example of them is snail

- ✓ *plant-eaters*
- ✓ *cattle*
- ✓ *sea urchins*

7. **Carnivores** _____ آكلة اللحوم

- One Example of them is snail
- One Example of them is cattle
- Are plant-eaters
- ✓ Oone Example of them is spider

8. **Omnivores** _____ آكلة اللحوم والنبات

- One Example of them is hawk
- ✓ Eat both plants and other animals
- Are meat-eaters
- One Example of them is spider

9. **The first stage of food processing is** _____ عمليات الطعام

- Digestion
- Ingestion
- Elimination
- Absorption

10. **The second stage of food processing is** _____

- Digestion
- ✓ Ingestion
- Elimination
- Absorption

11. **The third stage of food processing is** _____

- ✓ Absorption
- Digestion
- Ingestion
- Elimination

12. **The fourth stage of food processing is** _____

- Absorption
- Digestion
- Ingestion
- ✓ Elimination

13. **The Ingestion is the** _____ **stage of food processing.**

- second
- third
- fourth
- ✓ First

14. The Digestion is the _____stage of food processing.

- second
- third
- fourth
- First

15. The absorption is the _____stage of food processing.

- second
- third
- fourth
- First

16. The Elimination is the _____stage of food processing.

- second
- third
- fourth
- First

17. A tube worms obtain and ingest their food by _____

- Bulk feeding
- Substrate feeding
- Fluid feeding
- Suspension feeding

18. A caterpillars obtain and ingest their food by _____

- Suspension feeding
- Bulk feeding
- Fluid feeding
- Substrate feeding

19. Mosquitos obtain and ingest their food by _____

- Suspension feeding
- Bulk feeding
- Fluid feeding
- Substrate feeding

20. Grey heron obtain and ingest their food by _____

- Suspension feeding
- Bulk feeding
- Fluid feeding
- Substrate feeding

21. A _____obtain and ingest their food by Suspension feeding

- grey heron
- mosquito
- caterpillar
- tube worms

22. A _____ obtain and ingest their food by Substrate feeding

- tube worm
- caterpillar
- mosquitos
- grey heron

23. A _____ obtain and ingest their food by Fluid feeding

- tube worm
- caterpillar
- mosquitos
- grey heron

24. A _____ obtain and ingest their food by Bulk feeding

- mosquito
- caterpillar
- grey herons
- tube worm

25. The chewing and mixing of food occurs in the _____

- Esophagus
- Mouth and stomach
- Large intestine
- Small intestine

26. The Polysaccarides is broken down _____ digesting enzymes into _____

- Glycerol and Fatty acids
- Monosaccharides
- Amino acids
- Nucleotides

27. The Disaccharide is broken down by _____ digesting enzymes into _____

- Glycerol and Fatty acids
- Monosaccharides
- Amino acids
- Nucleotides

28. The protein is broken down by _____ digesting enzymes into _____

- Glycerol and Fatty acids
- Monosaccharides
- Amino acids
- Nucleotides

29. The Nucleic acids is broken down by _____ digesting enzymes into _____

- Glycerol and Fatty acids
- Monosaccharides
- Amino acids
- Nucleotides

30. The Fat is broken down by protein digesting enzymes into _____

- Glycerol and Fatty acids
- Monosaccharides
- Amino acids
- Nucleotides

31. The _____is broken down by enzymes into Monosaccharides

- Nucleic acid
- protein
- Disaccharide
- Fat

32. The _____is broken down by enzymes into Monosaccharides.

- Nucleic acid
- protein
- Polysaccharide
- Fat

33. The _____is broken down by enzymes into Amino acids.

- Nucleic acid
- protein
- Disaccharide
- Fat

34. The _____ is broken down by enzymes into Nucleotides

- Nucleic acid
- protein
- Disaccharide
- Fat

35. The _____is broken down by enzymes into Glycerol and Fatty acids.

- Nucleic acid
- protein
- Disaccharide
- Fat

الغدة اللعابية

37. The function of salivary glands is the production of_____

- Salivary amylase
- Trypsin
- Lipases
- Pancreatic amylase

38. The enzyme present in saliva and acts on _____

- minerals
- fats
- polysaccharides (starch)
- fats and proteins

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39. Salivary amylase begins the hydrolysis of_____.

(A) Starch (B) Protein

(C) Fats (D) Carbohydrates

40. The function of pancreas is the production of_____

- Nucleases
- bile and bile salts
- salivary amylase
- Pepsin

41. Which of the followings is a function of the liver?

- Get rid of toxins
- Produce trypsin
- Salivary amylase
- Produce chymotrypsin

42. The ____tastes, shapes the bolus of food, and moves it toward pharynx.

- Gland duct
- Salivary glands
- Teeth
- Tongue

43. The _____serves to transport food from mouth to stomach.

- small intestine
- Esophagus
- pyloric sphincter
- appendix

44. _____act as valves to regulate passage of food into and out of digestive chambers

- appendix
- small intestine
- Sphincters
- pyloric sphincter

45. The _____sphincter limits the upward movement (reflux) of acids into esophagus

- voluntary
- cardiac
- strong
- pyloric

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46. The _____ regulates the passage of food from stomach to the small intestine

- pyloric sphincter
- small intestine
- esophagus
- stomach

47. The parietal cells in the _____ produce Acid HCl PH 2

- Sphincters
- small intestine
- Stomach
- esophagus

48. The cheif cells in the _____ produce Pepsinogen (inactive).

- Sphincters
- small intestine
- Stomach
- esophagus

49. The _____ is the major organ of chemical digestion and nutrient absorption والامتصاص

- pyloric sphincter
- stomach
- Sphincters
- small intestine

50. _____ reclaims water and compacts feces تجفيف تضغط

- esophagus
- appendix
- large intestine
- small intestine

✓ Colon

51. _____ bacteria produce vitamins (biotin, vitamin K & B vitamins

- esophagus
- appendix
- Colon
- small intestine

52. The _____ makes a minor contribution to immunity. قليل ضئيل

- esophagus
- appendix
- stomach
- small intestine

53. Which of these is a fat-soluble vitamin?

A) Vitamin B6
✓ B) vitamin k
C) biotin
D) Vitamin B12

ADEK

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54. **Which of these is water -soluble vitamin?**

