

# Trial Exam No2

1. Which of the following is true about the deposition of hard substances in plant cell walls?

- a. It decreases strength
- b. It affects permeability
- c. It has no effect on support
- d. It only occurs in roots

2. What substance helps to prevent water loss from plant cells?

- a. Chlorophyll
- b. Lignin
- c. cell wall
- d. Vacuoles

3. What is the primary function of a skeleton in animals?

- a. To produce antibodies
- b. To store energy for later use
- c. To provide support for muscle attachment and facilitate movement
- d. To regulate body temperature

4. Which type of movement is the response of plant parts to light, humidity, and gravity?

- a. Cytoplasmic movement
- b. Tropism
- c. Pulling movement
- d. Sleeping movement

**5. The adrenaline:**

- a) Stimulates the body to perform activities needed during emergency.
- b) Stimulates the liver to convert glucose to glycogen.
- c) Is responsible for the appearance of secondary sexual characters.
- d) Increases the resistance of body to infection and microbe.

**6. How does glucagon affect liver glycogen?**

- a. It stimulates the conversion of glucose to glycogen
- b. It stimulates the conversion of glycogen to glucose
- c. It inhibits the conversion of glycogen to glucose
- d. It has no effect on liver glycogen

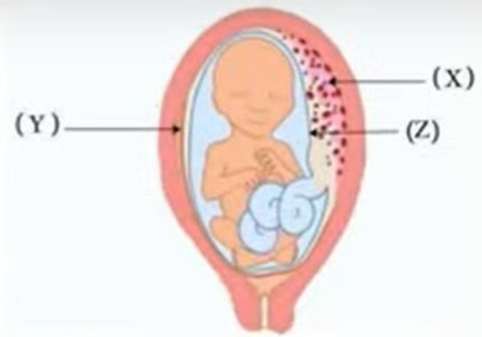
**7. Which hormone is primarily responsible for the relaxation of pelvic muscles at the end of pregnancy?**

- a. Estrogen
- b. Androsterone
- c. Relaxin
- d. Testosterone

**8 Which of the following distinguishes the reproduction of Bolti fish from rabbit reproduction?**

- a) Site of embryo development.
- b) Type of division that forms gametes.
- c) Ova are smaller in size.
- d) Variation in genetic traits.

9 Notice this figure that illustrates a human embryo inside the uterus of the mother, identify the structures (X, Y and Z) then conclude:



In which of the embryo development stages the structure (X) will separate from the uterine wall?

- The third month of the third stage.
- The third month of the second stage.
- The second month of the third stage.
- The second month of the second stage.

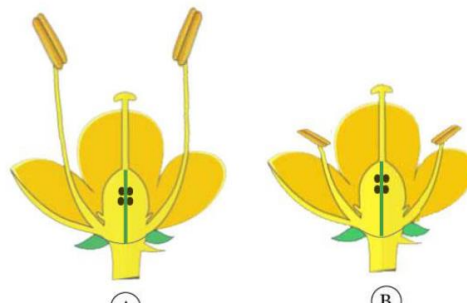
10 If the menstruation occurs to a woman in the first day of the month and she wanted to use contraceptive pills.

Which day of this month this woman could begin taking the pills?

- 1<sup>st</sup>
- 5<sup>th</sup>
- 7<sup>th</sup>
- 14<sup>th</sup>

11 What is difference between the two flowers (A) and (B)?

- Type of pollination.
- Sex of the flower.
- Number of pollen sacs.
- Number of ovules.



12 Which of the following best describes Fallopian tube in a normal woman?

- a) Cilia of the tube move towards the ovary.
- b) End of the tube is wider than its beginning.
- c) Beginning of the tube is attached to the ovary.
- d) Cilia of the tube move towards the uterus.

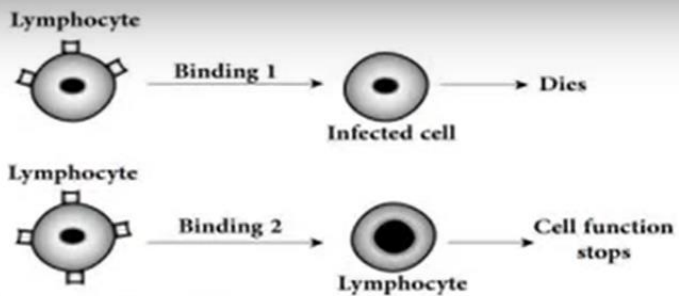
13 Which of the following stages of human embryonic development has the highest rate of DNA duplication in the embryo cells?



