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[B.SC Part-1]

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PHYLUM - PORIFERA

INTRODUCTION AND GENERAL CHARACTERS.

The Phylum porifera includes pore-bearing animals which are commonly called sponges. Although they contain the most primitive of multicellular animals, usually referred to as 'pore bearers', as their body contain tiny pores that are basic structures in their functional activity. However, unlike higher metazoans, the cells that make up a sponge are not organized into tissues. Therefore, sponges lack true tissues and organs.

In addition, they have no body symmetry and sponges do, however have specialized cells that perform specific functions. The shapes of their bodies are adapted for maximal efficiency of water flow through the central cavity, where nutrients are deposited, and leaves through a hole called the Osculum.

GENERAL CHARACTERISTICS :-

1. Poriferans are multicellular organisms with cellular level of body organization
2. They have no distinct tissues or organs.
3. They are mostly found in marine water, only a few are found in freshwater.
4. Their body is usually cylindrical, tubular

vase-like, branched and, Cushion-shaped also.

5. They are solitary or colonial marine sponges.
6. They are either radially symmetrical or asymmetrical.
7. Their cells are loosely arranged and do not form definite layers, hence regarded not truly diploblastic.
8. The body comprises many pores known as ostia, canals and chambers that serve for the flow of water and water exits through the Osculum.
9. Body wall with outer pinacoderm, inner Choanoderm and gelatinous non-cellular mesenchyme in between.
10. Sponges are the only metazoans having choanocytes.
11. Their skeleton of either calcareous or siliceous spicules or made up of protein spongin fibres, or of both present or absent.
12. Digestion intracellular, there are no respiratory or excretory organs. Contractile vacuoles present in some fresh water forms.
13. They reproduce asexually by budding and fragmentation. and Sexually by ova and sperms. All show regeneration power.
14. All sponges are hermaphrodite.
15. The development is indirect and the cleavage is holoblastic.
16. The exchange ~~of~~ of respiratory gases and nitrogen wastes occurs by the process of diffusion.