A) Vitamin A
B) vitamin k
C) Vitamin D
D) Vitamin B12 (or Vitamin C)

55. **Excess water-soluble vitamins can be eliminated in _____**

A) sweating
B) urine
C) respiration
D) feces

56. **Excess _____vitamins accumulate to dangerous levels in body fat**

A) water - soluble
B) acetone-soluble
C) fat - soluble.
D) hydroxide-soluble

57. **_____digestion is first phase of digestion and means breakdown food particles into smaller pieces**

A) Mechanical
B) Substrate
C) Chemical
D) Diffusion

58. **_____digestion is second phase of of digestion and involves process called hydrolysis**

A) Mechanical
B) Substrate
C) Chemical
D) Diffusion

59. **Mechanical and chemical digestion begins in the_____**

A) tongue
B) pharynx
C) oral cavity = mouth
D) esophagus

60. **Pepsin begins the chemical digestion of _____**

A) starch
B) lipids
C) proteins.
D) nucleic acid

61. **In stomach pepsinogen and HCl produce _____**

A) Basic solution
B) Pepsin.
C) Amylase
D) Alkanase

62. **The bile salts that are made in liver emulsify _____to yield fat droplets.**

A) Protein
B) fat
C) Carbohydrates
D) cellulose

2 December 2017

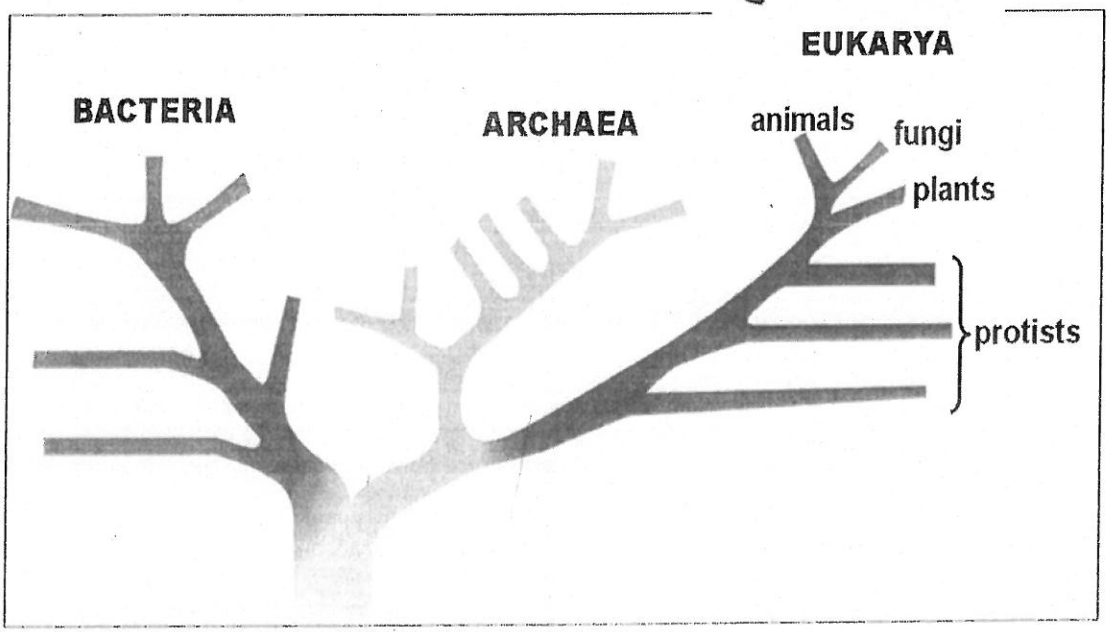
١٤٣٩.. النصف الدراسي الاول .. دفعة ١٨.. الدوري الثاني

د. جمال الشعراوي

(جامعة الملك عبدالعزيز)

Chapter (7):- Biodiversity (التنوع الحيوي)

⑦ ورقات



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1. **The correct scientific name of humans is** _____

- ✗ Homo Sapiens
- ✗ *homo sapiens*
- ✓ Homo sapiens
- ✗ *homo Sapiens*

✓ *Homo sapiens*

2. **The scientific name of an organism is formed of** _____

- ✓ the genus and the species
- ✗ the species only.
- ✗ the genus only.
- ✗ the family and the genus

3. **Organisms are placed into categories on basis of the major categories arranged as?**

- ✗ kingdom, phylum, domain, class, order, , family, genus, species
- ✓ domain, kingdom, phylum, class, order, family, genus, species.
- ✗ phylum, kingdom, class, order, genus, family, species, domain
- ✗ domain, phylum, class , order , family ,kingdom, genus, species.

4. **Which of the following is a domain of life?**

- ✗ animal
- ✗ plant
- ✗ human
- ✓ Archaea

✓ *Bacteria*
✓ *Eukarya*

5. **Which of the following is not domain of life?**

- bacteria
- archaea
- eurkarya.
- ✓ fungi.

6. **The three main domains in life are** _____

- ✗ Bacteria, algae, and fungi
- ✗ green plants, Archaea, and Eurkarya
- ✓ Bacteria, Archaea, and Eurkarya
- ✗ Bacteria, lichens, and Eurkarya

7. **Domain Eukarya includes ________**

- Archaea
- Protists
- Bacteria
- Viruses

✓ *Plants*
✓ *Fungi*
✓ *animal*

8. **________ are kingdoms among the Eukarya.**

- Archaea
- Protists
- Bacteria
- Viruses

✓ *Plants*
✓ *Fungi*
✓ *animal*

9. **Prokaryotes ________**

- Are kingdoms among the Eukarya
- Include fungi
- Are Earths predominant form of life
- Include Plants

ملخص

10. **Most prokaryote reproduce by ________**

- by binary fission
- asexually
- Sexually
- A and B are correct.

