

نماذج تدريبية للصف الثالث الثانوي الأحياء باللغة الإنجليزية النموذج (8)

2025 - 2026

أولاً : الأسئلة الموضوعية (اختيار من متعدد) "كل سؤال من درجة واحدة"

1

If the lateral ligament of the knee is torn, it affects the movement of which bone:

- A) Fibula
- B) Tibia
- C) Femur
- D) Patella

2

Which of the following is a similarity between "cytoplasmic movement" and "pulling movement in plant tendrils"?

- a) Both are directly dependent on light.
- (b) Both occur in all plant cells.
- (c) Both require the consumption of ATP molecules.
- (d) Both result in a change in the position of the entire plant

3

Which of the following areas cannot be seen when examining a single sarcomere microscopically during relaxation?

- A) Complete dark area
- B) Complete light area
- C) Semi - lighted area
- D) Z - lines

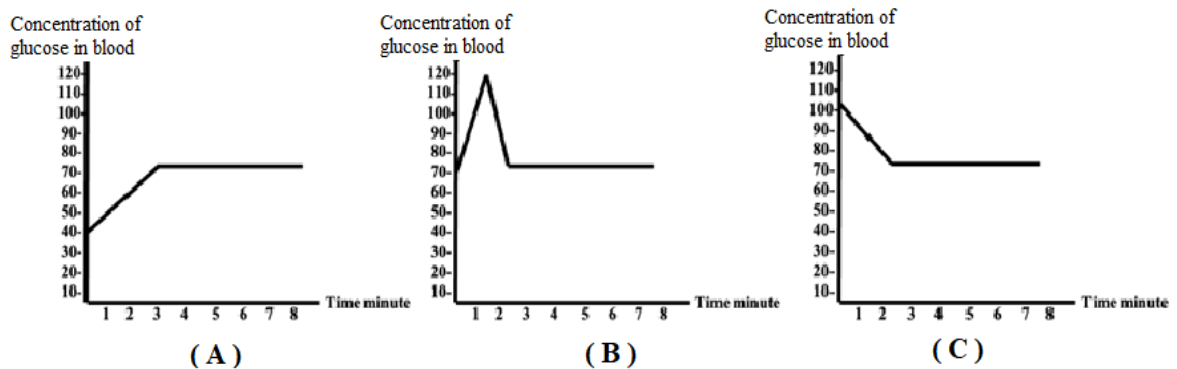
4

Which of the following conditions leads to sudden and painful muscle spasm during sleep despite the presence of ATP molecules within the muscle fiber?

- A) Accumulation of lactic acid within the muscle as a result of anaerobic respiration.
- B) Incorrect nerve impulses from the brain interfering with normal muscle function.
- C) Absence of the enzyme cholinesterase from the neuromuscular junctions.
- D) Depletion of glycogen stores in the muscle during Intense effort

5

Carbohydrates are controlled by several hormones in different states: hormones (A), (B), and (C). Study the following diagrams and then answer:



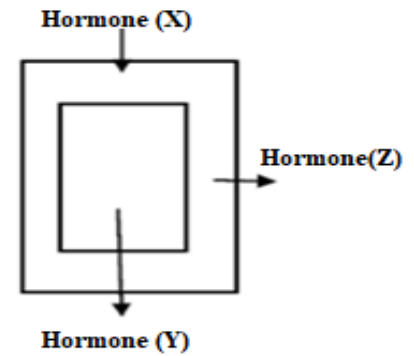
- A) Insulin – Adrenaline – Glucagon
- B) **Adrenaline–Cortisone –Insulin**
- C) Glucagon – **Insulin – Thyroxin**
- D) Glucagon – **Adrenaline– Insulin**

6

The diagram in front of you shows the structure of one of the endocrine glands in the human body.

Study it and then answer:

What is the most important characteristic of hormone (Y)?



- A) Its secretion is affected by the activity of the anterior lobe of pituitary gland.
- B) The hormone indirectly affects the function of the nervous system.
- C) It belongs to the steroid hormone group.
- D) It is secreted during emergencies.

7

In an adult human female, which of the following is true about the hormone FSH?

- A) It stimulates meiosis I and meiosis II in the ovary.
- B) It stimulates meiosis I only in the ovary.
- C) It stimulates ovulation and the formation of the corpus luteum.
- D) It stimulates the transformation of the Graafian follicle into small follicles

8

Which of the following processes are meiotic and which are mitotic, respectively?

