

آیا می‌دانستید با عضویت در سایت جزوه بان می‌توانید به صورت رایگان جزوات و نمونه

سوالات دانشگاهی را دانلود کنید؟؟

فقط کافیست روی لینک زیر ضربه بزنید



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درس اول:

2. True or False statements: Insert T for true and F for false in the parenthesis.

a) Biology is a science that is fundamentally different from other sciences such as physics or chemistry. **(T)**

b) The last common ancestors of all life on earth were molecules. **(F)**

c) Small molecules are the stage on which all cellular processes take place. **(T)**

d) All cells use the same molecular building blocks. **(T)**

e) Water accounts for about 85 percent of a cell's volume. **(F)**

B. Structure: Choose the best answer in order to complete the sentence.

1. The biology cells is a logical starting point

a) from

b) of

c) on

d) with

2.At the cellular level all life remarkably similar

a) is

b) are

c) have

d) has

3.To learn about biological systems we examine one small portion of a living system at a time.

a) have

b) could have

c) can have

d) must

4.While large polymers are the focus of molecular cell biology, small molecules the stage on which all cellular processes are set.

a) was

b) are

c) is

d) has been

5.Water, inorganic ions, and a wide array of relatively small organic molecules account for 75 to 80 percent of living matter weight.

a) by

b) with

c) than

d) to

C. Fill in the blanks with appropriate words from the list

1_ nucleic acids

2_ plasma membrane

3_ organelles

4_ structure

5_ cells

(nucleic acids) carry coded information for the production of proteins at the right time and place. When we study the **(structure)** and function of the biological universe, we find two types of cells: eukaryotic and prokaryotic (Figure 1-4). Prokaryotic **(cells)**, such as bacteria, consist of a single closed compartment that is surrounded by a . **(plasma membrane)** lack a defined nucleus, and have a relatively simple internal organization. Eukaryotic cells contain a

defined membrane-bound nucleus and extensive internal membranes that enclose the **(organelles)**

If you score 70% or above go on to the next unit

A. Choose the correct answer in the following sentences, basing your choice on the total concepts covered in preceding parts. This section is to be done in 10 minutes.

1. Throughall organisms are in the same family tree

- a) plants
- b) evolution
- c) animals
- d) single cell

2. biology is a logical starting point

- a) Cell
- b) Molecules
- c) The porcelain
- d) Single cell

3. Biology is a science that is fundamentally other sciences such as physics or chemistry.

- a) different from
- b) same as

c) like as

d) similar to

4. have encoded information to make proteins at
the right time.

a) Viruses

b) Nucleotides

c) Nucleic acids

d) Coenzymes

5. consist of a single closed chamber

a) Stem cells

b) Prokaryotic cells

c) Eukaryotic cells

d) Nerve cells

6. Eukaryotic cells contain a large number of structures

a) internal membrane

b) semi-permeable membrane

c) cell membrane

d) outer membrane

7. The organelle-free part of the cytoplasm is

a) cytosol

c) mitochondria

b) centriole

d) ribosome

8. The mitochondrion and chloroplast are enclosed by

a) single membrane

b) single cell membrane

c) two membranes

d) single plasma membrane

9. Mitochondria are the major sites of production in aerobic cells.

a) ATP

b) FADPH

c) NADP

d) NADPH

10. contain internal compartments in which photosynthesis takes place

a) Mitochondria

b) Endoplasm

c) Chloroplasts

d) Ribosomes

1. Many organelles are surrounded by a singlemembrane

- a) phospholipid
- b) protein
- c) carbohydrate
- d) big

2. collectively known as the cytoskeletonThe cytoplasm contains an array of fibrous