11. **Endospore ________**

- are very active
- forms within fungi
- are not protective
- are protective

ملخص

12. **Many Prokaryotes play important roles in animal nutrition ________**

- can digest protein
- can synthesize RNA in human intestine
- can synthesize DNA in human intestine
- can synthesize nutrients in human intestine

ملخص

13. **Some bacteria are dangerous to human as _______** البكتريا الخطيرة

- botulinum that causes botulism
- produce vitamins x
- can digest cellulose x
- consume nutrients x

ملخص

14.

15. **Prokaryotic that live in extreme salt condition are known as______** البدائيات تعيش ملح

- x Thermophile محبه للحرارة
- x Neutripiles
- x Basophiles
- Halophiles محبه للملح

16. **_____are prokaryotic organisms that live in hot springs at temperature up to 110 c**

- x Halophiles
- Thermophiles ← محبه للحرارة
- x Nettrophiles
- x Acidophiles

17. **Heat - loving archaea is called______** محبه للحرارة

- Halopiles
- Thermophiles
- Nettrophiles
- Acidophiles

18. **Salt - loving archaea is called_____** محبه للملح

- Halophiles
- Thermophiles
- Nettrophiles
- Acidophiles

19. **Protists are _______** (الأوليات)

- eukaryotes that are animals x
- eukaryotes that are not animals
- eukaryotes that are plants x
- eukaryotes that are fungi x

> ✓ *eukaryotes that are not fungi*
> ✓ *eukaryotes that are not plants*

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20. **Protists are** _____ (الأوليات)

- ✓ small
- ✗ non parasitic ← ليست متطفلة
- ✗ large
- ✗ belongs to Domain Prokarya

21. _____ **are examples of Protists**

- ✗ Archaea مثال على الأوليات
- ✓ Ciliates ← الهدبيات
- ✗ Bacteria
- ✗ Prokaryotes

تمثيليات السوطيات الحويصلات

- ✓ Alveolates (Dinoflagellates)
- ✓ Green algae. الطحلب الأخضر
- ✓ Brown algae. " البني

22. **Plants have** _____ (النبات)

- ✗ a waxy cuticle that covers the surface of roots and flower
- ✓ reproduction features alternation of generations.
- ✗ asexual reproduction
- ✗ no waxy cuticle

23. **Nonvascular plant** _____ (النبات اللاوعائي)

- ✗ requires swimming sperm and water for reproduction سباح يحتاج
- ✗ can grow taller.
- ✗ includes the seed plants.
- ✓ has limited body size ← جسم محدود

24. **Vascular plant** _____ (النبات الوعائي)

- ✗ have rhizoids ← شبه جذور
- ✗ include liverworts. ← non Vascular
- ✗ has limited Body size
- ✓ includes seedless plants.

25. **Fungi have distinctive adaptation such as** _____

الفطريات

- X not digest both lignin and cellulose
- X photosynthesis
- X not cause plant diseases
- ✓ feeding on dead organisms

26. **Animals have many characteres as they** _____

الحيوانات

- X have cells with cell wall. ← جدار الخلية
- X reproduce asexually. ← لاجنسي
- ✓ are multicellular.
- X do not react to external stimuli

27. **Chordates have many features of these are** _____

الحبليات

- ✓ pharyngeal gill slits ← فتحات خيشومية بلعومية
- X adults emerge from the pupa
- X have an exoskeleton
- X reproduce by budding

28. **Sponges** _____ ← (الاسفنج)

- X are colonies of multi-celled organisms.
- X have a complicated body plan. ← جسم معقد
- X have sexual Reproduction only.
- ✓ lack tissues. ← يفتقرالى الانسجة

29. **Amphibians possess many features such as:** _____

البرمائيات

- X They have a four-chambered heart. رباعي الغرف
- X Lungs are powerful developed. كفاءة الرئة
- ✓ They reproduce in water.
- X They live in land

30. **Arthropods include** _____ (مفصليات الارجل)

- Mammals.
- Arachnids. ← (العنكبيات)
- Reptiles.
- Sponges.

الحشرات الطائرة ← ✓ Insects.
القشريات ← ✓ Crustaceans

31. **Mammals** _____ (الثدييات)

- in most of them, fur protects and insulates the warm body (فرو)
- in most of them, scales protects and insulates the warm body (حراشف)
- are divided into two groups: monotremes, and marsupials
- are divided into two groups: monotremes, and placentals

ملخص

32. **Which of the following animals not mammals?** ← ليس من الثدييات

- Lizard (الحالي)
- man
- Bat
- whale

33. **The first part in binomial name is** _____

A) Species B) genus

C) order D) Class

34. **The second part of the binomial name is** _____

A) species. B) genus.

C) order. D) Class.

35. **Pathogenic bacteria** (تفرز) **secrete** _____ **that cause disease to human.**

A) Toxins (سموم) (البكتريا المرضة)

B) Hormones

C) Enzymes

D) Carbohydrates

36. _____ **is the use of prokaryotes and other organism's metabolism to remove pollutants.** ← تزيل الملوثات

A) Nitrogen fixation B) Decomposition

C) bioremediation (معالجة حيوية)

D) bio-composting

37. The bacterium that cause anthrax can be used as _____

A) Industrial bacteria B) antibiotic producer

C) vitamin producer D) Biological weapon

38. Which of the following is seedless vascular plant?

A) club mosses. B) foraminiferans.

C) hornworts. D) slime molds.

- ✓ Ferns
- ✓ horse tail

39. The seedless vascular plants propagate by _____

A) spores. B) seeds.

C) budding D) binary fission.

40. The arachnids include _____

(A) Spiders (B) Ticks

(C) Scorpions (D) all of the above

- ✓ Mites

41. _____ are the only flying invertebrates.