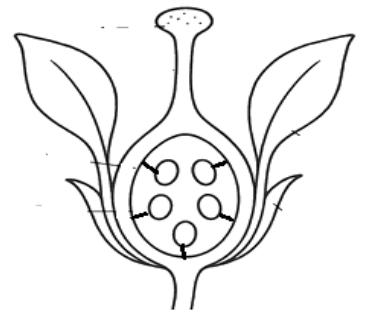
- A) Production of polypodium spores - Wound healing in human
- B) Germination of polypodium spores - Formation of polypodium gametes
- C) Binary fission of amoebae - Reproduction of Spirogyra under suitable conditions
- D) Wound healing in human - Production of polypodium spores

9 The life cycle of the Polypodium plant is an ideal example of alternation of generations due to :

- A) The life cycle takes place in two different organisms.
- B) Two different generations are combined in a single life cycle
- C) The gametophyte stage is characterized by the presence of roots, stems, and of the leaves
- D) The gametophyte stage can perform all the functions of the sporophyte stage

10 Which of the following represents the ratio of nuclei and cells involved in fertilizing this flower to the ratio of nuclei and cells that did not participate in fertilization to form seeds in this flower?

- A) 1:1
- B) 3:2
- C) 3:5
- D) 5:3



11 Which of the following fruits consists only of the ovary and lacks other flowering parts?

- A) Pomegranate
- B) Marrow
- C) Apple
- D) Peach

12

Which of the following explains the failure of the zygote to divide and form an embryo in humans, despite of the entry of the sperm head only into the secondary oocyte and formation of the zygote?

- A) Failure of the second meiotic division of the secondary oocyte
- B) Release of the secondary oocyte on the fourteenth day of the menstrual cycle
- C) Absence of a neck in the sperm
- D) Absence of mitochondria in the sperm

13

The adjacent figure illustrates one of the stages of embryonic development in humans. Which of the following cannot be observed?

- A) The fetal heart is fully formed and beating.
- B) One of the two ovaries contains the corpus luteum.
- C) The sex of the fetus can be determined
- D) The fetus has a skeleton.



14

Which of the following substances does a plant begin to produce after infection to resist the effects of a pathogen that secretes protein molecules that destroy the cell's cytoplasm?

- A) Antitoxin proteins
- B) Phenols and glycosides
- C) Protein receptors
- B) Non-protein amino acids

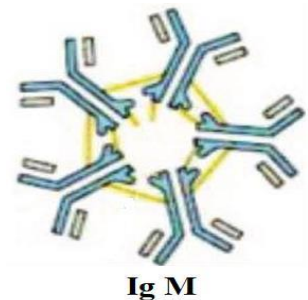
15

In a practical experiment on some plants, it was observed that two plants were exposed to the same type of pathogenic bacteria, but one of them lacked the receptors. Which of the following is expected to appear on this plant?

- A) The same level of resistance of the other plant because the defense relies on phenols and glycosides.
- B) Increased activity of defensive enzymes that resistant to the produced toxins.
- C) No symptoms of Tylosis formation, which prevents bacterial spread.
- D) Symptoms of severe infection because the bacteria have not been identified.

16

Which of the following achieves functional IgM antibody in this form?

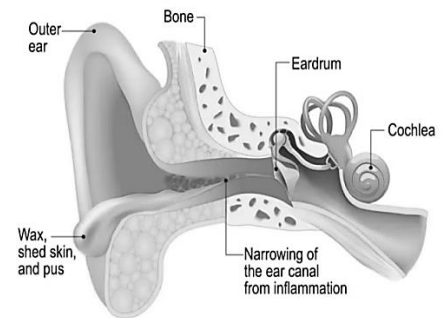


- A) Rapid penetration through blood vessels compared to other types
- B) Increased chances of binding to more than one type of antigen
- C) Increased chances of binding to more than one antigen of the same type
- D) Increased its speed in the blood and lymph:

17

The figure shows an ear infection in a person and acute inflammation.

Study it and then determine what can be concluded:



- A) The first line of defense prevents microbes from entering the body.
- B) Failure of pathogens to pass the first and second lines of defense.
- C) Activation of neutrophils and macrophages in the site of infection
- D) Activation of cytotoxic T cells.

18

What happens if deoxyribose in a DNA molecule is replaced by ribose sugar?

- A) Decrease in the number of hydrogen bonds between bases .
- B) Increase in the number of oxygen atoms in the sugar-phosphate structure
- C) Decrease in the number of free phosphate groups in the molecule
- D) Increase in covalent bonds between the sugar and the nitrogenous bases in the molecule

19

All the following are similarities between prokaryotic and eukaryotic DNA Except ?

