**Topic : Morphology and Life history of Obelia**

**Class: B.Sc Part –I (Hons.)**

**Paper- I**

**Group – A**

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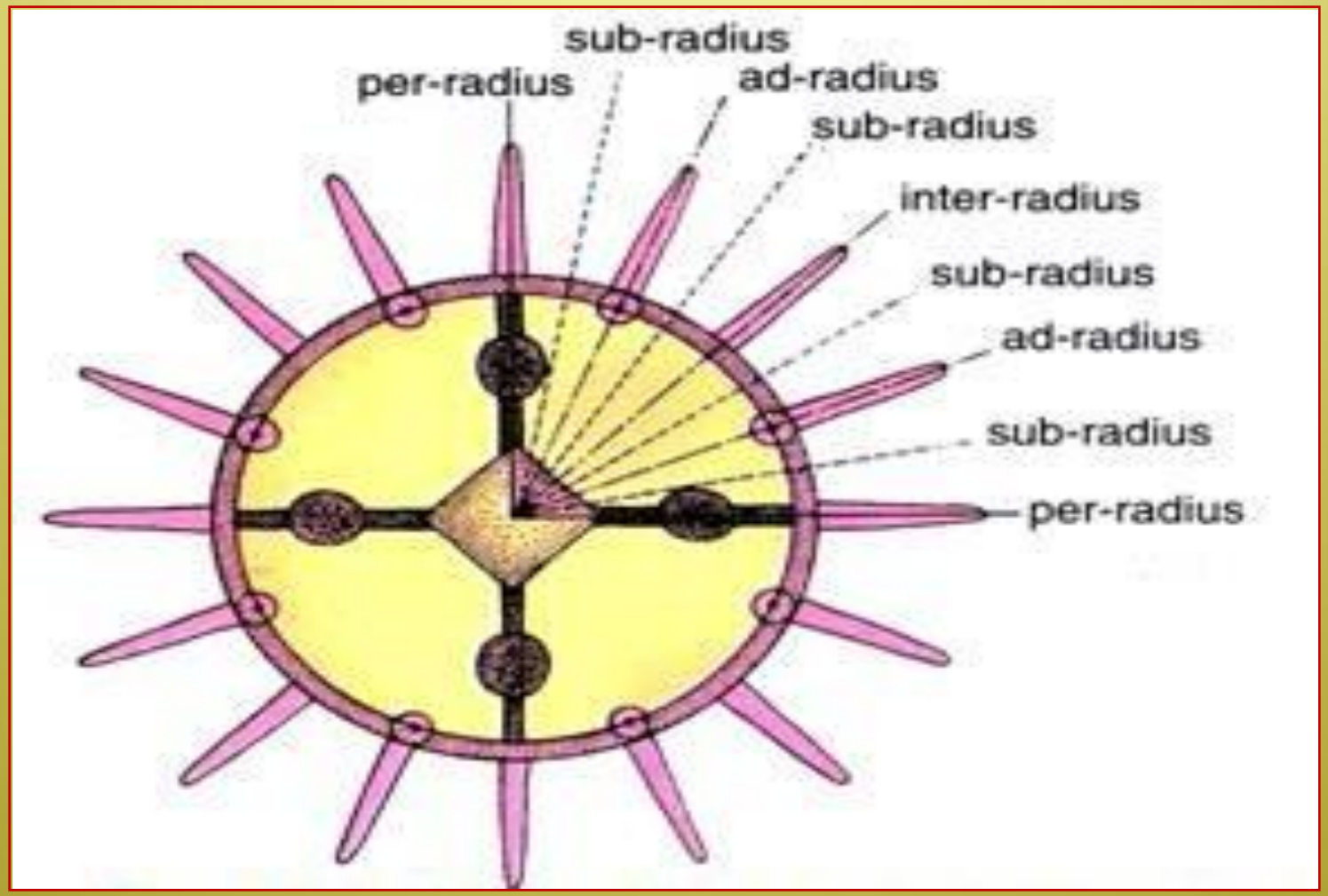
# Obelia: Medusa showing radial symmetry and various orders of radii.