A) arachinids B) crustaceans

C) insects D) birds

42. Reptiles include _____

(A) Lizards (B) Snakes

(C) turtles (D) All of the above

- ✓ Alligators
- ✓ crocodiles

43. Which of the following organisms is a marsupial?

A) echidna B) kangaroo (walabye)

C) whale D) monkey

44. In many marsupial species, post birth development takes place in a ___

A) Uterus B) Bladder

C) Internal sac D) Protective pouch

3 December 2017

١٤٣٩.. النصف الدراسي الاول .. دفعة ١٨.. الدوري الثاني

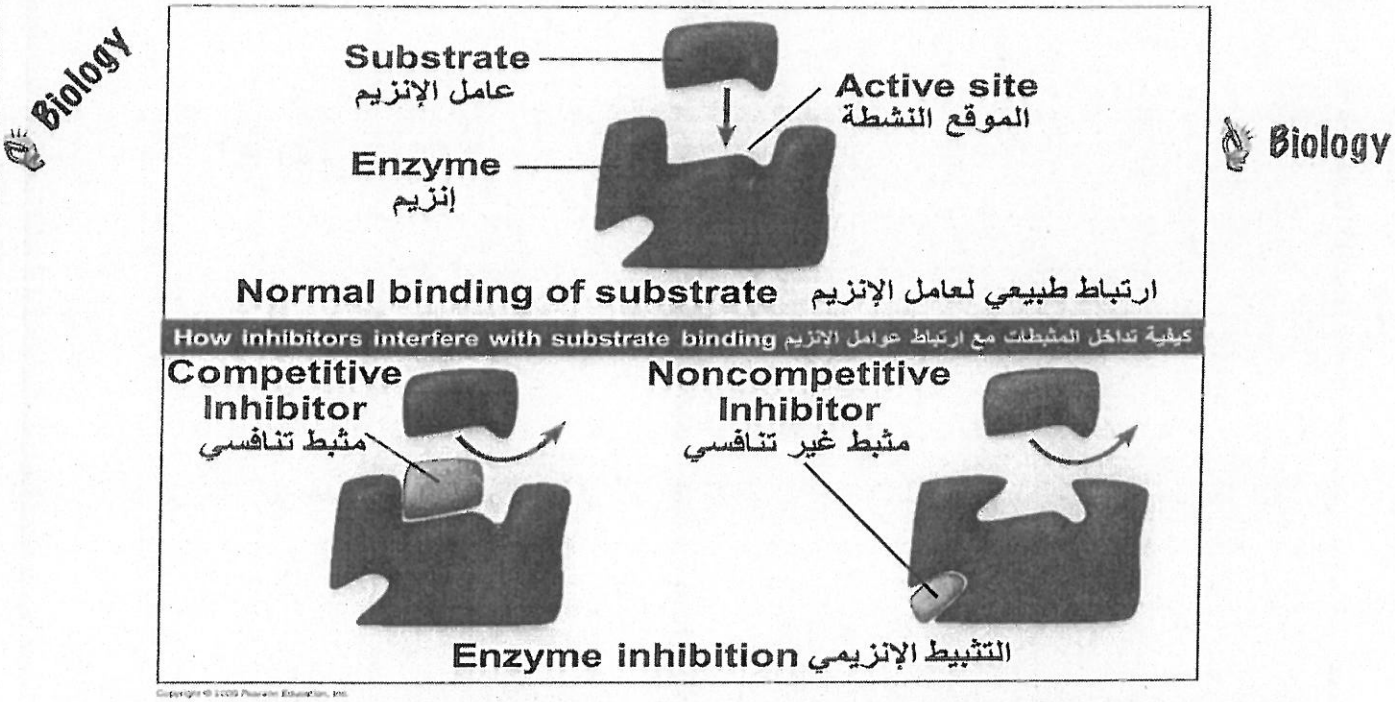
د. جمال الشعراوي

ورقم (١٩)

جامعة الملك عبدالعزيز

جزء ١

Chapter (6):- Bioenergetics



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1. **Membrane** is made of _____ الغشاء

- Phospholipids and proteins and carbohydrate.
- phospholipids and proteins alone. فقط
- proteins and carbohydrate alone. فقط
- phospholipids alone. فقط

2. **Cell Membrane** is made of _____ الغشاء الخلوي

- Phospholipids and proteins
- Proteins alone
- phospholipids alone
- carbohydrates alone

3. The **Cell Membranes** are made of _____ الغشاء الخلوي

- four layers of phospholipids
- one layer of phospholipids
- three layers of phospholipids
- two layers of phospholipids

4. The **Tail** of **phospholipids** is _____ الذيل

- Hydrophilic
- Hydrophobic
- neutral
- amphipathic

5. The **head** of **phospholipids** is _____ الرأس

- Hydrophilic
- Hydrophobic
- neutral
- amphipathic

6. **Which of the following is a function of plasma Membrane?**

- Transport نقل وظيفة الغشاء البلازمي
- Replication
- Translation
- Transcription

ملخص

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7. **Plasma Membrane** is _____ الغشاء البلازمي

✓ *Selectively permeabile* نفاذية إختيارية

- Bind cells together
- non-permeabile ✗
- extra-permeabile ✗
- made of cellulose ✗

8. **Nonpolar hydrophobic molecules** _____ الجزيئات الفيزيائية

- need carrier to pass through the cell membrane
- do not pass through the cell membrane easily
- ✓ can pass through the cell membrane easily
- can pass through the cell membrane with difficulty

9. **Polar hydrophilic molecules** _____ الجزيئات للمائية

- do not need carrier to pass through the cell membrane
- ✓ do not pass through the cell membrane easily
- can pass through the cell membrane easily
- can pass through the cell membrane with difficulty

✓ *need carrier to pass through the cell membrane* يحتاج ناقل

10. **In a sugar solution, the sugar is considered to be** _____

- Solute محلول السكر مذاب
- the solvent
- the solution
- particles

11. **In a sugar solution, the water is considered to be** _____

- Solute محلول السكر
- the solvent الماء مذيب
- the solution
- particles

12. **Passive transport across cell membranes** _____ (النقل الغير نشط)

