

NORTH POINT SR. SEC. BOARDING SCHOOL,
ARJUNPUR, CLASS – 12 BIOLOGY,
TEACHER-PARAMITA PAL
WORK SHEET NO. 1

CONTENT OF THE CLASS :

Class -XII Subject: Biology

CHAPTER
SEXUAL
REPRODUCTION IN
FLOWERING PLANT

TODAY'S TOPIC

1.RECALL OF PREVIOUS KNOWLEDGE :

A) WHAT IS FLOWERING PLANT(ANGIOSPERM)?

A PLANT THAT PRODUCES FLOWER.

B) WHAT IS FLOWER?

FLOWER IS THE REPRODUCTIVE ORGAN OF FLOWERING PLANT THROUGH WHICH PLANT REPRODUCES SEXUALLY.

C) NAME THE DIFFERENT PARTS OF FLOWER?

A COMPLETE FLOWER HAVE FOUR PARTS : CALYX, COROLLA, ANDROECIUM (MALE REPRODUCTIVE ORGAN) AND GYNOECIUM(FEMALE REPRODUCTIVE ORGAN)

PARTS OF FLOWER

CALYX: IT IS THE WHORL OF SEPALS

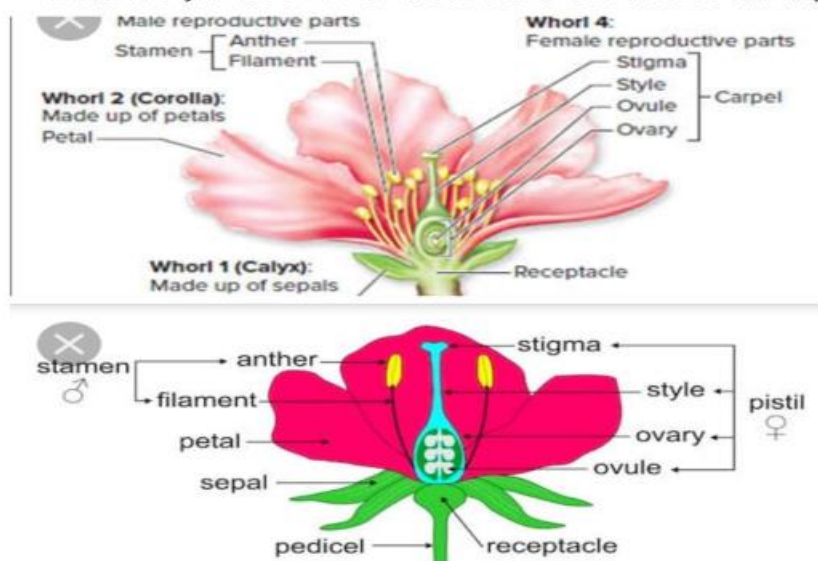
COROLLA: IT IS THE WHORL OF PETALS

ANDROECIUM: IT IS THE WHORL OF STAMENS

GYNOECIUM: IT IS THE WHORL OF CARPELS

FLOWER , WHICH IS MISSING ANY ONE PART OF THE ABOVE PARTS IS CALLED INCOMPLETE FLOWER.

DIAGRAM OF A COMPLETE FLOWER



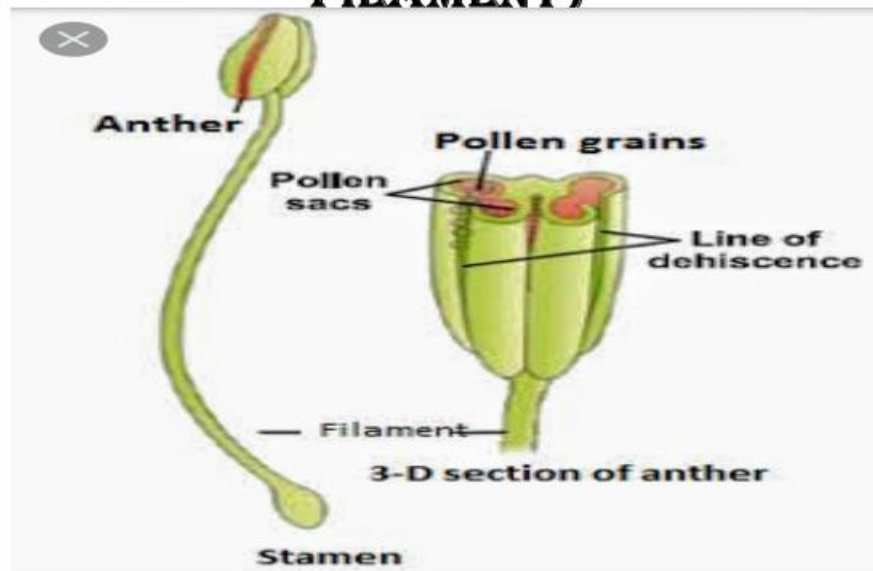
STAMEN, MICROSPORANGIUM AND POLLEN GRAIN

- **STRUCTURE OF STAMEN:**
- **IT HAS TWO PARTS: 1. ANTHER 2. FILAMENT**
- **ANTHER :** IN ANGIOSPERM IT IS BILOBED AND DITHECOUS. EACH LOBE CONTAIN TWO POLLEN SACS; WHICH ARE FILLED WITH POLLEN GRAINS. A LINE OF DEHISCENCE RUNS LENGTHWISE SEPARATING TWO THECAS IN A SINGLE LOBE.