- A) Both have the same number of replication points .
- B) They are both double-stranded.
- B) They are both composed of four nitrogenous bases (A, T, G, C).
- A) They both contain deoxyribose sugar

20

What type of mutation results leads to the appearance of Klinefelter syndrome without any external influence ?

- A) Somatic chromosomal mutation
- B) Induced chromosomal mutation
- C) Induced **genetic** mutation
- D) Spontaneous **genetic** mutation

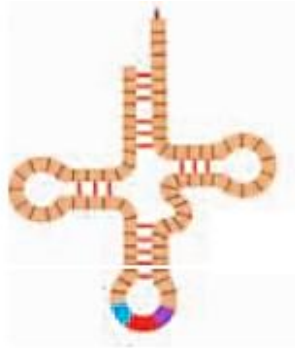
21

What happens when the human body completely stops producing regulatory proteins while continuing to produce structural proteins is:

- A) Bones and ligaments become abnormally rigid.
- B) Ligaments and tendons lose their strength and elasticity.
- C) The body loses its ability to coordinate vital processes.
- D) The body's resistance to disease increases

22

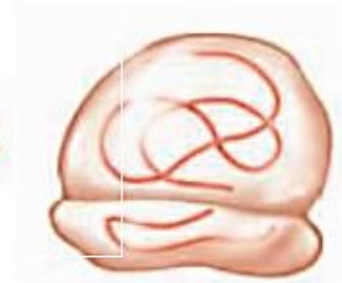
Study the figure which represents types of ribose nucleic acid, then deduce:



(A)



(B)

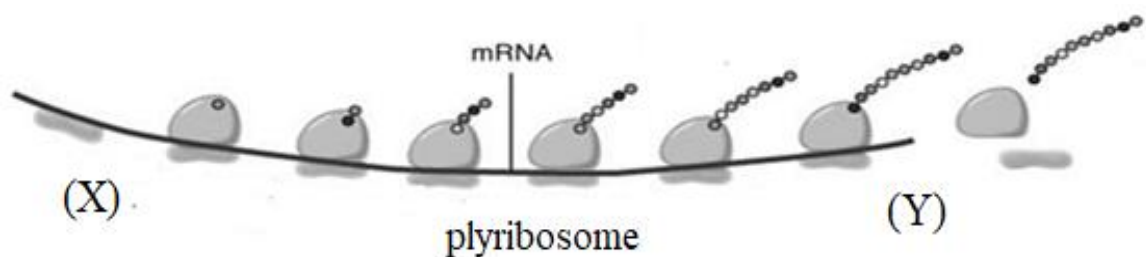


(C)

Which of the following describes RNA ribonucleic acid (B) ?

- A) It contains hydrogen bonds between some of its nucleotides.
- B) It binds to proteins to form a cell organelle.
- C) It carries the code for more than one type of polypeptide chain
- D) It carries the code for one type of polypeptide chain

23

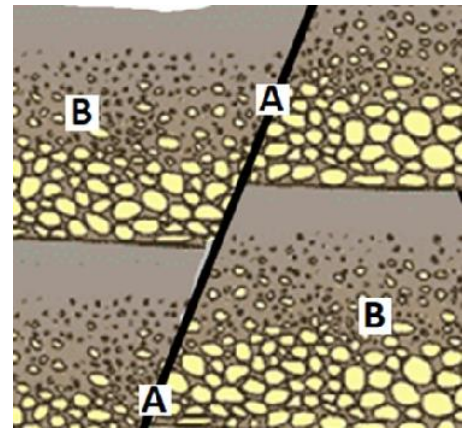


Which stage of protein synthesis is represented by this figure?

- A) Elongation stage
- B) Initiation stage
- C) Stop codon stage
- D) Polyribosome

24

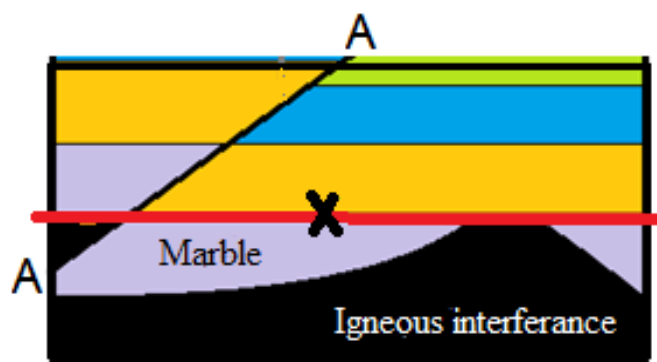
In the following geological section, what types of geological structures (A) and (B)?