- Requires energy
- Goes from low concentration to high concentration
- Require ATP
- ✓ Does not require energy

ملخص

3 December 2017

13. **Active transport** across cell membranes _____ (= **Facilitated Active**)

- Does not require ATP
- ✓ requires energy
- does not require energy
- goes from high concentration to low concentration

14. **Facilitated Passive transport** _____

- ✓ Goes from high concentration to low concentration
- Requires ATP
- does not require carrier
- Requires energy

15. **Diffusion of water across a membrane is knowon as** _____

- ✓ Osmosis
- Pinocytosis
- Phagocytosis
- exocytosis

16. **Osmosis is** _____

- ✓ The diffusion of water across a membrane
- the diffusion of big stuff across a membrane
- ✗ the diffusion of suspended materials across a membrane
- ✗ The diffusion of solutes across a membrane

17. **The processing of Moving Big Stuff outside the cell is called** _____

- ✓ Exocytosis
- Endocytosis
- Pinocytosis
- ✗ Receptor-mediated endocytosis

18. **The processing of Moving Big Stuff inside the cell is called** _____

- ✓ Endocytosis
- Exocytosis
- ✗ Phagocytosis
- ✗ Receptor-mediated

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19. ___ **indicates that the concentration of solute is higher outside the cell.**

- Hypertonic
- Hypotonic
- Hypertension
- Isotonic

20. ___ **indicates that the concentration of a solute is the same on both sides**

- Isotonic
- Hypertonic
- Hypotonic
- Hypertension

21. _____ **indicates a higher concentration of solute inside the cell**

- Hypotonic
- Isotonic
- Hypertension
- Hypertonic

22. **Hypertonic** _____

- indicates that the concentration of solute is higher outside the cell
- indicates that the concentration of a solute is the same on both sides
- indicates a higher concentration of solute inside the cell
- is not related to solute concentration

23. **Isotonic** _____

- Indicates that the concentration of a solute is the same on both sides
- Indicates that the concentration of solute is higher outside the cell
- Is not related to solute concentration
- Indicates a higher concentration of solute inside the cell

24. **Hypotonic** _____

- Indicates a higher concentration of solute inside the cell
- indicates that the concentration of solute is higher outside the cell
- is not related to solute concentration
- indicates that the concentration of a solute is the same on both sides

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25. A plant cell in a hypotonic (or distilled water) solution will be _____

- Turgid
- Lysed
- Flaccid
- Shriveled (plasmolysed)

26. A plant cell in a hypertonic (or sea water) solution will be _____

- Turgid
- Lysed
- Flaccid
- Shriveled (plasmolysed)

27. Animal cell (or Red blood cell) placed in hypotonic solution (or distilled water) will _____

- Die
- Lose water
- Survive
- Take on water

✓ Lysed
✓ burst

28. Placing Animal cell (or Red Blood Cell) in hypertonic (or sea water) will cause the cell to _____

- Shrink (shriveled)
- Lysed
- burst
- none of the above

29. A plant cell immersed in an isotonic solution will become _____

- Turgid
- flaccid
- lysed
- normal

30. Animal cell if placed in _____ solution, will shriveled.

- Hypertonic
- Hypotonic
- Isotonic

31. Animal cell if placed in _____ solution, will lysed (burst).

- Hypertonic
- Hypotonic
- Isotonic
- Sea water

32. If an animal cell is immersed in a (an) _____ solution, the cell's volume remains as is

- Equilibrium
- hypertonic
- Hypotonic
- isotonic

3 December 2017

33. **Which of the following is true?**

- ✓ Light is an example of Kinetic energy
- Gasoline is an example of Kinetic energy
- food is an example of Kinetic energy
- Potential energy is the energy of motion

34. **Cellular respiration is _____ reaction.**

- Endothermic
- ender gonic
- photosynthetic
- ✓ exergonic

35. **Photosynthesis is _____ reaction.**

- ✓ Ender gonic
- catabolic
- Exothermic
- exergonic

36. **Endergonic Reaction** _____

- catabolic Reaction
- ✓ is a Chemical reaction that requires a net input of energy
- is known as Exothermic Reaction
- is a Chemical reaction that releases energy

- ✓ Photosynthesis
- ✓ Endothermic Reaction
- ✓ Anabolic Reaction

37. **Exergonic Reaction** _____

- is known as Endothermic Reaction
- is a Chemical reaction that requires a net input of energy
- ✓ is a Chemical reaction that releases energy
- anabolic Reaction

- ✓ Cellular respiration
- ✓ Catabolic Reaction
- ✓ Exothermic Reaction

38. **Chemical reaction that requires energy is known as** _____

- ✓ Endergonic Reaction
- catabolic Reaction
- Exergonic Reaction
- Exothermic Reaction

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39. **Chemical reaction that releases energy is known as** _____

- Endergonic Reaction
- anabolic Reaction
- ✓ Exergonic Reaction
- Endothermic Reaction

40. **ATP is** _____

- ✓ Adenosine Triphosphate
- Composed of adenine alone
- Composed of adenine and ribose only
- Adenine and three phosphate.

41. _____ **is the energy currency.**

- ✓ ATP
- AMP
- FAD
- ADP

✓ *Adenosine Triphosphate*

42. **Enzyme** _____

- ✓ is a protein
- is not specific for substrate
- is a libid
- is a carbohydrate

43. **Conditions at which Enzymes work best is called** _____ **conditions.**

- ✓ Optimal
- Minimal
- Optical
- All of the above

44. **Heat will cause Enzymes** _____

- ✓ Inactivation
- Renaturation
- Folding
- Activation.

