**Unit 2:Diversity of Microbial World**

**Fungi: Sexual Reproduction**

**Sexual reproduction in Basidium**

Asexual reproduction in Basidium takes place either by **conidia, arthrospores, oidia, fragmentation or budding.**

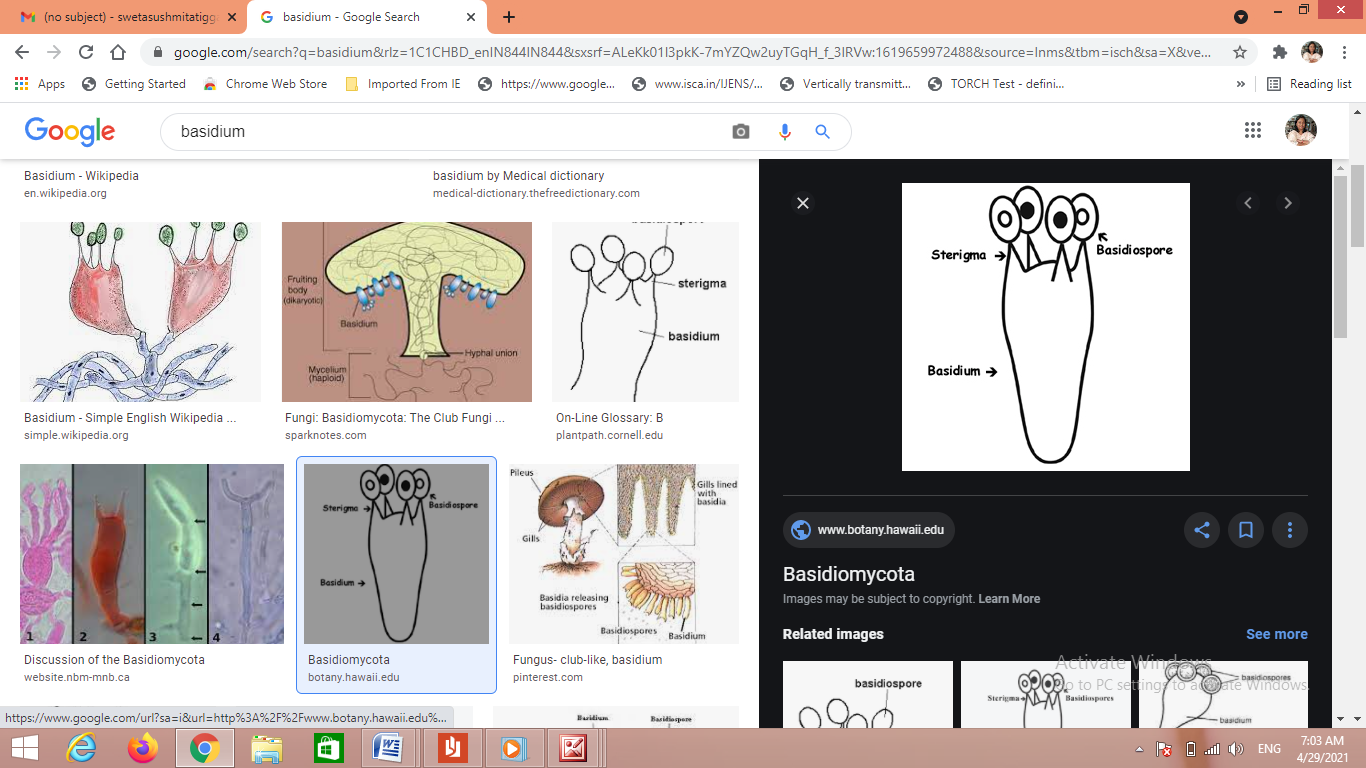
**Sexual reproduction-**

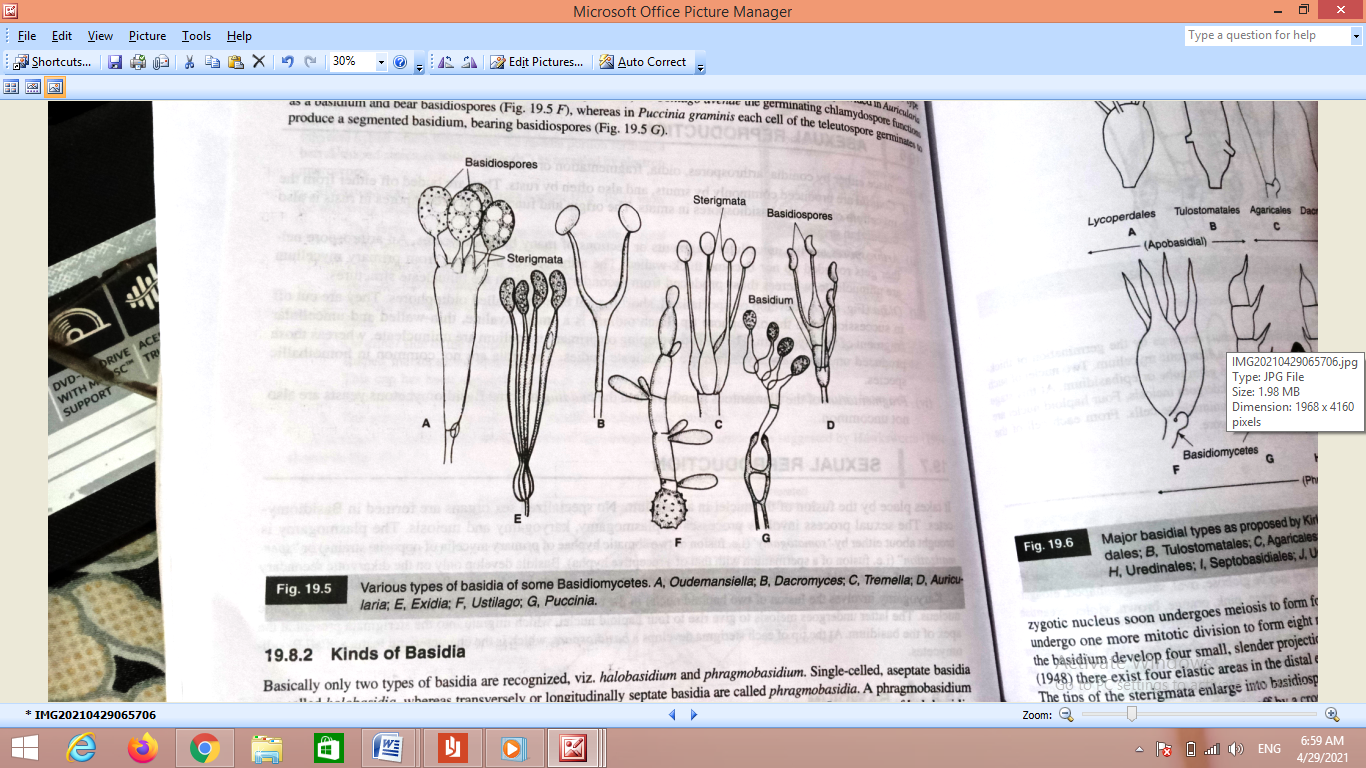
1. It take place by the fusion of nuclei in a **basidium**.
2. No specialized sex organs are formed in Basidiomycetes. The sexual process involves processes of **Plasmogamy, karyogamy and meiosis**.
3. The **Plasmogamy** is brought about either by “*somatogamy (i.e fusion of two somatic hyphae of opposite strain)*or “*spermatization” (i.e fusion of a spermatium with that of a receptive hyphae).*
4. Basidia develop only on the dikaryotic secondary mycelium. Septate basidia are called *phragmobasidia,* whereas non-septate basidia are called *holobasidia.*
5. ***Karyogamy*** involves the fusion of two haploid nuclei in the basidium, and results in the formation of diploid zygotic nucleus. The latter undergoes meiosis to give rise to four haploid nuclei, which migrate into sterigmata present at the apex of the basidium. At the tip of each sterigma develops a basidiospore, which is the characteristic feature of all Basidiomycetes.

**Note:**

**Basidium** is an organ or a fungal cell, bearing a definite number of basidiospores on its surface. Usually the basidiospores are formed after karyogamy and meiosis, and their typical number on a basidium is four. According to Talbort (1954) a basidium may be divided into three parts, viz. *probasidium, metabasidium* and *sterigmata.*

The portion where the nuclear fusion takes place is called “*probasidium”* whereas that where meiosis occurs is called “metabasidium”. Typically the basidium is a club-shaped body.



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