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(Bihar) Notes for B.Sc part 3rd
paper VI, Unit = 2 (B).

Question :- Write notes on APICULTURE ?

Answer :- Beekeeping (Apiculture) :-

Beekeeping (or apiculture) is the maintenance of bee colonies, commonly in man-made hives, by humans. Most such bees are honey bees in the genus *Apis* but other honey-producing bees such as *Melipona* stingless bees are also kept. A beekeeper (or apiarist) keeps bees in order to collect their honey and other products that the hive produces (e.g. royal jelly), to pollinate crops, or to produce bees for sale to other beekeepers. A location where bees are kept is called an apiary or "bee yard".

Scientific study of honey bees :-

It was not until the

18th century that European natural philosophers undertook the scientific study of bee colonies and began to understand the complex and hidden world of bee biology. Pioneers among these scientific pioneers were Swammerdam, René Antoine Ferriault de Reaumur, Charles Bonnet, and Francis Huber. Swammerdam and Reaumur were among the first to use a microscope and dissection to understand the internal biology of honey bees. Reaumur was among the first to construct a glass-walled chamber to observe queen's laying eggs in open cells, but still had no idea of how a queen was fertilized; nobody had ever witnessed the mating of a queen and drone and many theories held that queens were "self-fertile," while others believed that a vapor or "maïasma" emanating from the drones fertilized queens without direct physical contact. Huber was the first to prove by observation and experiment that

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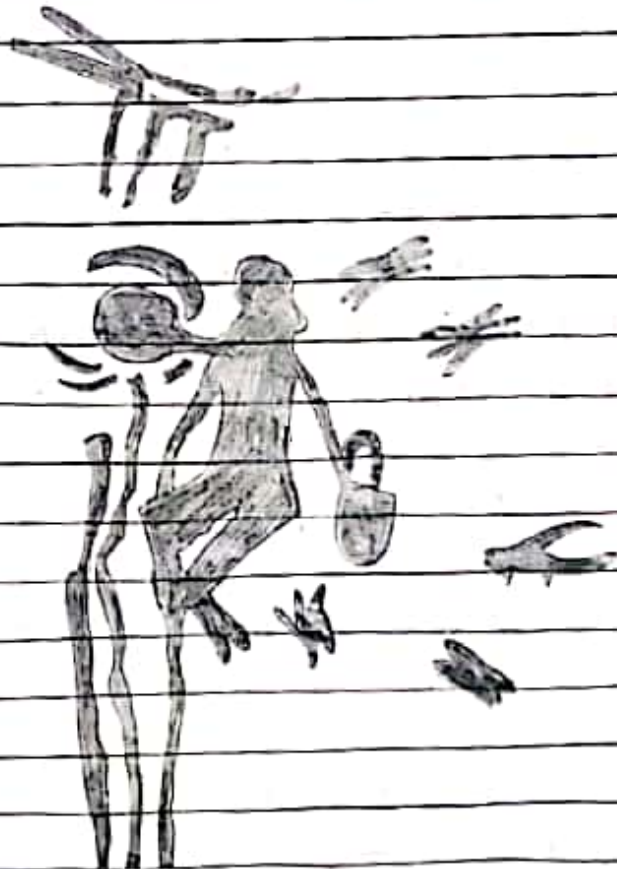
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Queens physically inseminated by
drones outside the confines of
hives, usually a great distance
away.

History :-

Early history



- Honey seeker
- depicted on 8,000-
- year-old cave
- painting near
- Valencia, Spain.

Depictions of humans collecting
honey from wild bees date to
10,000 years ago. Beekeeping in
pottery vessels began about 9,000

years ago in North Africa. Domestication of bees is shown in Egyptian art from around 4,500 years ago. Simple hives and smoke were used and honey was stored in jars, some of which were found in the tombs of pharaohs such as Tutankhamun. It wasn't until the 18th century that European understanding of the colonies and biology of bees allowed the construction of the movable comb hive so that honey could be harvested without destroying the entire colony.

Castes:-

A colony of bees consists of three castes of bee:

- a queen bee which is normally the only breeding female in the colony;
- a large number of female worker bees, typically 30,000 - 50,000 in number;

1. A number of male drones, hanging from thousands in a strong hive in spring to very few during death or cold season.

The queen is the only sexually mature female in the hive and all of the female worker bees and male drones are her offspring. The queen may live for up to three years or more and may be capable of laying half a million eggs or more in her lifetime. At the peak of the breeding season, late spring to summer, a good queen may be capable of laying 3,000 eggs in one day, more than her own body weight. This would be exceptional however; a prolific queen might peak at 2,000 eggs per day, but a more (than her own) average queen might lay just 1,500 eggs per day. •