✓ *Denaturation*

45. **Organic Enzyme Helper is called ________**

- Co-Enzyme
- Co-factor
- Enzyme Activitor
- Co-Helper

46. **Inorganic Enzyme Helper is called ________**

- Co-factor
- Co-Helper
- Co-Enzyme
- Enzyme activator

47. **Many enzymes require non protein helper called ________**

- Activator
- Co-factor
- Inhibitors
- Co-modifier

✓ Co- enzyme

48. **Competitive Enzyme Inhibitor ________**

ملخص

- Binds to a site other than the active site
- does not block substrates from entering the active site
- changes the active site shape
- block substrates from entering the active site

49. **Noncompetitive Enzyme Inhibitor ________**

ملخص

- does not change the enzyme shape
- acts directly with the active site
- change the shape of the enzyme
- binds to active site

50. **Each enzyme has a particular target molecule called ________**

a) Product
b) Substrate
c) Inhibitor
d) Cofactor

51. **Which of the following is a coenzyme?**

a) zinc.
b) vitamin B6.
c) iron.
d) Copper.

52. **Which of the following substances could be a cofactor?**

a) a protein.
b) a polypeptide.
c) a zinc atom.
d) a ribosome

53. The exported materials in case of exocytosis , are packaged within a _____ that fuses with the membrane.

a) Sheath b) Vacuole

c) Film d) Vesicle

54. During phagocytosis, a cell engulfs a particle (food) by wrapping pseudopodia around it and packaging it within a sac called a _____

a) Membrane b) vesicle

c) vacuole d) lysosome

55. Which of the following (is/are) a type of endocytosis?

a) Pinocytosis b) Phagocytosis

c) Diffusion d) a and b are correct

56. There are _____ types of endocytosis.

a) 2 b) 3

c) 5 d) 4

57. A cell uses the process of exocytosis to export bulky (large) materials, such as _____

a) proteins b) water

c) amino acid d) fatty acids

✓ polysaccharides

58. The potential energy can be converted to _____

a) Potential b) kinetic

c) Static d) stored

59. The use of exergonic processes to drive an endergonic one is called ___

a) Energy coupling b) thermodynamics

c) Mechanical work d) supporting work

60. Energy coupling is use of energy released from exergonic reactions to drive _____ reactions.

a) exogenic b) potential

c) ectogenic d) endergonic

61. Energy coupling is use of energy released from _____ reactions to drive endergonic reactions.

a) Exogenic b) Exergonic

c) Ectogenic d) endergonic

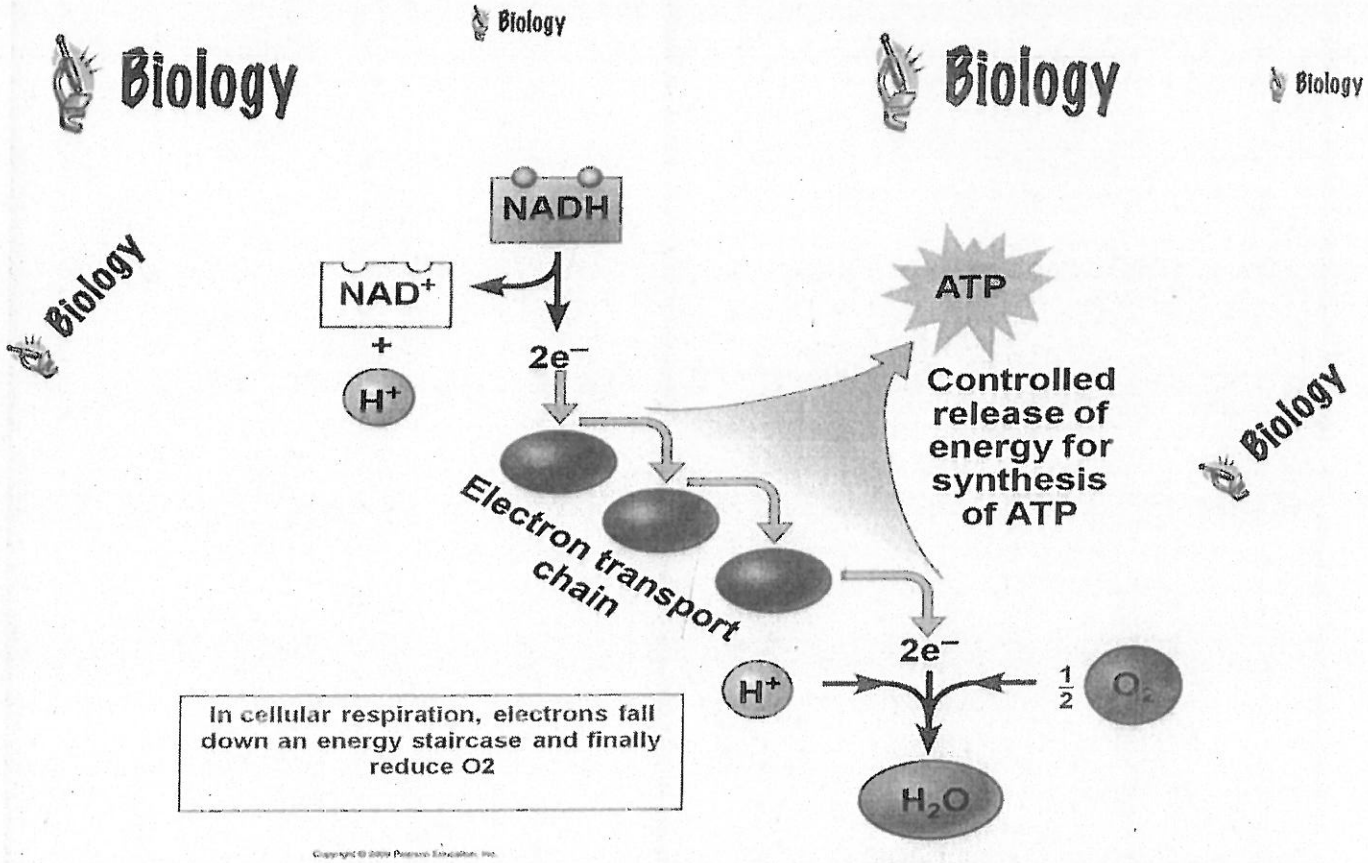
١٤٣٩.. النصف الدراسى الاول .. دفعة ١٨.. الدورى الثانى

د. جمال الشعراوي

جامعة الملك عبدالعزيز

جزء ٢

Chapter (6):- Bioenergetics



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1) A redox reaction involves the transfer of _____

- A hydrogen ion.
- Oxygen.
- Water.
- An electron.