- a) plasma
- b) proteins
- c) Golgi
- d) lysosome

3. The nucleus contains the RNA synthetic apparatus, and a fibrous matrix.

- a) virus genome
- b) nuclear genome
- c) DNA genome
- c) RNA genome u

4. are the principal sites of ATP production in aerobic
cells

- a) Peroxisomes
 - b) Mitochondria
 - c) Endosomes
 - d) Golgi complex
-

C. Grammar: Choose the correct answer. This section is to be done in 5 minutes.

1. Mitochondrion is a characteristic internal structure consisting of a outer wal

- a) single-layered
- b) double-layered
- c) fluid-filled
- d) single-celled

2. Almost all plant cells have vacuole which are

- a) air-filled
- b) blood-filled
- c) gas-filled
- d) fluid-filled

3. Some organisms are unicellular or

a) single-celled

b) horizontal-celled

c) simple-celled

d) complex-celled

4. Chloroplasts are body that is involved in the synthesis of food for the plant

a) triangle-shaped

b) square-shaped

c) oval-shaped

d) rectangle-shaped

- a)** A nuclear division followed by a cell division. **(T)**
- b)** In diploid multicellular organism's sexual reproduction involves the fusion of two diploid gametes to produce a haploid zygote. **(F)**
- c)** Metaphase is the shortest stage of mitosis. **(F)**
- d)** In adult organism mitosis plays a role in tumor formation. **(T)**
- e)** Daughter centrosomes migrate to opposite ends of the cell. **(T)**
-

B. Structure: Choose the answer that best completes the sentence.

1. In G1 phase, metabolic changes prepare the cell
division

- a) for
- b) from
- c) in

d) at

2. Cells are responsible the growth and development organisms.

a) to_for

b) for_of

c) for_to

d) of to

3. The replicated chromosomes are attached to a 'mitotic apparatus that aligns and then separates the sister ' chromatids

a) their

b) they

c) them

d) they're

4. The chromosomes condense compact structures

a) into

b) to

c) out

d) in

5. The chromosomes are led by centromeres

- a) they're
- b) their
- c) them
- d) they

جای خالی:

C. Fill in the blanks with appropriate words from the list.

period, process, nuclear envelope, poles, cytokinesis

In the M phase (Mitosis) the maternal (**nuclear**) breaks down matching chromosomes are pulled to opposite (**poles**) of the cell each set of daughter chromosomes is surrounded by a newly formed nuclear envelope, and (**cytokinesis**) pinches the cell in half, producing two

daughter cells. In embryonic or rapidly proliferating tissue, each daughter cell divides again, but only after waiting

(**period**) In cultured animal cells the entire (**process**) takes about 24 hours.

=====

1. Which one contains a single copy of each chromosome?

- a) haploid
- b) diploid
- c) zygote

d) chromatid

2. Which phase is not in prophase I stage?

a) leptotene

b) zygote

c) pachytene

d) bivalents

3. In which phase there is crossing over between pairs of homologous chromosomes to form chiasmata?

a) diplotene

b) pachytene

c) diakinesis

d) leptotene

4. Which step can reduce the cell from diploid to haploid by special cell division?

a) prophase

b) metaphase

c) meiosis

d) anaphase

5. In what stage homologous chromosomes start to separate but remain attached by chiasmata?

- a) zygotene
- b) pachytene
- c) leptotene
- d) diplotene

6. Which one can not be divided by meiosis ?

- a) haploid cell
- b) diploid cell
- c) every polyploid cell
- d) none of them

7. Which one happens before metaphase ?

- a) anaphase
- b) cytokinesis
- c) telophase
- d) pro-metaphase

8. Identify the false statement

- a) In S phase, DNA synthesis replicates the genetic material,
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- b) In humans, sexual reproduction involves the fusion of two haploid gametes.
- c) In prophase, the nuclear membrane breaks down to form a number of small vesicles
- d) The chromosomes align themselves along the pro-metaphase plate of the spindle apparatus.

9. Which one is the final stage of mitosis?

- a) anaphase
- b) metaphase
- c) telophase
- d) pro-metaphase

10. The separation of the cytoplasm in a cellular division is called

- a) metabolism
- b) mitosis
- c) anaphase
- d) cytokinesis

1. Division of the cytoplasm and whole cell is known as

- a) cytokinesis

- b) interphase
- c) mitosis
- d) cell cycle

2. Kinases are present in the all the time, though sometimes in an inactive state

- a) mitochondria
- b) cytoplasm
- c) nucleus
- d) endoplasmic reticulum

3. In which stage of mitosis, destruction of cyclins commences?

- a) telophase
- b) metaphase
- c) anaphase
- d) prophase

4. External factors can trigger the rise in concentrations

- a) cyclin
- b) kinase

c) CDK

d) MPF

C. Grammar: Choose the correct answer. This section is to be done in 5 minutes.

1.After which verb, we can use gerund?

