



- 6- Synthesis of mRNA is _____.**
- in the 5' to 3' direction with new nucleotides being added to the 5' end of the mRNA molecule.
 - in the 3' to 5' direction with new nucleotides being added to the 5' end of the mRNA molecule.
 - in the 5' to 3' direction with new nucleotides being added to the 3' end of the mRNA molecule.
 - in the 3' to 5' direction with new nucleotides being added to the 3' end of the mRNA molecule.
- 7- Which of the following occurs as the ribosome shifts down the mRNA by a distance of three nucleotides?**
- the tRNA that was in the A site moves into the E site
 - the tRNA that was in the P site moves into the A site
 - the tRNA that was in the E site moves into the P site
 - the tRNA that was in the P site moves into the E site
- 8- Translation is the synthesis of _____.**
- proteins from mRNA
 - mRNA from proteins.
 - proteins from DNA
 - mRNA from DNA.
- 9- The codon on tRNA matches up with the complementary anticodon on mRNA.**
- True
 - False
- 10- Gene expression refers to _____.**
- the molecular structure of DNA.
 - the process by which protein manufactures DNA.
 - the process by which a gene gets turned on in a cell to make RNA and proteins.
 - the fact that biological processes rely on chemical reactions
- 11- Transcription results in:**
- complementary DNA
 - an amino acid chain
 - messenger RNA
 - all of the above
- 12- The changes result from environmental effects of genes such _____.**
- segregation and recombination.
 - duplication mutation.
 - deletion mutation.
 - insertion mutation.
- 13- The best term to describe the incorporation of a random mistake into the DNA sequence at a specific point is _____.**
- A chromosomal mutation
 - A point mutation
 - A base insertion
 - A base deletion
- 14- Transition mutation occurs when the base of one chemical is replaced by the other base of the same chemical purine molecule. An example of a transition mutation is _____.**
- An adenine substituted for a guanine.
 - A cytosine substituted for a thymine.
 - A guanine substituted for a thymine.
 - A thymine substituted a cytosine.



15- Which of the following concerning Numerical chromosomal mutation is not correct?

- a. Decrease chromosomes number.
- b. Increase chromosomes number.
- c. Duplication of chromosomes number.
- d. Frameshift mutation

16- A genetic change that involves duplication of chromosomes number leads to _____.

- a. Inversion
- b. Deletion
- c. Polyploidy
- d. Recombination

17- An Example of increase chromosomes number is _____.

- a. Turner syndrome
- b. Klinefelter syndrome
- c. Down syndrome
- d. all of the above

18- Spontaneous Mutation Occurs due to _____.

- a. Cosmic rays
- b. Chemical compounds
- c. Ultraviolet rays
- d. all of the above

19- Mutation occurs when the codon of one amino acid is interchanged with the codon of another amino acid.

- a. Missense Mutation.
- b. Silent Mutation.
- c. Nonsense Mutation.
- d. Segregation

20- Crohn's Disease an Example of _____.

- a. Insertion Mutations.
- b. Deletion Mutations.
- c. Nonsense Mutations.
- d. Segregation

1.b. Short Assay (10 points):

1. Who discovered the structure of DNA?

.....
.....

2. In DNA, what pairs with Adenine?

.....
.....

3. What holds one strand of DNA to the other strand?

.....
.....

4. What base is in RNA, but not in DNA?

.....
.....



5. How many strands are RNA and DNA?

.....
.....

6. By which process RNA is made from DNA?

.....
.....

7. The process by which DNA makes a copy of itself is called what?

.....
.....

8. What regulates what enters and leaves the cell and provides protection and support?

.....
.....

9. Which cell organelle is known as protein factory of the cell?

.....
.....

10. Which organelles helps provide the cell with energy and release energy?

.....
.....

السؤال الثاني: اجب عن الاتي (25 درجة)

1- انكر تعريف علم الوراثة الغذائية؟ وماهي مجالاته الرئيسية؟ (5 درجات)

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(5 درجات)

2- قارن بين علم الوراثة الغذائية وعلم التغذية الوراثي؟



(5 درجات)

3- وضح تأثير الغذاء على الجينات؟



(10 درجات)

4- اشرح علاقة الامراض المزمنة بعلم الوراثة الغذائية؟



كلية الاقتصاد المنزلي

السؤال الثالث: اجب عن الاتي (25 درجة)

1- ناقش أثر الأهداف الجزيئية للمكونات الغذائية النشطة بيولوجيا وعلاقتها بالأورام السرطانية. (15 درجة)



2- ناقش التفاعلات بين المركبات النشطة بيولوجيا في التسبب في مرض السكري من النوع الثاني. (10 درجات)



الإختبار النهائي النظري - الفصل الدراسي الثاني - للعام الجامعي 2023 / 2024 م

القسم العلمي	التغذية وعلوم أطعمة	الشعبة / الفرقة الدراسية	التغذية وعلوم أطعمة - دكتوراه (دور أكتوبر)
اسم المقرر	التغذية والوراثة	كود المقرر	7116
العام الدراسي	2024 / 2023 م	الفصل الدراسي	الثاني (دور أكتوبر)
تاريخ الامتحان	2024 / 5 / 27 م	زمن الامتحان	ساعتان
عدد الأسئلة	3 أسئلة رئيسية	طريقة اجابة الامتحان	كراسة <input type="checkbox"/> نفس الورقة <input checked="" type="checkbox"/> نموذج إجابات قصيرة <input checked="" type="checkbox"/> اختيارات من متعدد <input type="checkbox"/> إلكتروني <input type="checkbox"/>
عدد أوراق الامتحان	11 ورقة + الغلاف	نوع الأسئلة	إجابات قصيرة <input checked="" type="checkbox"/> اختيارات من متعدد <input type="checkbox"/>
عدد الطلاب	7	الدرجة الكلية	80 درجة
تعليمات خاصة بالامتحان	جميع الأسئلة إجباريه		

السؤال الأول: اختر أفضل الإجابة مع وضع الإجابة المختارة للأسئلة التالية في الجدول التالي:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

1.a. Choose the best answer (20 points):

1. There are two sites on the t.RNA is important in protein synthesis.

- the amino-acid attachment site and anticodon site.
- the aminoacyl-tRNA binding site and anticodon site.
- the polypeptide tRNA binding site and exit site.
- the mRNA binding site and exit site.

2- What controls most of the cell processes and contains the genetic information of DNA?

- Mitochondria
- Chloroplast
- Nucleus
- Nucleolus

3- Given the following DNA strand, which of the following is its complementary mRNA? G G A C T G A T T

- C C T G A C T A A
- C C U G A C U A A
- G G A C T G A T T
- T T A G T C A G G

4- The enzyme _____ unzips and unwinds the DNA molecule.

- DNA polymerase
- primase
- helicase
- DNA ligase

5- During replication, what enzyme adds complimentary bases?

- helicase
- synthesase
- replicase
- polymerase