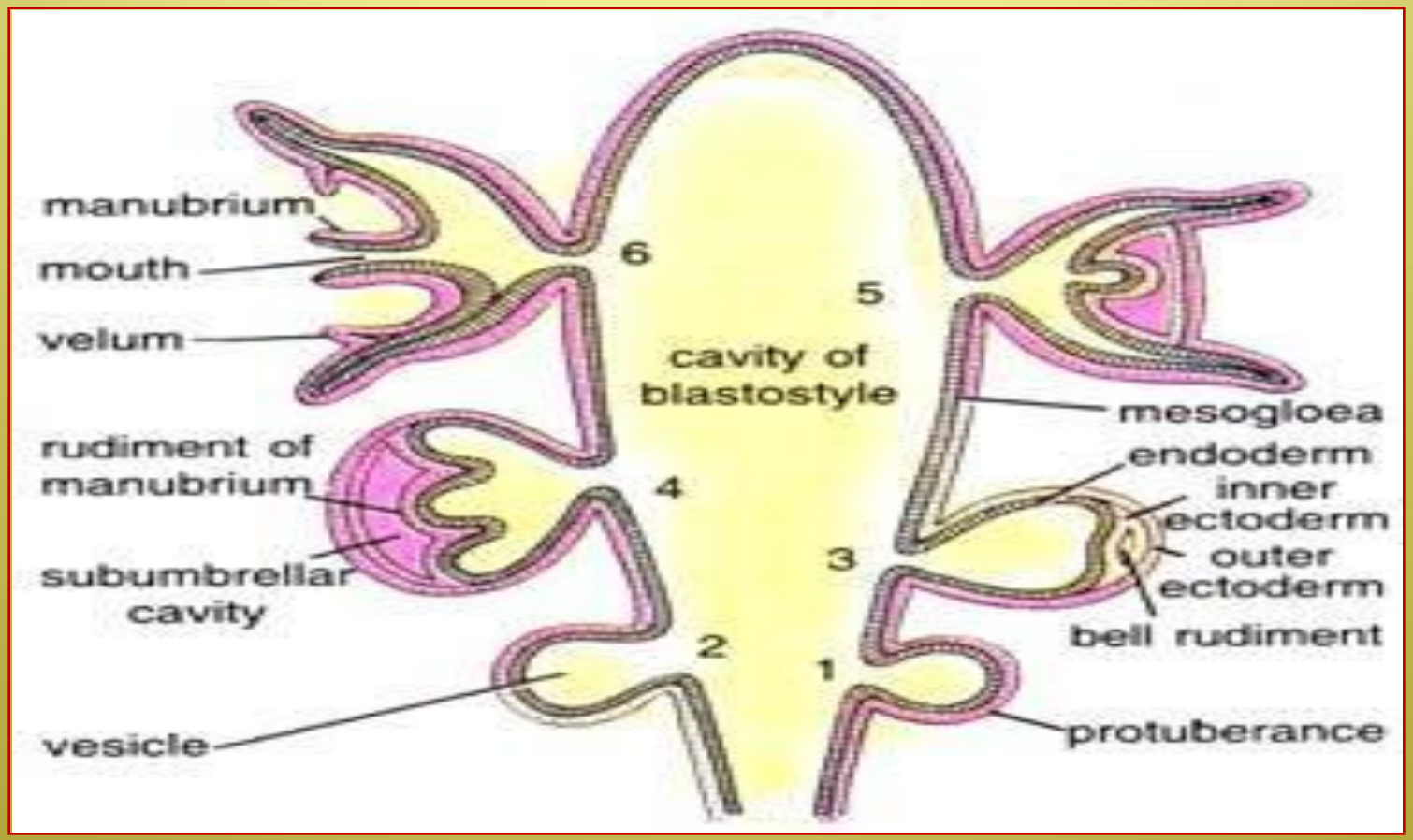


## Radial symmetry of Medusa:

- Like polyp, the medusa is radially symmetrical.
- The presence of the four radial canals distinguishes the four principal radii or per-radii.
- Halfway between any two per-radii a radius of the second order or inter-radius may be taken.
- Halfway between any per-radius and inter-radius on either side a radius of third order, or ad-radius, and halfway between any ad-radius and the adjacent per- or inter-radius, a radius of fourth order or sub-radius.

- Thus, there are four per-radii, four inter-radii, eight ad-radii and sixteen sub-radii.
- In Obelia, the radial canals, the angles of the mouth and four of the tentacles are the per-radial, four more tentacles are inter- radial, and the remaining eight tentacles, bearing the lithocysts are ad-radial.
- Sub-radii are of no importance in this particular form.

# Obelia: Stages of the development of medusa from a blastostyle



## Development of Medusa:

- The blastostyle produces medusae by budding in large numbers.
- The cavity of the blastostyle pushes the coenosarc out to form a small protuberance or bud.
- The bud grows larger and its coenosarc becomes like a vesicle which is attached to the blastostyle by a narrow stalk.
- The cavity of the vesicle is continuous with the enteron of blastostyle.

- The distal ectoderm of the vesicle separates into two layers,
- Then the inner layer of ectoderm splits to acquire a cavity called a bell rudiment.
- There are now two layers of ectoderm outside the bell rudiment and one layer on the inner side.
- The cavity of the bell rudiment assumes the shape of the sub-umbrella, and a manubrium is formed in the centre.

- The two layers of ectoderm which enclose the bell rudiment from outside now break leaving a marginal and circular shelf called velum.
- In most hydrozoan medusae, the velum grows and becomes prominent, but in Obelia it decreases and becomes insig-nificant.
- The manubrium acquires a mouth, marginal tentacles are formed,
- The stalk breaks and its aperture closes up, thus, a medusa is formed which is set free, it escapes from the gonotheca, later its gonads mature.