a) decide

b) remember

c) admit

d) learn

2. If the cell has any problems, it stops quickly

a) dividing

b) to divide

c) to dividing

d) divides

3. is the most effective way for..... wounds

- a) Dividing-heal
- b) Divide-healing
- c) Dividing-healing
- d) Divide-heal

4. Actively eukaryote cells pass through a series of stages which are collectively known as the cell cycle.

- a) divide
- b) dividing
- c) to divide
- d) to dividing

a) In facilitated diffusion, there are not specialized membrane channels. **(F)**

b) The source of energy for active transport is the breakdown of ATP. **(T)**

c) Osmosis is a type of simple diffusion in which water molecules are diffused through a selectively permeable membrane from areas of low water concentration to areas of higher water concentration. **(F)**

d) If the particle is solid, endocytosis is also called phagocytosis. **(T)**

e) If the energy of ATP is directly used to pump molecules against their concentration gradient, the transport is called secondary active transport. **(F)**

=====

1. Biochemistry is the study.... the material substances that make up living things. **(with)**

2. Ecology: the study of how organisms interact their environment. **(With)**

3. The movements of most solutes through the membrane are mediated by membrane transport proteins ... are specialized to varying degrees in the transport of specific molecules. **(Which)**

4. Phagocytosis is the process. a cell uses plasma membrane to engulf a large particle. **(By which)**

5. The cell is a place..... most of interactions are happened. **(where)**

=====

C. Fill in the blanks: Supply the missing words in the following paragraph by using the words provided. Use each word only once. glucose - ATP - uniporter - plasma membrane - non gated channels Most animal cells use ..glucose as a substrate for... ATP production they usually employ a glucose ...uniporter to take up glucose from the blood or other extracellular fluid. Many cells use channel-like membrane transport proteins called aquaporins to increase the rate of water movement across their ... plasma membrane Movement of water into and out of cells is an

important feature of the life of all organisms . Some channels are open much of the time; they are referred to as non gated channels.

1. Which molecules in the cell membrane are more numerous than others?

(phospholipids)

2. Which is the result of creating pH and potential differences across the plasma membrane?

(activation a large set of secondary transporters)

3. Simple diffusion is a process that.....

(dose not require energy)

4. In which one, the vesicle has been formed?

(exocytosis)

5. The key to remember about osmosis is that water flows from the solution with the into the solution with.....

(lower solute concentration _higher solute concentration)

6. Which one requires the presence of a carrier protein, but does not require an energy expenditure?

(Facilitated diffusion)

7. Which one is true?

(Cellophane is a semipermeable membrane for water and salt solution)

8. The absorption of large molecules by cells, is called ... (Endocytosis)

9. What is the main reason for passage through a channel protein?

a) allows polar and charged compounds to avoid the hydrophobic core of the plasma membrane.

10. Which of the membrane transfer needs the energy?
(Active transport)

1. The first step in ... is the detection of the particle by receptors.

(Phagocytosis)

2. Several. ... can be found on a single phagocyte membrane for recognition and ingestion of the particle.

(Receptors)

3. The possibility of adhering the phagocyte and the particle depends on.....

(the chemical nature of the surface of the particle.)

4. In the case of ...if the phagocyte cannot adhere directly opsonins from a surface film on them

(bacteria)

1. The mosaic model . . . first proposed by Singer and Nicholson is an appropriate model for describing the structure of the membrane.

(Which)

2. It is because of the diffusion.... each molecule moves from an area with a high concentration to an area with a low concentration.

(That)

3. The outer mitochondrial membrane . encloses the entire organelle, is 60 to 75 angstroms (Å) thick.

(which)

4. In eukaryotic cells, enzymes d) which span the ER catalyze the formation of membrane lipids.

(That)

5. The cell uses the ATP molecules the energy is required.

(When)

درس چهارم:

a) Proteins are small biomolecules, or macromolecules, consisting of one or more long chains of amino acid residues.

(F)

b) Simple lipids composed of fatty acids and glycerol **(T)**

c) Animal fats tend to be saturated. **(T)**

d) Nucleic acids are monomers specialized for the storage. **(F)**

e) Cellulose is stable and good for structural components. **(T)**

=====

1. Biological molecules.. polymers.

(Are)

2. Carbohydrates have carbon skeletons that can rearranged.

(Be)

3. Human blood groups get specificity .. . oligosaccharide chains.

(from)

4. Fatty acid is nonpolar hydrocarbona polar carboxyl groups.

(with)

5. The backbone of DNA, bonded . phosphodiester linkage.

(by)

=====

Nucleic acids are the information molecules of cells found throughout the living world. This is because the code containing the information in nucleic acids, known as the ... genetic code, is a universal one. That means that it makes sense in all organisms. It is not specific to a few organisms or to just one group, such as bacteria. There are two types of nucleic acid found in living cells: deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). DNA is the genetic material and occurs in the chromosomes of the ...nucleus While some RNA also occurs in the nucleus, most is found in the cytoplasm – particularly in the ribosomes. Both DNA and RNA have roles in the day-to-day control of cells and organisms, as we shall shortly see. First, we will look into the structure of

nucleotides and the way they are built up to form the unique DNA double helix.