2) In oxidation - reduction reaction (redox), gain of electrons is _____

- Oxidation
- Dehydration
- Reduction
- Hydrolysis

3) In oxidation - reduction reaction (redox), loss of electrons is _____

- Oxidation
- Dehydration
- Reduction
- Hydrolysis

4) Chemical energy in organic compounds are stored in _____

- Chemical bonds
- Hydrophyllic bonds
- Hydrostatic bonds
- Hydrophobic bonds

5) Our cells harvest chemical energy from our food by a process called ____

- Cellular respiration
- Inspiration
- Expiration
- Photosynthesis

6) During cellular respiration _____.

- Oxygen loses hydrogen atoms
- Glucose loses its hydrogen atoms
- Glucose gains hydrogen atoms
- Glucose is reduced

7) During cellular respiration, Glucose becomes _____.

- Carbon dioxide
- Oxygen
- ATP
- Carbon monoxide

8) During cellular respiration, Oxygen becomes _____

- Carbon dioxide
- Water
- ATP
- Carbon monoxide

3 December 2017

9) The first stage of cellular respiration is _____

- Glycolysis
- Krebs cycle
- Oxidation phosphorylation
- the Electron Transport Chain

10) The second stage of a cellular respiration is _____

- Glycolysis
- Krebs Cycle
- Oxidation phosphorylation
- The Electron Transport Chain

✓ Citric acid cycle

11) The third stage of a cellular respiration is _____

- Glycolysis
- Krebs cycle
- Oxidation phosphorylation
- citric acid cycle

✓ The Electron Transport Chain

12) _____occurs in the Cytoplasm

- Glycolysis
- Oxidation phosphorylation
- the Electron Transport Chain
- citric acid cycle

13) _____occurs in the mitochondria matrix

- Glycolysis
- Krebs Cycle
- Oxidation phosphorylation
- The Electron Transport Chain

✓ Citric acid cycle

14) _____occurs in mitochondria inner membrane.

- Glycolysis
- Krebs cycle
- Oxidation phosphorylation
- Citric acid cycle

✓ the Electron Transport Chain

15) Glycolysis occurs in the _____

- Mitochondria inner membrane
- Mitochondria matrix
- Cytoplasm
- Golgi apparatus

16) The citric acid cycle occurs in the _____ OR (Krebs cycle)

- Mitochondria inner membrane
- Mitochondria matrix
- Cytoplasm
- Golgi apparatus

17) The Electron Transport Chain occurs in the _____

- Mitochondria inner membrane
- Mitochondria matrix
- Cytoplasm
- Golgi apparatus

18) During Glycolysis Glucose is converted to _____

- Two 3 carbon long molecules
- One oxalate
- Two oxalate
- One Pyruvate

19) During Glycolysis Glucose is converted to _____.

- One oxalate
- One pyruvate
- Two pyruvate
- Carbon dioxide

20) During citric acid cycle pyruvate is converted to _____

- Carbon monoxide
- One carbon monoxide
- Three carbon dioxide
- Two carbon dioxide

21) During citric acid cycle pyruvate is converted to _____

- Carbon monoxide
- One carbon monoxide
- Three carbon dioxide
- Carbon dioxide

22) During Oxidative phosphorylation _____ (Electron Transport Chain)

- ATP is generated
- NADH is oxidized
- NAD is reduced
- Glucose is reduced

✓ *Oxygen is reduced*

23) Final electrons acceptor in Cellular Respiration is _____

- Oxygen المستقبل النهائي
- NAD
- ATP
- Glucose

24) The enzyme that removes hydrogen from an organic molecule is called

- Deoxygenase نزيل الهيدروجين
- Oxygenase
- Dehydrogenase
- All of the above

25) Dehydrogenase uses _____ as coenzyme.

- NAD
- iron
- magnesium
- Zinc

3 December 2017

26) **Fats undergo hydrolysis to _____ before used as fuel.**

- Glycerol and fatty acids
- Glycerol alone
- Glycerol and amino acids
- fatty acids alone

27) **Amino acids undergo _____ before used as fuel**

- Dehydrogenation
- Amination
- Hydrogenation
- Deamination

28) **_____ occurs in chloroplasts, and _____ occurs in mitochondria.**

a) Photosynthesis------ cellular respiration

b) Cellular respiration---- Photosynthesis

c) Cellular respiration-----atmosphere

d) Photosynthesis----- atmosphere

29) **Cellular respiration uses _____ to harvest chemical energy (ATP) from food and produce _____**

a) Carbon dioxide ------ oxygen

b) Oxygen ----- carbon dioxide

c) Oxygen -----carbon monoxide

d) Sun ray ------ oxygen

30) **Breathing is necessary for gas exchange of CO2 produced during _____ with O2 of the _____**

a) Cellular respiration----- photosynthesis

b) Photosynthesis------ cellular respiration

c) Cellular respiration-----atmosphere

d) Photosynthesis----- atmosphere

31) **Respiration (breathing) _____ and cellular respiration _____**

a) Produces ATP . . . is gas exchange

b) Is gas exchange . . . produces ATP

c) Produces glucose . . . produces oxygen

d) Uses glucose . . . produces glucose

3 December 2017

32) The overall equation for the cellular respiration of glucose is _____

a) $C_5H_{12}O_6 + 6\,O_2 \rightarrow 5\,CO_2 + 6\,H_2O$ + energy.

b) $5\,CO_2 + 6\,H_2O \rightarrow C_5H_{12}O_6 + 6\,O_2$ + energy.

c) $C_6H_{12}O_6 + 6\,O_2 \rightarrow 6\,CO_2 + 6\,H_2O$ + energy.

d) $C_6H_{12}O_{12} + 3\,O_2 \rightarrow 6\,CO_2 + 6\,H_2O$ + energy.