- A) (A) Reverse fault, (B) **Graded bedding**
- B) (A) Normal fault, (B) Graded bending
- C) (A) Reverse fault, (B) Cross bedding
- D) (A) Normal fault, (B) Cross bedding

25

In the geological section shown, explain what (X) and (A-A) represent, respectively, and what type of forces are acting on the section:



- A) Angular unconformity surface – Normal fault – Compression forces
- B) Non-conformity surface – Reverse fault – Compression forces
- C) Disconformity surface – Normal fault – Tension forces
- D) Angular unconformity surface – Reverse fault – Tension forces

26

Upon examining a vertical sedimentary section, it was found that the layers appear inclined towards the axis of symmetry, with the youngest layers located at the center.

Which geological structure best describes these data?

- A) Anticline fold
- B) Normal Fault
- C) Syncline fold
- D) Reverse Fault

27

Coal is an important energy source, so why it isn't classified as a "mineral" from a geological perspective?

- A) Because it doesn't bright.
- B) Because it's soft to the touch.
- C) Because it's of organic origin.
- D) Because it doesn't occur naturally in crystalline form

28

A strike slip fault overlain by sedimentary layers that have not been subjected to tectonic forces is expected to exhibit:

- A) No difference in the level of the layers and a disconformity surface
- B) No difference in the level of the layers and a nonconformity surface
- C) Difference in the level of the layers and a disconformity surface
- D) Difference in bed elevation and a nonconformity surface

29

Which of the following crystal systems has equal sides and all angles equal to 90° ?

- A) Cubic system
- B) Hexagonal system
- C) Tetragonal system
- D) Orthorhombic system.

30

In a low-lying area, sand grains were observed accumulating in layers. What geological process occurred, which led to the formation of the rock?

- A) Deposition then metamorphism then melting
- B) Erosion then transporting then deposition then lithification
- C) Lithification then deposition then erosion then metamorphism
- D) Melting then cooling and crystallization then lithification

31

While drilling a well, the geologist observed rocks with large crystals of tightly bound minerals:

- (X) Shows no cleavage**
- (Y) Has a pearly luster**
- (Z) Cleavages in one direction.**

What type of rock is this in detail?

- A) Intermediate extrusive igneous rock
- B) Acidic intrusive igneous rock
- C) Basic intrusive igneous rock
- D) Ultrabasic intrusive igneous rock

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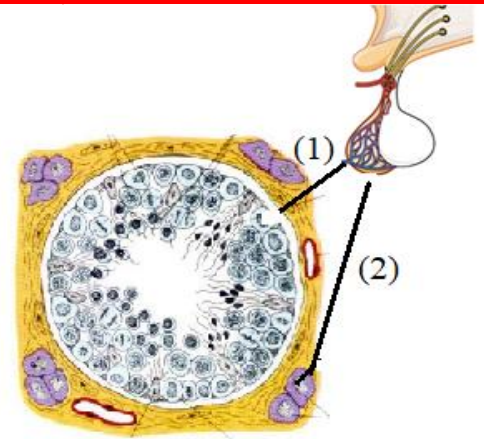
Which of the following is inversely proportional to the olivine content in an igneous rock?

- A) Iron and magnesium percentage
- B) Temperature of crystallization
- C) Silica percentage
- D) Basicity of the igneous rock

ثانياً : الأسئلة الموضوعية (الاختيار من متعدد) " كل سؤال من درجتين "

33

The diagram represents the anterior lobe of the pituitary gland, where hormones (1) and (2) are secreted into the testes of a human male.



Which of the following represents hormones (1) and (2), respectively?

- A) (1) FSH – (2) LH
- B) (1) LH – (2) FSH
- C) (1) FSH – (2) Testosterone
- D) (1) LH – (2) Testosterone

34

Which of the following represents the functional adaption of flower stigmas that pollinated by wind?

- A) Small size and hidden within the corolla
- B) Extend outside the flower with a smooth structure
- C) Extend outside the flower with a feathery or branched structure
- D) Brightly colored, like the petals, to attract insects

35

Which of the following is a source of estrogen in an immature human female?

- A) The endometrium (uterine lining).
- B) Graafian follicles in the ovary.
- C) The adrenal cortex.
- D) The corpus luteum.

