



التغذية وعلوم أطعمة – دكتوراه (دور فبراير)	الشعبة / الفرقة الدراسية	التغذية وعلوم أطعمة	القسم العلمي
7116	كود المقرر	التغذية والوراثة	اسم المقرر
الثاني (دور فبراير)	الفصل الدراسي	2023 / 2024 م	العام الدراسي
ساعتان	زمن الامتحان	2024 / 1 / 14	تاريخ الامتحان
كراسة <input type="checkbox"/> نفس الورقة <input checked="" type="checkbox"/> نموذج <input type="checkbox"/> الكتروني	طريقة إجابة الامتحان	3 أسئلة رئيسية	عدد الأسئلة
<input checked="" type="checkbox"/> إجابات قصيرة <input type="checkbox"/> اختيار من متعدد	نوع الأسئلة	11 ورقة + الغلاف	عدد أوراق الامتحان
80 درجة	الدرجة الكلية	10	عدد الطلاب
		جميع الأسئلة إجبارية	تعليمات خاصة بالامتحان

**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	21	22	23	24	25	

### **1. Choose the best answer (25 points):**

#### **1- What is the role of ribosomes?**

- a. Protein synthesis.
- b. Synthesizes of lipids.
- c. Moves the cell and its components.
- d. ATP formation.

#### **2- The rough endoplasmic reticulum has \_\_\_\_\_ located on it.**

- a. lysosomes
- b. cytosol
- c. ribosomes
- d. proteins

#### **3- What controls most of the cell processes and contains the genetic information of DNA?**

- a. Mitochondria
- b. Chloroplast
- c. Nucleus
- d. Nucleolus

#### **4. Who discovered the structure of DNA?**

- a. Watson and Crick
- b. Mendel
- c. Frederick Griffith
- d. Oswald Avery

#### **5- How many strands are RNA and DNA?**

- a. Both RNA and DNA are double stranded
- b. RNA is single stranded and DNA is double stranded
- c. RNA is double stranded and DNA is single stranded
- d. Both RNA and DNA are single stranded.

#### **6- Which of the following is found on RNA but not DNA?**

- a. uracil
- b. deoxyribose
- c. phosphate
- d. adenine



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

- a. C C T G A C T A A      b. C C U G A C U A A  
c. G G A C T G A T T      d. T T A G T C A G G

8- The enzyme \_\_\_\_\_ unzips and unwinds the DNA molecule.

- a. DNA polymerase      b. primase  
c. helicase      d. DNA ligase

9- During replication, what enzyme adds complimentary bases?

- a. helicase      b. synthesase      c. replicate      d. polymerase

10- Synthesis of mRNA is

- a. in the 5' to 3' direction with new nucleotides being added to the 5' end of the mRNA molecule.  
b. in the 3' to 5' direction with new nucleotides being added to the 5' end of the mRNA molecule.  
c. in the 5' to 3' direction with new nucleotides being added to the 3' end of the mRNA molecule.  
d. in the 3' to 5' direction with new nucleotides being added to the 3' end of the mRNA molecule.

11- Which of the following occurs as the ribosome shifts down the mRNA by a distance of three nucleotides?

- a. the tRNA that was in the A site moves into the E site  
b. the tRNA that was in the P site moves into the A site  
c. the tRNA that was in the E site moves into the P site  
d. the tRNA that was in the P site moves into the E site

12- Translation is the synthesis of \_\_\_\_\_.

- a. proteins from mRNA      b. mRNA from proteins.  
c. proteins from DNA      d. mRNA from DNA.

13- The codon on tRNA matches up with the complementary anticodon on mRNA.

- a. True      b. False

14- Gene expression refers to \_\_\_\_\_.

- a. the molecular structure of DNA.  
b. the process by which protein manufactures DNA.  
c. the process by which a gene gets turned on in a cell to make RNA and proteins.  
d. the fact that biological processes rely on chemical reactions.

15- Transcription results in:

- a. complementary DNA      b. an amino acid chain  
c. messenger RNA      d. all of the above

16- The changes result from environmental effects of genes such \_\_\_\_\_.

- a. segregation and recombination.      b. duplication mutation.  
c. deletion mutation.      d. insertion mutation.



17- The best term to describe the incorporation of a random mistake into the DNA sequence at a specific point is \_\_\_\_.

- a. A chromosomal mutation
- b. A point mutation
- c. A base insertion
- d. A base deletion

18- 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 \_\_\_\_.

- a. An adenine substituted for a guanine.
- b. A cytosine substituted for a thymine.
- c. A guanine substituted for a thymine.
- d. A thymine substituted a cytosine.

19- 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

20- A genetic change that involves duplication of chromosomes number leads to \_\_\_\_\_.

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

21- An Example of increase chromosomes number is \_\_\_\_.

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

22- Spontaneous Mutation Occurs due to \_\_\_\_\_.

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

23- 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

24- Crohn's Disease an Example of

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

25- Turners syndrome in humans "44 + XO " where the somatic cells loss one chromosome (45 chromosome)

- a. True
- b. False



كلية الاقتصاد المنزلي

السؤال الثاني: أجب عن الآتي (30 درجة)

١- وضح في نقاط كيف تتدخل الأغذية مع الوراثة مع ذكر معنى الأغذية الحامية؟ (١٠ درجات)



10 درجات

## 2- ما هي علاقة المطفرات الغذائية بحدوث السرطانات؟



كلية الاقتصاد المنزلي

### 3- كيف تؤثر الكربوهيدرات على فعالية الجينات؟

(5 درجات)



كلية الاقتصاد المنزلي

٤- ماهي الطرق التي يمكن أن يؤثر النظام الغذائي على مستويات التعبير عن الجينات؟ (5 درجات)

**السؤال الثالث: اجب عن الاتي (25 درجة)**

١- المتلازمة الايضية عبارة عن مجموعة من المشاكل الصحية، ناقش هذه العبارة من خلال الاسباب - التشخيص - الرعاية الغذائية. (١٥ درجة)

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2- ناقش الأسباب التي تؤدي إلى حدوث الانيميا المنجلية واعراض المرض وطرق التعامل الغذائي. (10 درجات)



انتهت الأسئلة

لجنة الممتحنين			
التوقيع	الاسم	التوقيع	الاسم
.....	اد/ عصام عبد الحافظ حسين	.....	اد/ اسلام احمد محمود حيدر
.....	اد/ عبير احمد خضر	.....	اد/ ايمن السيد العدوى