Nucleotides: A nucleotide consists of three substances combined together. These are: a nitrogenous base – the four bases of DNA are cytosine (C), guanine (G), adenine (A) and thymine (T), a..... pentose sugar -deoxyribose occurs in DNA and ribose in RNA n phosphoric acid. These components are combined by condensation reaction to form a nucleotide with the formation of two molecules of water Since any one of the four bases can be incorporated, four different types of nucleotide can be found in DNA. How these components are combined together is shown in Figure 4-4, together with the diagrammatic way the components are represented to illustrate their spatial arrangement. Simple shapes are used rather than complex structural formulae, •and these shapes are all that are required here

Nucleotides become nucleic acid. Nucleotides may condense together, one nucleotide at a time, to form huge molecules called nucleic acids or polynucleotides (Figure 4-5). So sugar are very long, thread-like macromolecules with alternating sugar and phosphate molecules forming the backbone'. This part of the nucleic acid

1. The backbone of DNA and RNA is a chain of..... andgroups.

(sugars-phosphate)

2. Which triglyceride is in plant cells?

(Unsaturated oil)

3. The carbohydrate in DNA molecules is called

(deoxyribose)

4. What is the name of nucleic acid monomers?

(Nucleotide)

5. Source of stored energy in cells is.....

(carbohydrate)

6. Simple lipids composed of fatty acids and.....

(glycerol)

7. Storage of glucose in plants and animal are respectively.
.... . and

(starch-glycogen)

8. Glycerol is an alcohol and

(has three OH groups)

9. Which choice does not exist in the nucleotide structure?

(Glucose)

10. What is the weak and additive force that holds lipids together?

(Van der waals)

1. Which enzyme is produced in the gut of all human babies while they are dependent on milk?

(lactase)

2. Which are the Clinistix strip immobilized enzymes?

(glucose oxidase and peroxidase)

3. Enzyme that digests milk sugar is only found in adults from
.....

(Northern Europe)

4. What is the name of colourless hydrogen donor
compound in Clinistix strip?

(chromogen)

1. Human blood groups.oligosaccharide chains.

(have)

2. Plant triglycerides saturated

(tend to be)

3. Glycerol.... 3 OH groups.

(has)

4. When lipids sufficiently together, van der Waals... them
together.

(Close - hold)

2. True and false statements: Insert T for true and F for false in the parenthesis.

a) Genetic information

in DNA can be accurately copied and translated to make the lipids. **(F)**

b) Two DNA strands are held together by van der Waals bonding between complementary base pairs. **(F)**

c) RNA carries information from DNA to the cytoplasm. **(T)**

d) Variable number tandems repeat regions (VNTRs) usage is in genetic. **(T)**

e) The tRNA binds mRNA codon, carrying a specific amino acid. **(T)**

B. Structure: Choose the one correct answer, which best completes the sentence

1. Translation the process of protein synthesis

- a) is
- b) are
- c) there
- d) of

2. Two DNA strands held together by hydrogen bonding between complementary base pairs.

- a) is
- b) are
- c) there
- d) of

3. Transcription is the process by an RNA sequence is produced from a DNA template.

- a) where
- b) whose
- c) when
- d) which

4. The Information carried by mRNA from a specific gene to the ribosomes in order to the correct polypeptide

- a) creating
- b) create
- c) created
- d) will create

5. When a stop codon is release factor binds, releasing the polypeptide.

- a) reach
- b) reaching
- c) reached
- d) will reach

جای خالی:

