

## MORPHOLOGY OF FLOWERING PLANTS

### SEMI-TECHNICAL DESCRIPTION OF A TYPICAL FLOWERING PLANT

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Various morphological features are used to describe a flowering plant. The description has to be brief, in a simple and scientific language and presented in a proper sequence. The plant is described beginning with its habit, vegetative characters – roots, stem and leaves and then floral characters inflorescence and flower parts. After describing various parts of plant, a floral diagram and a floral formula are presented.

#### FLORAL FORMULA

Position, number, structures, cohesion, adhesion of different parts of flower are represented as a formula through specific signs. It is called floral formula.

##### (i) Bracts (Br)

Br      Bracteate

Ebr      Ebracteate

##### (ii) Bracteoles (Brl)

Brl      Bracteolate

Ebrl      Ebracteolate

##### (iii) Symmetry of the flower

⊕      Actinomorphic

⊖ or %      Zygomorphic

##### (iv) Sex

♂      Staminate (male)

♀      Pistillate (female)

♂  
♀      Hermaphrodite

**(v) Calyx (K)**

$K_5$	5 sepals, polysepalous
$K_{(5)}$	5 sepals, gamosepalous
$K_{2+2}$	4 sepals in 2 whorls of 2 each

**(vi) Corolla (C)**

$C_5$	5 petals, polypetalous
$C_{(5)}$	5 petals, gamopetalous
$C_{2+2}$	4 petals in 2 whorls of 2 each

**(vii) Perianth (P)**

$P_6$	6 tepals, polytepalous
$P_{(3+3)}$	6 tepals, in 2 whorls of 3 each, gamotepalous
$P_{3+3}$	6 tepals, in 2 whorls of 3 each

**(viii) Androecium (A)**

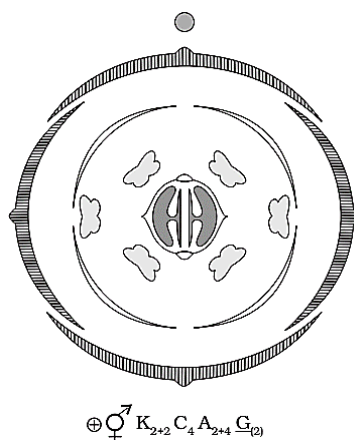
$A_6$	6 stamens, polyandrous
$A_{2+4}$	6 stamens in 2 short and 4 long
$A_0$	stamens absent
$A_\alpha$	stamens indefinite
$A_{(\alpha)}$	monoadelphous
$A_{1+(9)}$	diadelphous
$A_{(5)}$	5 stamens, syngenesious / synandrous
$\widehat{CA}$	epipetalous
$\widehat{PA}$	epiphyllous

**(ix) Gynoecium**

$G_0$	Gynoecium absent
$G_2$	2 carpels, apocarpous
$G_{(2)}$	2 carpels, syncarpous
$G_{(2)}$	bicarpellary, syncarpous, superior
$G_{(2)}—$	bicarpellary, syncarpous, semi-inferior
$\overline{G}_{(2)}$	bicarpellary, syncarpous, inferior.

**FLORAL DIAGRAM**

- A floral diagram provides information about the number of parts of a flower, their arrangement and the relation they have with one another.
- The position of the mother axis with respect to the flower is represented by a dot on the top of the floral diagram.
- Calyx, corolla, androecium and gynoecium are drawn in successive whorls.
- Calyx being the outermost and the gynoecium being in the centre.

**Fig. Floral diagram with floral formula**

- It is also called Legume family this is the second largest family of Dicots. **Leguminosae** is divided into three sub-families on the basis of variations in corolla, Androecium and other parts. These sub families are as follows.

(i) Papilionoideae

(ii) Caesalpinoideae

(iii) Mimosoideae

