**LESSON NOTE 7**

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| **REPRODUCTIVE SYSTEM IN PLANTS**  STRUCTURE AND FUNCTIONS OF REPRODUCTIVE ORGANS IN PLANT    The flower is the reproductive structure of a flowering plant with both male and female sex organs and there can carry out sexual reproduction. Seeds are produced after fertilization has occurred in flowers. The parts of a flower are two; the flora part and the flower stalk.  **Flora part** (whorls): has 4 parts that are arranged in concentric rings.   1. The Calyx: the outermost whorl made of sepals and are usually small and green and protects the flower which is in the bud. They may be separated or joint to form a cup. 2. Corolla: petals inside the sepals and are the attractive part of a flower. They are generally coloured and scented to attract pollinators. 3. Androecium: the male reproductive organ of the flower and it is made up of group of stamens consisting of the filament and anther. The anther lobes upon maturity release pollen grains 4. Gyneocium: the female reproductive organ and the innermost floral part of the flower. It consist of carpel or pistil consisting of ovary style and stigma. The ovary develops into a fruit after fertilization   TYPES OF FLOWERS BASED ON OVARY POSITION     1. SUPERIOR OVARY: when the ovary is above other floral parts and such flower is called **Hypogynous** flower e.g hibiscus 2. INFERIOR OVARY: ovary is below other floral parts such flower is referred as **Epigynous** flower. E.g sunflower 3. HALF INFERIOR OVARY: ovary at the same level as other floral parts referred to as **Perigynous** e.g. rose flower.   **TERM USED IN DESCRIBING FLOWERS**     1. Bisexual flower: also called a hermaphrodite has both the carpels and stamens on it e.g Pride of Barbados.      1. Unisexual flower: has either stamens or carpels as its sexual parts. If it has only the carpels the flower is described as pistillate e.g. maize, pawpaw. And if the flower has only the stamens it is regarded as male and described as staminate e.g pawpaw and maize.   inflourence   1. Inflourescence: a group of flowers which attach themselves to a common stalk or axis e.g pride of Barbados.      1. Regular flower: has all members of a whorl on it. i.e petals identical in shape and size and evenly arranged on the receptacles. They are described as actinomorphic flower eg. Hibiscus.      1. Irregular flower: members of petals are not similar because some parts are fused or missing. They are described as zygomorphic flower e.g Delonix and pride of Barbados.      1. Complete flower: a flower that naturally has 4 floral parts 2. Incomplete flower: lacks one or more floral parts e.g maize and pawpaw flower |

**LESSON NOTE 8**

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| **POLLINATION IN PLANTS**    Pollination is the transfer of mature pollen grains from the anther of one flower to the mature stigma of the same or another flower of the same plant of closely related species.  TYPES OF POLLINATION     1. Self-pollination: the transfer of mature pollen grain from the anther of a flower to the stigma of same flower or to that of another flower of same plant. It involves only one parent plat i.e bisexual flowers or monoecious plants      1. Cross pollination: the transfer of mature pollen grains from another anther of a flower to the stigma of a flower on another plant of the same or closely related species e.g hibiscus, pawpaw. It involves two parent plants i.e unisexual flowers or dioecious plants. It depends on external agents like wind insect etc.   FEATURES OF SELF POLLINATED FLOWERS   * The anther and stigma ripen at the same time * They are bisexual flowers   FEATURES OF CROSS POLLINATED FLOWERS   * They are unisexual or dioecious flowers * The male and female parts mature at different times * Posses brightly coloured petals to attract insect * Possess sweet smell to attract insect   AGENTS OF POLLINATION    These are organisms which help in the transfer of pollen grains from the anther to the stigma of the flowers. They include insect, wind, birds, water, bats and man.  *Characteristics of Insect Pollinated Flowers*   * Large conspicuous petals and sepals * Bright colouration * Possession of scent and nectar * Presence of rough, sticky and few pollens * Flat and sticky stigma to receive pollen grains   *Characteristics of Wind Pollinated Flowers*     * Small inconspicuous petals and sepals * Dull coloured flowers * Absence of scent and nectar * Large quantity of pollen grains * Elongated sticky stigma with a large surface area.   HOME FUN  List 2 advantages and disadvantages each of self- pollination and cross pollination |