14 Which of the following immune methods precedes the other one in its occurrence?

- a) Increasing the number of receptors – Formation of the cell wall.
- b) Deposition of gum – Thickening of the stem epidermis by cutin.
- c) Thickening the cell wall by lignin - Producing antimicrobial proteins.
- d) Producing detoxifying enzymes – Swelling of the cell wall.

15 The figure illustrates the role of two types of lymphocytes. Study it and answer.



What substances are produced from 1 & 2 respectively?

- Complements, Interleukins.
- Lymphatic toxins, lymphokines.
- Interleukins, complements.
- Perforin, cytokines,

16 What is the result of removing the spleen?

- Decreasing the number of memory cells in blood.
- Increasing the number of senescent red blood cells.
- Inability to produce anti-bodies.
- Inability of thymus gland to differentiate the lymphocytes.

17 “When doing a blood analysis for a person, a species of bacteria was found in the blood sample.

Which immune cells are responsible for protecting this person?

- Natural killer cells.
- Plasma B cells.
- Memory T cells.
- Cytotoxic T cells.

18 Hemoglobin protein is produced by immature red blood cells, but liver cells from the same species do not produce hemoglobin protein. Why?

- The gene for hemoglobin is missing in liver cells.
- The gene for hemoglobin is turned off in liver cells.
- The gene for hemoglobin has mutated in liver cells.
- The gene for hemoglobin is activated in liver cells.

19

A DNA molecule in which both strands have radioactive thymine is permitted to replicate in an environment that contains non-radioactive thymine. What is the right number of DNA molecules which possess some radioactive thymine post three duplications?

- (A) one such molecule.
- (B) two such molecules.
- (C) four such molecules.
- (D) eight such molecules.

20

Each amino acid in a protein is specified by

- (A) several genes.
- (B) a promoter.
- (C) an mRNA molecule.
- (D) a codon.

21

Which of the following best describes the function of RNA polymerase?

- (A) It reads a template DNA strand 5' to 3' and synthesizes a DNA strand 3' to 5'.
- (B) It reads a template RNA strand 5' to 3' and synthesizes a DNA strand 3' to 5'.
- (C) It reads a messenger RNA strand and synthesizes proteins.
- (D) It reads a template DNA strand 5' to 3' and synthesizes an RNA strand 5' to 3'.
- (E) It reads a template DNA strand 3' to 5' and synthesizes an RNA strand 5' to 3'.

22 Ribosomes exist as separate subunits that are bound together during protein synthesis. What do these subunits consist of?

- (A) mRNA and protein.
- (B) mRNA and tRNA .
- (C) rRNA and protein.
- (D) rRNA and tRNA.

23 Rifampicin is an antibiotic used to treat tuberculosis (TB). It works by inhibiting RNA polymerase in bacteria. Which processes are directly inhibited by this antibiotic?

- 1 DNA replication
- 2 transcription
- 3 ATP synthesis

- (A) 1, 2 and 3
- (B) 1 and 2 only
- (C) 1 and 3 only
- (D) 2 only

24 Each of the following change the shape of earth surface except

- A. rotation of the outer core around the inner core
- B. underground temperature and pressure
- C. winds and torrents
- D. rivers and lakes

25 An inorganic solid material formed during preparing in laboratory,

this material is not mineral because it is

- A. crystalized material
- B. inorganic
- C. solid material
- D. not formed in nature

26

When the angles of orthorhombic crystal become different , the crystal system becomes

- A. Triclinic
- B. Monoclinic
- C. Tetragonal
- D. Cubic

27

What is the origin of sharp edges clastics which form breccias rocks ?

- A. Sands..
- B. Gravels
- C. Silt.
- D. Clay.

28

From the minerals which are used in building materials industries is

- A. calcite.
- B. olivine.
- C. anhydrite.
- D. sphalerite.

29

What is the type of fault in which the hanging wall moves in the direction of the gravity?

- A. reverse fault..
- B. thrust fault.
- C. graben
- D. strike- slip fault.

30

The time relationship of rocks can be determined by

- A. faults
- B. folds
- C. joints
- D. primary structures

31

What is the geological structure in which younger layer is surrounded by older layers?

- A. graben
- B. anticline fold
- C. normal fault
- D. thrust fault



Some mineral deposits of one of the calcium salts were found on a polished rock and has lines parallel to the rocks movement, it is expected that the structure and the deposits respectively are .....

