

# **Quadrant IV – Assessment (Module –wise)**

**Programme: BSc**

**Subject: Zoology**

**Paper Code:ZOC-108**

**Paper Title: Developmental Biology**

**Unit:1**

**Module Name: Gastrulation ( Emboly and Epiboly)**

**Module No:13**

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## **MCQ**

**1. Which of the following organ is formed during gastrulation?**

- (a) Gill
- (b) Vitelline membrane
- (c) Heart
- (d) Archenteron

**2. Mesoderm gives rise to all the structures except \_\_\_\_\_.**

- (a) Gonads
- (b) Circulatory system
- (c) Nervous system
- (d) Muscular system

**3. Brain, nerve cells and spinal cord or the central nervous system develops from embryonic \_\_\_\_\_.**

- (a) Mesoderm
- (b) Endoderm
- (c) Ectoderm
- (d) Both (b) and (c)

**4. During gastrulation in frog, the prospective nervous system mainly expand due to**

- (a)Involution
- (b)Invagination
- (c)Epiboly
- (d)Delamination

**5. In the Gastrula of frog which of the following layers line the roof of the archenteron and floor of the archenteron, respectively**

- (a)Mesoderm, Endoderm
- (b)Endoderm, Mesoderm
- (c)Ectoderm, Mesoderm
- (d)Mesoderm, Ectoderm

**6.Gastrulation in Amphioxus occurs by a process of**

- (a)Hyperboly
- (b)Hypoboly
- (c)Delamination
- (d)Invagination

**7.Epiboly occurs in**

- (a)Cleavage
- (b)Oogenesis
- (c)Gastrulation
- (d)Organogenesis

**8.The cavity formed during the process of gastrulation is called**

- (a)Blastocoel
- (b)Archenteron
- (c)Sub-germinal cavity
- (d)Blastoderm

**9.The mass separation of cells from one another is called**

- (a)Epiboly
- (b)Invagination
- (c)Involution
- (d)Delamination

**10. In frog gastrula, mesodermal cells remain separated from the notochordal cells by**

(a) Convergence

(b) Delamination

(c) Involution

(d) Invagination

**Short Answer – I (short notes - say 20 to 50 words)**

- 1) What does the blastopore become in protostomes? What does it become in deuterostomes?
- 2) What are the major similarities and differences between sea urchin gastrulation and frog gastrulation?
- 3) Why is the primitive streak in the chick embryo the equivalent of the blastopore?
- 4) Contrast mesoderm formation in the non-yolky eggs of a deuterostome such as a starfish with those of a protostome such as a snail. Compare coelom formation in these two groups.

**Short Answer – II (extended – say 50 to 100 words)**

- 1) Describe in detail the process of Gastrulation in Sea Urchin.
- 2) Write a note on process of Emboly and its types.
- 3) Explain in detail the process of epiboly with the help of a diagram.