

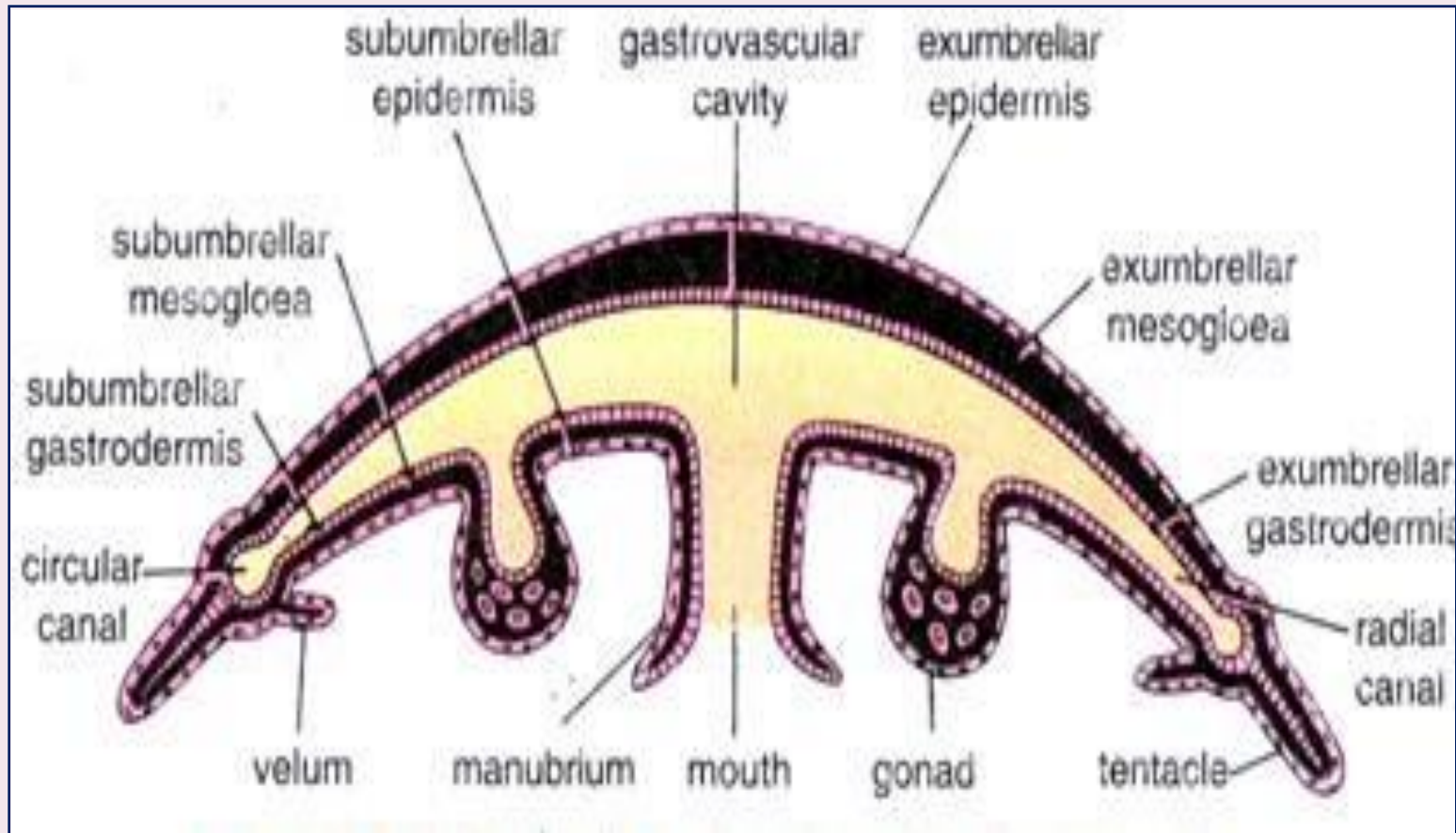
Topic: Morphology and Life history of Obelia
Class: B.Sc Part –I (Hons.)
Paper- I
Group – A

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Obelia: V.S. of medusa showing gonads



Sense organs:

- The bell margin is richly supplied with sensory cells and also contains two types of true sense organs, viz., light sensitive ocelli and statocysts.
- The ocelli consist of patches of pigment and photoreceptor cells organised either within a flat disc or a pit.
- The ocelli are typically located on the side of the tentacular bulbs.

- Statocysts are located between the tentacles or associated with the tentacular bulb at the tentacle base.
- They may be either in the form of pits or closed vesicles but in both cases, the walls contain sensory cells with bristles projecting into the lumen.
- Attached to the bristles are from a few to many calcareous concretions known as statoliths.

- The statocysts act as organs of equilibrium.
- When the bell tilts, the statoliths respond to the pull of gravity and stimulate the sensory bristles to which they are attached.
- The animal may then respond by muscular contractions to bring itself back into a horizontal position.

Reproductive organs:

- The medusae are sexual or reproductive zooids possessing gonads.
- The medusae are dioecious, they have either four testes or four ovaries in the sub-umbrella just below the radial canals.
- A gonad has an outer ectoderm and inner endoderm with mesogloea between the two layers.
- The gonad has a small diverticulum of the radial canal.

- The germ cells of Obelia do not arise in the gonads,
- They arise from interstitial cells of the ectoderm of the blastostyle
- where they may be seen in various stages of maturation,
- Then they migrate into the medusa, then through the radial canals they take up their position in the ectoderm of the gonads.
- When germ cells mature, the gonads rupture and spermatozoa and ova are discharged externally into water.