- A. fault - calcite
- B. fold - calcite
- C. fault - dolerite
- D. fold – gypsum

### Questions with two mark

33. Where are the binding sites of the transverse links that extend from myosin in the structure of the sarcomere found?

- A. Semi-lighted area.
- B. Actin filaments.
- C. Actin filaments and semi-lighted area.
- D. Actin filaments and the dark line (Z).

34. What is the similarity between vasopressin and aldosterone hormones?

- A. Their target cells.
- B. The type of their secretory cells.
- C. The stimulus that causes their secretion.
- D. Their chemical structure.

35. Which of the following distinguishes the sexual reproduction in aphid insect from sexual reproduction in honey bee?

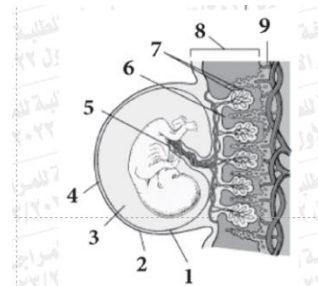
- A. Production of haploid individuals.
- B. Possibility of producing females.
- C. Production of diploid individuals.
- D. Possibility of producing males.

36. Why does the embryo of some seeds keep the endosperm?

- A. Because the endosperm is the only food source for germination of all seed types.
- B. Due to the fusion of the ovule \_integuments with the ovary wall
- C. When it does not consume all of the endosperm during its development.
- D. When it stores food in the two cotyledons.

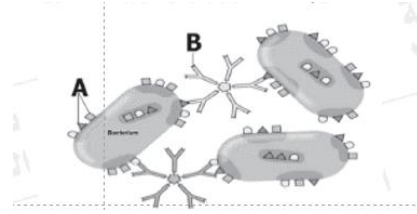
37. Study the opposite drawing and then conclude. What are the numbers that refer to the placenta?

- A. 1 and 2.
- B. 6and7.
- C. 5, 6 and 7.
- D. 6, 7 and 9.



38. Study the drawing and then conclude. What is the structure that the letter (A) doesn't represent?

- A. Antigen-binding site.
- B. The antigen.
- C. Antibody-binding site.
- D. A protein on the surface of the pathogen.



39. What is the correct order for the action of both humoral and cellular immunity?

- A. Coincident.
- B. Successive.
- C. Separate.
- D. One of them stops the other.

40. What are the cells from which interferon genes could be isolated to be cloned?

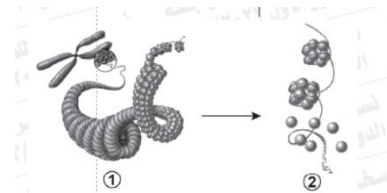
- A. The cells infected by viruses.
- B. E-coli bacterial cells resistant to phages.
- C. All human body cells exposed to viral infection.
- D. Cells neighboring to the cells infected by viruses.

41. What is the importance of identifying the defected genes in the embryo before birth?

- A. Study the evolution of living organisms.
- B. Preparing drugs without side effects.
- C. Improve the human offspring.
- D. Facilitate the child delivery.

42. Study the drawing in front of you then conclude. What is the case which requires the conversion from (1) to (2) in DNA?

- A. Forming zygospore in spirogyra.
- B. Formation of primary spermatocytes.
- C. Binary fission in bacteria.
- D. Budding in Hydra.



43. What distinguishes the living organisms that provide their young with parental care?

- A. Primitive.
- B. Small-sized.
- C. Short-aged.
- D. Developed.

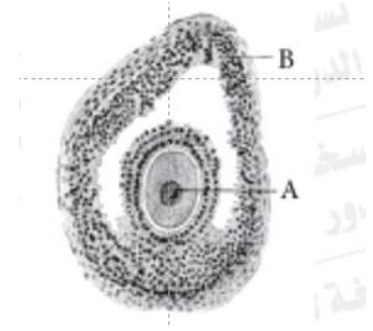
44. What is the geology branch that has a great effect in industry by analyzing the raw materials for some industries?

- A. Petroleum geology.
- B. Geophysics.
- C. Geochemistry.
- D. Structural geology.

45. Study the drawing that illustrates a structure found inside an adult human female's ovary and then conclude.

A- What is the type of division that occurs in the cell (A)? And what is its purpose?

B- What is the type of division that occurs in the cell (B)? And what is its purpose?



46. A fold has 4 layers mention the following:

- A- how many wing(s)
- B- How many axis.