

علم الحيوان

Kafrel-sheikhUniversity

Faculty of Science  
Date: 28-12-2017  
Time: 2 Hours  
Level:4th year Zoology

First term during  
academic year 2017-2018

Subject: Biological relationship  
and Animal behavior (Z426)



70 Marks

Answer the following questions :

1-Write short notes on: (20 marks)

Mutualism- Amensalism- Predation - Competition.

2-Discuss the function or the adaptive significance of behavior. ( 10 marks)

3-Explain ontogeny in animal behavior. ( 15 marks)

4-Discuss instinct and learning in the animal biological setting. ( 15 marks)

5-Put (✓) or ( X ) and giving reason for both cases: (10 marks)

a-In antagonistic interactions one species benefits at the expense of another.

b-Commensalism benefits one organism and the other organism is neither benefited nor harmed.

c-The examination of cockroach shows that there are about 110 hairs on each of its cerci.

d-Body size of animal and its life span are usually negatively correlated to some extent.

انتهت الأسئلة،

*With best wishes,*

*Dr. Alyaa Gazzy.*

Kafrel-sheikhUniversity  
Faculty of Science  
Date: 11-1-2018  
Time: 2 Hours  
Level:4th year Zoology

First term during  
academic year 2017-2018

Subject: Taxidermy (Z425)



70 Marks

Answer the following questions :

1-Write short notes on: (20 marks)

- A- Crude taxidermy. B- Biological death. C- Defibrillation.  
D- Modern taxidermy.

2-Discuss the method of cryonics. (10 marks)

4-Explain the steps of mummification. (15 marks)

5- Write the method of fish taxidermy. (15 marks)

6- Complete these sentences: (10 marks)

a-Freeze-drying method is known as -----.

b-Stuffed animal is -----taxidermy.

c- Rogue taxidermy is -----.

d-There are tips and warning to mount a fish -----,-----and-----.

e- Bird taxidermy is -----, -----, ----- and -----.

f- Taxidermy is -----but anatomy is -----.

انتهت الأسئلة،

*With best wishes,*

*Dr. Alyaa Gazzy.*



**Question 3: Choose the best answer:**

**10 Marks**

**1. It recognizes the Ori**

- (A) DNA A protein (B) Helicase (C) Topoisomerase (D) Splicosome

**2- Monkey DNA cut with restriction enzyme A can be joined to**

- (A) Monkey DNA cut with restriction enzyme B. (B) Monkey DNA that is uncut  
(C) bacterial DNA cut with restriction enzyme A. (D) bacterial DNA that is uncut

**3. The base sequence of RNA transcribed from a DNA strand sequence TGCAGCACA is:**

- (A) ACGUCGUGU (B) ACGUCGUCU (C) UGCAGCACA (D) GUACUACAC

**4. In replication, it can initiate the synthesis of a polynucleotide:**

- (A) DNA polymerase I (B) DNA polymerase II (C) DNA polymerase III (D) RNA polymerase

**5. The enzyme that removes RNA primer and inserts the correct DNA bases:**

- (A) DNA Polymerase I (B) RNA Polymerase (C) DNA Ligase (D) DNA Polymerase III

**6. Act as adapters between the codons of mRNA and the amino acids they code for:**

- (A) rRNA (B) tRNA (C) RNA polymerase II (D) UTP

**7. Introns are removed from the primary RNA transcript by**

- (A) A-tailing (B) G-capping (C) Restriction endonuclease (D) Spliceosomes

**8. enzymes used to "charge" the tRNA with the proper amino acid.**

- (A) methylase (B) Reverse transcriptase (C) aminoacyl tRNA synthetases (D) primase

**9. Cause the ribosome, the mRNA, and the new polypeptide to separate and terminate translation.**

- (A) tRNA (B) UTR (C) release factors (D) chaperone

**10. Which of the following is likely to contribute to a shift in the reading frame in an mRNA molecule?**

- (A) Removal of a single base (B) Removal of nine bases  
(C) Addition of a triplet code (D) Removal a triplet code

**Question 4: Give a full account for the following:**

**30 Marks**

- i- Modern cell theory.
- ii- Packaging of eukaryotic DNA in a nucleus.
- iii- Transcription and post-transcription modifications in eukaryotes.
- iv- Therapeutic cloning.

*Best wishes*



Answer the following questions:

**Question 1: Put V or X and in this case, correct to the right answer: 10 Marks**

1. In PCR,  $CaCl_2$  is the best buffer for *Taq* polymerase.
2. The number of DNA molecules following 8 PCR cycles is 256.
3. Dolly sheep is a good example of gene cloning.
4. DNA replication takes place during M phase of cell division.
5. In DNA structure, purine or pyrimidine attached to each deoxyribose projects in toward axis of helix.
6. For synthesis of a lagging strand, each fragment (Okazaki) must be primed separately.
7. In prokaryotes, a Shine-Delgarnon sequence on the mRNA pairs with the 16S rRNA.
8. The last amino acids in a polypeptide is called the "N-terminal".
9. A wobble position refers to 1<sup>st</sup> base of anticodon that can pair with several different nucleotides.
10. In eukaryotic ribosomes, the 40 S subunit contains three rRNAs; 5 S, 5.8 S, 28 S.

**Question 2: Complete the following: 20 Marks**

- 1- One microgram ( $\mu g$ ) of DNA equals ----- nanogram (ng).
- 2- The name of a restriction enzyme isolated from *S. aureus* strain 3A, 1<sup>st</sup> enzyme is -----.
- 3- DNA fingerprinting is -----.
- 4- The function of DNA Ligase is -----.
- 5- In bacteria, host DNA is protected from self-destruction with restriction enzyme by -----.
- 6- Isoschizomers refers to -----.
- 7- One of PCR disadvantages is -----.
- 8- In PCR, an ideal extension (elongation) temperature is -----  $^{\circ}C$ .
- 9- PCR applications include ----- and -----.
- 10- The length of a gene with 5883 bp, in  $\mu m$  -----.
- 11- In DNA replication, topoisomerase functions to -----.
- 12- The number of possible cuts by a 6-base restriction enzyme cutter in a 36,864bp fragment is -----.
- 13- Ori refers to -----.
- 14- The main purpose of gene cloning is to -----.
- 15- When given this mRNA sequence 5'-GAGUCGUCU-3', DNA template was -----.
- 16- Semi-conservative replication means -----.
- 17- ----- corrects the mistakes that happen during replication process.
- 18- Telomers are -----.
- 19- An operon is -----.
- 20- Monosictronic refers to -----.