A BILOBED ANTHER IS A FOUR SIDED SRUCTURE CARRYING FOUR MICROSPORANGIA AT FOUR CORNERS. TWO AT EACH LOBE.

- **FILAMENT:** IT IS LONG SLENDER STALK , ATTACHED WITH ANTHER AT ONE END AND OTHER END IS ATTACHED WITH THALLAMUS / PETAL.

DIAGRAM OF STAMEN (ANTHER AND FILAMENT)



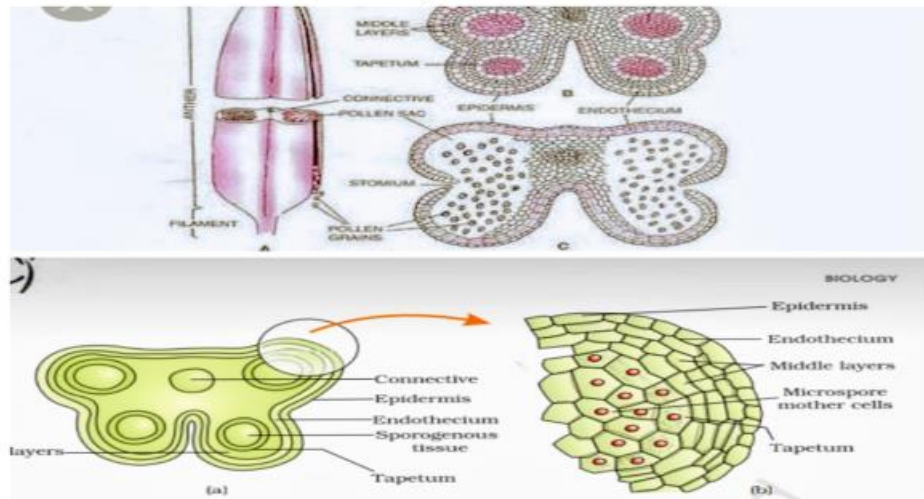
STRUCTURE OF YOUNG ANTHER AND MICRO SPORANGIUM

- AN YOUNG ANTHER CONSISTS OF FOUR MICRO SPORANGIUMS.
 - EACH MICRO SPORANGIUM IS CIRCULAR IN OUTLINE
 - IT IS SURROUNDED BY FOUR LAYERS.
1. OUTER EPIDERMIS: (SINGLE LAYER OF CELL) PROTECTIVE LAYER AND HELP IN DEHISCENCE AND RELEASE OF POLLEN GRAIN
 2. ENDOTHECIUM: (SINGLE LAYER OF CELL) PROTECTIVE LAYER AND HELP IN DEHISCENCE AND RELEASE OF POLLEN GRAIN
 3. MIDDLE LAYERS : (2-3 LAYRED THICK) PROTECTIVE LAYER AND HELP IN DEHISCENCE AND RELEASE OF POLLEN GRAIN
 4. TAPETUM: INNERMOST WALL LAYER. IT NOURISHES THE DEVELOPING POLLEN GRAIN. POSSESS DENSE CYTOPLASM, MORE THAN ONE NUCLEUS.

STRUCTURE OF YOUNG ANTHER AND MICRO SPORANGIUM

- WHEN ANTHER IS YOUNG THE CENTRE OF MICROSPORANGIUM IS OCCUPIED WITH A COMPACT MASS OF CELL (HOMOGENOUS) CALLED SPOROGENOUS TISSUE.

DIAGRAM OF YOUNG ANTHR AND MICRO SPORANGIUM



EXCERSISE NO. 1. :- (TO BE SOLVED IN CLASS WORK COPY)

1. Name the male and female reproductive organs of flower. Draw their structure and label their different parts.
2. What do you mean by bilobed, ditheous anther?
3. How many microsporangia are found in a bilobed ditheous anther? How does a microsporangium is distinct from pollen sac?
4. Draw a transverse section of young anther and Describe the structure of a microsporangium by showing the layers of its wall and state their function.
5. What do you mean by line of dehiscence? Where is it found? Write its function.

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