



Final term Exam
January 2026



Department: Zoology

Major: ثانية بيولوجيا جزئية

Course Title:

أجنة لافقاريات

Code number: 202 Z

Mark: 90

Date: 12 / 1 / 2026

Time: 2 Hours

Question One: (20 Marks) (2 Marks for each)

A- Answer the following questions: (10 Marks)

- 1- What is the typical method of reproduction in echinoderms?
- 2- What type of cleavage does echinoderms exhibit?
- 3- When does the spawning period of most echinoderms occur?
- 4- What factors may induce the spawning process in echinoderms?
- 5- What is the name of the sedentary larval stage of Crinoidea?

B- Identify the following scientific words:

Scyphistoma	
Ephyra	
Oncomiracidia	
Viviparous monogenea	
Cestodes	

Question two: (20 Marks)

A- Differentiate between the following (2 Marks for each)

- 1- Isolecithal and telolecithal?
- 2- Diploblastic and Triploblastic?
- 3- Determinate cleavage and indeterminate cleavage?
- 4- The method of regeneration in both to sycon and Leucosolenia of sponge types?
- 5- Asexual reproduction in both free-living and parasitic Platyhelminthes?

B-what is/ are: (2 Marks for each)

- 1- What are the different types of cleavage according to the characteristics of division sequences and patterns?
- 2- What are the environmental conditions that allow the sexual reproduction to occur in *Hydra*?
- 3- What are the conditions for occurring the reproduction by gemmules in sponges?
- 4- What are the configuration steps for sperm formation in sycon sponge?
- 5- What are the functions of the medusa of obelia?

Question Three: (25 Marks)

A- Complete the followings: (15 Marks; 1 mark for each missing part)

- Oligochaetes have (1) fertilization whereas leeches have (2) fertilization?
- Leeches' eggs are fertilized in the (3), and then transferred to the (4) ..?
- The polychaetas usually have (5) cleavage whereas direct developers show (6) cleavage?
- Oligochaetes can reproduce asexually by (7) and by (8)?
- The Larva of annelids is (9) that is characteristics in case of (10) development?
- In the two-phase life cycle tapeworms, there are two larval stages before reach to final stage; these stages are (11) and (12)?
- Egg hatching of monogeneans may be triggered by host cues such as (13), (14) or (15) ..?

B- Right or False: (10 Marks; 2 marks for each)

- 1- The maturation of gonads in crustaceans is mainly due to the activation of male reproductive egg protein?
- 2- Vitellogenin is a lipoprotein used for energy requirement of developing embryo in crustaceans?
- 3- Most individual barnacles have both male and female reproductive organs?
- 4- Crustaceans have developed mechanisms to hold onto fertilized eggs until they hatch?
- 5- Megalopa larvae use thoracic appendages for swimming.?

Question Four: (20 Marks)

A-Choose: (20 Marks, 2 marks for each)

1	Do all snail species have the same life cycle?	
A	No, there is no pattern to the life cycle differences	B Yes

C	No, but they all have the same number of stages	D	No, the life cycle varies between different families of snails
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2	What is the purpose of the trochophore larvae stage?		
A	Reproduction	B	Development
C	Feeding	D	Feeding

3	What are the early-stage snails larvae called?		
A	Veliger	B	Gametes
C	Adult-like	D	Settling juveniles

4	Where are snail eggs deposited?		
A	On trees	B	In the soil
C	On leaves	D	In water

5	At which stage does an oyster develop a shell?		
A	Fertilized egg	B	Free-swimming larva
C	Shelled larva	D	Metamorphosing larva

6	What is the primary host for the larvae of a clam?		
A	Fish	B	Crustaceans
C	Other molluscs	D	Algae

7	How does the spawning process of squids usually begin again?		
A	Male squids lay eggs	B	Female squids fertilize their own eggs
C	The male squid fertilizes the female's eggs, and the spawning process begins again	D	The squid pair produces new eggs without mating

8	What is the name of the larvae that emerge from squid eggs?		
A	Rhynchoteuthion	B	Juveniles
C	Squidlets	D	Squidlings

9	Where do most squids lay their eggs?		
A	On seaweed	B	On rocks
C	On coral reefs	D	On the sea floor

10	What is the name of the packets of sperm that male squids store?		
A	Ovaries	B	Spermatophores
C	Spermatids	D	Gametes

"End Exam"

With Best Wishes

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