



**Final term Exam
January 2025**

Department: Zoology	Major: ثمانية بيولوجيا جزئية	Course Title: أجنة لافقاريات
Code number: 202 Z	Mark: 90	Date: 9 / 1 / 2025
Time: 2 Hours	الامتحان في 3 صفحات	

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

- 1- What is the typical method of reproduction in echinoderms?
- 2- What type of cleavage do echinoderms exhibit?
- 3- Which echinoderm species are known to use fragmentation as a method of reproduction?
- 4- What factors may induce the spawning process in echinoderms?
- 5- What is a bipinnaria larva?
- 6- Detect the term of embryology
- 7- Identify the Viviparous monogeneans?
- 8- What are the Blastomeres?
- 9- Detect the term of Amphiblastula larva?
- 10- Identify the dioecious?

Question two: (20 Marks)

Differentiate between the following (4 Marks for each)

- 1- Diploblastic & Triploblastic?
- 2- Isolecithal & telolecithal?
- 3- The method of regeneration in both sycon and Leucosolenia sponge types?
- 4- The method of formation in both coeloblastula and stereogastrula in leucosolenia sponge?
- 5- The asexual reproduction in both free-living and parasitic Platyhelminthes?

Question Three: (24 Marks)
Right or False: (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. (.....)
6	All crustaceans have internal fertilization during sexual reproduction. (.....)
7	Barnacles reproduce asexually and do not have a larval stage. (.....)
8	In crabs, the females carry the eggs attached to their abdomen until they hatch into larvae. (.....)
9	Spiny lobsters undergo a series of molts during their development from juvenile to adult. (....)
10	Copepods undergo a metamorphosis during their development from nauplius to adult. (.....)
11	Tropical panlinurid lobsters reproduce only during a specific time of year. (.....)
12	Barnacles release sperm into the water for fertilization. (....)

Question Four: (21 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

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

3	How long does it take for most snail species to reach sexual maturity?	
A	A year	B A couple of years
C	A few weeks	D A few months

4	How do larvae of snails get their shells?	
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A	The shells are made by the adult snails	B	The shells are bought ready-made from other snails
C	The larvae consume calcium to make the shell grow hard	D	The shells appear at a later stage in life

5	What is the first stage of oyster reproduction?		
A	Shelled larva	B	Adult oyster
C	Free-swimming larva	D	Fertilized egg

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

7	What is the fate of the host once the clam breaks out of the cyst?		
A	It dies	B	It is unharmed
C	It becomes a carrier of the young clam	D	It serves as food for the young clam

8	Which of the following is true about the life cycle of a mussel?		
A	It is identical to the life cycle of a clam	B	It is longer than the life cycle of a clam
C	It is shorter than the life cycle of a clam	D	It does not involve the attachment to a host

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

10	What do snail eggs hatch into?		
A	Adult snails	B	Trochophore larvae
C	Juvenile snails	D	Veliger stages

B- How do sea urchins negatively impact tropical sea-grass beds? (1 Mark)

"End Exam"

With Best Wishes

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