36

When an ultrasound was performed on a woman in her second month of pregnancy, and the sex of the twins could NOT be distinguished in uterus, what the type of twins?

- A) Fraternal twins, males and females
- B) Identical twins and males
- C) Siamese twins, male and female
- D) fraternal or identical twins and female

37

Which of the following describes the relationship between the type of contraceptive method and its function?

- A) Birth control pills: Prevent ovulation
- B) Surgical sterilization: Prevents gamete formation
- C) Intra – uterine device: Prevents menstruation
- D) Condoms: Prevent sperm production

38

Which of the following steps is NOT part of the acquired immune response?

- A) B cells recognize the antigen.
- B) Cytotoxic T cells secrete Perforin.
- C) Division of B cells into plasma cells and memory cells.
- D) Increased permeability of neutrophils and monocytes .

39

Parenchyma cells are stimulated to form Tylosis by :

- A) Structural immune mechanisms
- B) Non-protein amino acids
- C) Antitoxin proteins
- D) Immune receptors

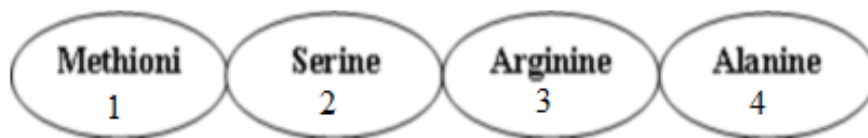
40

When analyzing the DNA molecule of a plasmid, it was found that it contains adenine (A) bases that are linked by 100 hydrogen bonds to the opposite strand. Which of the following represents the number of free phosphate groups in this plasmid?

- A) 100
- B) 50
- C) 2
- D) zero

41

The figure represents a sequence of amino acids in a polypeptide chain (using a codon table).



What is the incorrect nucleotide sequence in the template DNA strand responsible for forming this sequence?

- A) 3' TAC AGC TCC CGA 5'
- B) 3' TAC AGA TCT CGT 5'
- C) 3' TAC AGA TCT CGC 5'
- D) 3' TAC AGC TCT CTT 5'

42

Which of the following represents an application of recombinant DNA?

- A) Pairing a strand of human DNA with a strand of chimpanzee DNA
- B) Pairing a piece of human DNA with bacterial DNA
- C) Inserting human insulin-producing mRNA into a bacterial cell
- D) Producing thousands of DNA fragments using PCR

43

A geological expedition discovered a rock formation consisting of thin, parallel layers. One layer contains fossils of petrified fern plants, while another contains rounded grains of quartz cemented by iron oxides. What is the correct classification of this rock, and what conditions did it form under?

- A) Chemical sedimentary rock formed from the evaporation of seawater in closed lakes
- B) An organic sedimentary rock and clastic rock, formed in various environments.
- C) A metamorphic rock, formed by directed pressure, which gives it a foliated texture.
- D) Extrusive igneous rock, formed from the cooling of lava on the Earth's surface .

44

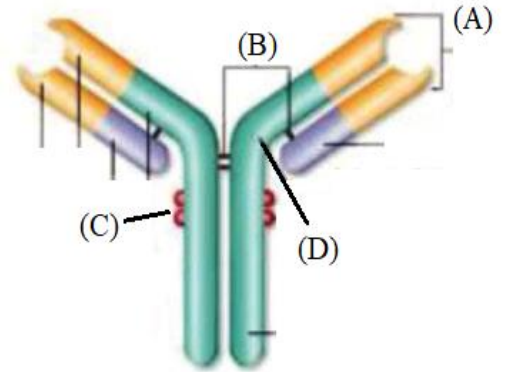
Which of the following field observations suggests that the igneous body is of extrusive origin?

- A) Very large, interlocking crystals
- B) Fine glassy edges and the presence of bubbles
- C) Intrusion cutting across sedimentary layers
- D) Contain a porphyritic texture

ثالثاً: الأسئلة المقالية " كل سؤال من درجتين "

45

The diagram above shows the structure of the antibody. Study it and then answer:



a) What is the importance of the change in the structure of region (A)?

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b) What is the importance of region (D) in the way the antibodies works?

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c) What is the function of structure (C), and does it found in all antibodies? Explain your answer.

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46

Tendons are considered as structures that play a major role in transmitting movement from muscles to bones. they are characterized by their high strengtl and low elasticity compared to ligaments.

a) Explain how the structure of a tendon helps transmit movement from skeletal muscles to bones.

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b) What would happen if tendons had the same elasticity as ligaments?

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