Transcription and gene expression. Information stored as a code in DNA is copied onto mRNA. Transcription occurs in the **(unclens)** During transcription, a complementary copy of the information in a part of the DNA molecule **(a gene)** is made by the building of a molecule of messenger RNA (mRNA). In the process, the DNA triplet codes are transcribed into (Codons) in the mRNA. This process is catalyzed by the enzyme RNA polymerase (Figure 5-4). In transcription, only

one strand of the DNA double helix serves as a **(template)** for synthesis of mRNA. This is called the antisense or coding strand. The DNA double helix first unwinds and the hydrogen bonds are **(broken)** at the site of the gene being transcribed. Next, the enzyme RNA polymerase recognizes and binds to a **(Promoter)** region, the 'start' signal for transcription. This is located immediately before the gene. RNA polymerase now draws on the pool of free nucleotides. As with DNA replication, these nucleotides are present in the form of **(nucleoside)** triphosphates (in RNA synthesis uridine triphosphate replaces thymidine triphosphate). Transcription is a totally accurate process because of complementary base pairing. The **(polymerase)** Enzyme matches free nucleotides (A with U, C with G), working in the 5'-3' direction. Note that in RNA synthesis, it is uracil which pairs with adenine. Hydrogen bonds then form between complementary bases, holding the nucleotides in place. Finally, each selected free nucleotide, in turn, is joined onto the growing mRNA strand by **(condensation)** reaction. It is the sugar and **(phosphate)** groups of adjacent nucleotides that are condensed together by the enzyme RNA polymerase. The whole process continues until a base sequence known as the transcription **(termination)** region is reached. At this signal, both RNA polymerase and the completed new strand of mRNA are freed from the site of the gene. Once the mRNA strand is free. it leaves the

Replication, transcription and translation

nucleus through pores in the nuclear membrane and passes to tiny structures in the cytoplasm called **(ribosomes)** where the information can be 'read' and is used. The DNA double strand once more reforms into a compact helix at the site of transcription.

=====

VII. Test yourself

If you score 70% or above go on the next unit

A. Choose the correct answer in the following sentences, basing your choice on the total concept covered in preceding parts. This section is to be done in 10 minutes.

1. By which link are the two strands of DNA held?

- a) hydrogen
- b) peptide
- c) van der Waals
- d) ionic

2. In semi-conservative replication, each new DNA strand has

- a) one parental strand and two newly synthesized strands
- b) two parental strands and one newly synthesized strand
- c) one parental strand and one newly synthesized strand

d) two parental strands and two newly synthesized strands.

3. Which of the following choices have no role in translation process?

a) ribosome

b) mitochondria

c) RNA polymerase

d) Golgi apparatus

4. By which enzyme, DNA can be transcribed into a single stranded mRNA molecule?

a) amylase

b) ribonuclease

c) deoxyribonuclease

d) RNA polymerase

5. In one of the translation steps, the two ribosomal subunits bind to the

a) mRNA strand

b) DNA strand

c) RNA strand

d) tRNA strand

6. The ribosome moves along the adding amino acids

a) tRNA

c) mRNA strand

d) RNA polymerase

b) DNA

7. is a part or the whole of a particular protein that can have many functions

a) Codon

b) Polypeptide

c) Ribosome

d) Genetic code

8. How many nucleotides does one codon have?

a) 3

b) 2

c) 4

d) 1

9. carry specific anti-codons complementary to the mRNA

a) rRNA

b) DNA

- c) codon
- d) tRNA

10. The DNA code is in the but protein synthesis occurs on

- a) ribosomes - nucleus
- b) nucleus – vacuole
- c) vacuole – nucleus
- d) nucleus – ribosomes

=====

C. Grammar: Circle the correct verb in the "if clause "or" result clause" to make a "correct first conditional". This section is to be done in 5 minutes.

Every weekend, if the weather is nice, I (**will spend** /**spend**) time outside with my children. One of their favorite things to do is to go to a nearby park. If we ride our bikes to the park, it (**takes / will take**) about 10 minutes. If there (**is** /**will be**) a heavy traffic, it takes a little longer. Once we get to the park, the kids choose their favorite playground equipment to play on. Jeffrey likes the climbing walls, but if he (**climbs** / **will climb**) too high, I start to get nervous.

2. True and false statements: Insert T for true and F for false in the parenthesis.

a) The death of specific cells keeps chicken feet as well as our hands from being webbed. **(T)**

b) Apoptosis creates holes in the plasma membrane, causing leakage of intracellular contents. **(F)**

c) Cells in multicellular organisms require specific protein hormone signals to stay alive. **(T)**

d) "Destruction" proteins are required for performing functions such as digesting proteins and DNA in a dying cell. **(T)**

e) Apoptosis occurs when cells are subjected to injury or excessive stresses such as heat **(F)**

B. Structure: Choose the one correct answer which best completes the sentence.

1. In contrast to apoptosis, cell that dies necrosis or .necroptosis exhibit very different morphological changes

b) of

c) on

a)by

d) under

2. Cell death is most often by a common molecular pathway.

a) has been mediated

b) is mediating

c) mediated

d) has mediated

3. Cell-cell interactions regulate cell death two fundamentally different ways.

a) on

b) by

c) of

d) in

4. "Engulfment" proteins are required.... phagocytosis
the u cell by another cell.