33) During cellular respiration _____ is oxidized and _____ is reduced

a) Glucose …. oxygen

b) NAD+ . . . glucose

c) NAD+ ….. glucose

d) ADP . . . ATP

34) During Oxidative phosphorylation _____ is oxidized and ___ is reduced.

a) NADH ------ oxygen

c) FAD ------ glucose

d) Oxygen------- NADH

35) Which of the following options lists the stages in cellular respiration in correct order?

a) Glycolysis, the citric acid cycle, and oxidative phosphorylation

b) Glycolysis, oxidative phosphorylation, and the citric acid cycle

c) The citric acid cycle, oxidative phosphorylation, and glycolysis

d) Oxidative phosphorylation, glycolysis, and the citric acid cycle

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1. **During Photosynthesis** _____ (خلال البناء الضوئي)

- ✓ Carbon dioxide is consumed
- Oxygen is consumed
- ✗ Protein is produced
- Carbon dioxide is released

2. **Plant cells harvest energy from the sun by a process called** _____

- ✓ Photosynthysis
- ✗ Expiration
- Cellular respiration
- ✗ Photorespiration

3. **Photosynthesis in plant occurs in** _____

- ✓ inside the leaf
- the xylem
- the stem
- the roots

✓ *mesophyll cells*

4. **Orgenelle responsible for Photosynthesis is** _____

- Mitochondria
- ✗ Lysosom
- ✓ Chloroplasts
- ✗ Neucleus

5. **Plants** _____

- ✓ are autotrophic organisms ← ذاتي التغذية
- are hetertrophic organisms
- are consumers
- decomposer

✓ *are producers*
✓ *photoautotrophic*

ذاتي ضوئي

6. **Autotrophic organisms can** ____ **(Photoautotrophic organisms can** ___**)**

- ✗ use energy to produce inorganic molecules
- ✗ use chemical energy to produce organic molecules
- ✓ make their own food without using organic molecules
- ✗ use glucose to make their food

✓ *use the energy of light to produce organic molecules*

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7. _____ are pores in the leaf that allow carbon dioxide to enter and oxygen to exit.

- Stomata الثغور (فتحات في الورقة)
- Stroma الحشوة
- Nostrille
- Matrix

8. Stomata are pores in the leaf that allow _____

- Carbon dioxide to enter
- Oxygen to enter
- Nostrille
- none of the above

✓ Oxygen to exits

9. Stroma _____ (الحشوة)

- has double membranes
- encloses dense fluid
- found in the mitochondria
- First and second choice

ملخص

10. Pigment in chloroplasts, is responsible light absorbing is _____

- hemoglobin
- thylakoid membranes (مسئول عن امتصاص الضوء)
- cynoglobin
- chlorophyll

11. Pigment that is responsible for green color is _____

- Hemoglobin
- Cynoglobin (اللون الأحمر)
- Greenophyll
- Chlorophyll

12. Pigment that is responsible for converting light energy to chemical energy is _____

- Chlorophyll (الطاقة الضوئية)
- Cynoglobin
- Greenophyll
- Hemoglobin

13. Pigment that is responsible for converting solar energy to chemical energy is _____

- Chlorophyll (الطاقة الشمسية)
- cynoglobin
- greenophyll
- hemoglobin

3 December 2017

19. **Calvin cycle produces** _____

glyceraldehyde 3-phosphate (G3P) ✓ Sugar

glycerol

phospholipid

lipids

20. **The oxygen released into the air as a product of photosynthesis comes from** _____

A) water.
B) glucose.
C) carbon dioxide.
D) chlorophyll.

21. **The light reactions occur in the** _____ **while the Calvin cycle occurs in the** _____

A) Stroma . . . thylakoid membranes
B) stroma . . . nucleus
C) Cytoplasm . . . stroma
D) thylakoid membranes . . . stroma

22. **In plants, during the** _____ **CO2 is incorporated into organic compounds, a process called carbon fixation.**

A) Calvin cycle
B) Fermentation
C) Citric acid cycle
D) Photosynthesis

23. **The summary equation for photosynthesis is** _____

A) $6\ CO_2 + 6\ H_2O + \text{sunlight} \rightarrow C_6H_{12}O_6 + 6\ O_2$.

B) $C_3H_{12}O_6 + 6\ O_2 + \text{sunlight} \rightarrow 5\ CO_2 + 6\ H_2O$.

C) $C_6H_{12}O_6 + 6\ O^2 + \text{sunlight} \rightarrow 6\ CO_2 + 6\ H_2O$.

D) $C_6H_{12}O_{12} + 3\ O_2 \rightarrow 6\ CO2 + 6\ H_2O + \text{energy}$.

مع تمنياتي بالتوفيق والنجاح

آخر ورقة

3 December 2017

14. **The Chlorophyll in plants** _____

- Is concentrated in the epidermis
- Is responsible for converting chemical energy to light energy
- ✓ Is responsible for green color of plants
- Is concentrated in the phloem

15. **Photosynthesis Reactions include** _____ تفاعلات البناء الضوئى

- ✓ Carbon fixation reaction
- ✗ Glycolysis reactions
- ✗ Cellular respiration reactions
- ✗ Three reactions

16. **During photosynthesis light Reactions,** _____ تفاعل الضوء

- ✓ Light energy is converted to chemical energy and oxygen
- Light energy is converted to chemical energy and carob dioxide
- ATP is consumed
- Carob dioxide is converted to glucose

17. **Photosynthesis dark Reactions,** _____ تفاعل الظلام

- ✓ Uses NADPH to fix cabron dioxide
- uses energy of ATP to fix carob monoxide
- ✗ Uses NADP to fix cabron dioxide
- ✗ First and second choice

18. **During Calvin cycle,** _____ دورة كلفن

- Two CO_2 are fixed
- Glycerol leaves the cycle as a product.
- ✓ Glyceraldehyde 3-phosphate (G3P) leaves the cycle as a product.
- Two CO_2 are incorporated at a time