- a) from-of
- c) of --for
- d) on-for
- b) for-of

5. The intracellular constituents into the extracellular
milieu.

- a) will released
- b) does not released
- c) does not release
- d) are not released

=====

جای خالی:

c. Fill in the blanks: Supply the missing words in the
following paragraph by using the words provided. Use each
word only once.

**insammatory - phagocytosis - apoptosis -
cellular – necroptosis_ immune system - suicide**

Programmed cell death, or **(apoptosis)**, is a genetically
encoded form of cell **(suicide)** that results in the orderly

death and **(phagocytosis)** of excess, damaged, or dangerous cells during normal development and in the adult. The cellular machinery required to carry out apoptosis is present in most, if not all cells, but is activated only in cells instructed to die **(necroptosis)** is a programmed form of necrosis or **(inflammatory)** cell death. Conventionally, necrosis is associated with unprogrammed cell death resulting from **(Cellular)** damage

mage or infiltration by pathogens, in contrast to the orderly, programmed cell death via apoptosis. Furthermore, the immunogenic nature of necroptosis favors its participation in certain circumstances, such as riding in defense against pathogens by the **(immune system)**

VII. Test yourself

If you score 70% or above go on to the next unit.

A. Choose the correct answer in the following sentences basing your choice on the total concepts coverca section is to be done in 10 minutes.

1. The death of cells, which occurs as a normal and controlled part of an organism's growth.

- a) apoptosis
- b) necroptosis

- c) suicide
- d) immune system

2. Which of the following choices are required for a cell to apoptotic process.

- a) killer proteins
- b) cortisol
- c) aldosterone
- d) destruction proteins

3. A mutation is the alteration of the sequence of the genome of organism.

- a) carbohydrate
- b) lipid
- c) sugar
- d) nucleotide

4. Most programmed cell death occurs through

- a) apoptosis
- b) endocytosis
- c) phagocytosis
- d) necroptosis

5. Invertebrate is

- a) a kind of animal that flies.
- c) an animal of large group distinguished by the possession of backbone.
- d) a kind of animal that swims
- b) an animal lacking a backbone.

6. One of the most important ways to boost immune system in preparation for coronavirus, is to reduce.....

- b) washing
- d) walking
- a) stress
- c) eating

7. Sickle-cell and anemia is the result of a mutation

- a) silent
- b) point
- d) Nonsense
- c) Large-scale

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8. Which is incorrect about the immune system?

- a) Immunology covers the study of all aspects of the immune system.
- b) Nearly all organisms have some kind of immune system.
- c) The immune system detects and responds to a wide variety of pathogens.
- d) The immune system is a network of biological processes that can not protects an organism from diseases.

9. The early stage of development of a multicellular organism:

- a) metazoan
- b) amoeba
- c) embryo
- d) algae

10. Which one induces a “murder” program that can kill cells?

- a) The immune system
- b) specific hormone signals
- c) ribosomes

d) 1 and 2

1. Besides classical apoptosis, several on different forms of PCD have now been recognized, including

a) cell death

b) necrosis

c) necroptosis

d) pathology

2. The way a cell determines the reaction of the surrounding environment of that cell.

a) kills

b) murder

c) death

d) dies

3. Apoptosis and necroptosis are major mechanisms of that typically result in opposing immune responses.

a) organism

b) cell death

c) program

d) immune system

4. The mechanisms of neuronal death are not well defined and significant cross-talk between has been suggested.

- a) reactions
- b) signals
- c) things
- d) pathways

C. Grammar: Choose the correct answer. This section is to in 5 minutes.

1. Necrosis by factors external to the cell or tissue, such as Infection.

- a) is cause
- b) are caused
- C) is caused
- d) cause

2. Many kinds of cells constantly wear out and need to.....

- a) removed
- c) removes
- b) be removed
- d) remove

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3. The cell coipses by neighboring cells.

- a) is ingest
- b) ingested
- d) are ingested

4. The intracellular consistent in to the extracellular milieu where they would probably have deleterious effects on neighboring cells.

- a) not release
- b) are not released
- c) isn't release
- d) aren't release