

# PLANT TAXONOMY

1. The Eighteenth International Botanical Congress (IBC) was from 23-30 July 2011 at  
 (a) Melbourne (c) New Delhi  
 (b) Paris (d) Berlin
2. Which one of the following is the largest family in India?  
 (a) Rubiaceae (c) Fabaceae  
 (b) Poaceae (d) Orchidaceae
3. Which one of the following is the largest family in the world?  
 (a) Orchidaceae (c) Poaceae  
 (b) Asteraceae (d) Rubiaceae
4. The formation of pseudoembryo sac due to the disintegration of nucellar cells below the embryo sac is a unique feature of  
 (a) Ranunculaceae (b) Podostemaceae  
 (c) Cyperaceae (d) Onagraceae
5. Which one of the following family possesses Pollinia?  
 (a) Liliaceae (b) Zingiberaceae  
 (c) Cyperaceae (d) Orchidaceae
6. Which one of the following statements is wrong?  
 (a) Bentham and Hooker system of classification is based on de Candolle's system of classification  
 (b) Engler and Prantl system of classification is based on Eichler's system of classification  
 (c) Cronquist system of classification is based on de Jussieu's system of classification  
 (d) Hutchinson system of classification is based on Bessey's system of classification
7. The botanical name *Malus malus* is an illegitimate name because it is considered as  
 (a) Nomen nudum (b) Tautonym  
 (c) Nomen dubium (d) Autonym
8. Canavanine, a non-proteinic amino acid, occurs only in  
 (a) Fabaceae (b) Caryophyllaceae  
 (c) Euphorbiaceae (d) Papaveraceae
9. The development of similar features separately in two or more generically and not closely related lineages and not due to a common ancestry is known as  
 (a) Convergence (b) Parallelism  
 (c) Homology (d) None of these
10. The material designated by the original author as the nomenclatural type is a  
 (a) Topotype (c) Isotype  
 (b) Holotype (d) Neotype
11. Different types of modifications of axillary buds (in *Bougainvillea* it is a spine, in *Dioscorea* bulbils and in *Passiflora tendrils*) are example of  
 (a) Parallelism (b) Analogy  
 (c) Homology (d) None of these
12. A branching diagram in the form of a tree used to depict degree of relationship or resemblance is known as  
 (a) Climagraph (b) Clastotype  
 (c) Denizen (d) Dendrogram
13. Which of the following statements is correct?  
 (a) Gynoecium is the female part of a flower  
 (b) Pistil is the female reproductive organ of a flower, consisting of ovary, style and stigma.  
 (c) Carpel is the female reproductive organ of the flower, consisting of the ovary with ovules.  
 (d) Ovule is the female reproductive organ of the flower consisting of the megasporangium with integuments.
- Select the correct answer  
 (a) 1, 2 and 4 (b) 1 and 2  
 (c) 1, 2, 3 and 4 (d) 1, 3 and 4
14. The botanical code stipulates that the name of every taxonomic group should end in a certain manner. Match them here.
- | List I (Category) | List II (ending of names) |
|-------------------|---------------------------|
| (A) Division      | 1. -ales                  |
| (B) Class         | 2. -eae                   |
| (C) Tribe         | 3. -opsida                |
| (D) Order         | 4. -phyta                 |
| (a) A B C D       | (c) A B C D               |
| 1 2 3 4           | 2 1 4 3                   |
| (b) A B C D       | (d) A B C D               |
| 4 3 2 1           | 2 3 1 4                   |
15. Consider the following types of classification:  
 1. Bentham and Hooker's system 2. Linnaeus' system  
 3. APG III 4. Takhtajan's system  
 5. Cronquist's system 6. Kubitzki's system
- The correct sequence of the chronological order in which these classification systems appeared is  
 (a) 2, 1, 4, 5, 6, 3 (c) 2, 1, 3, 6, 4, 5  
 (b) 1, 2, 4, 3, 6, 5 (d) 1, 2, 3, 4, 6, 5
16. Match list I with list II and select the correct answer.
- | List I (researcher) | List II (taxonomic work)  |
|---------------------|---|
| A. William Roxburgh | 1. Flora Indica   |
| B. J. F. Royle      | 2. Flora of Kashmir   |
| C. J. D. Hooker     | 3. Flora of British India   |
| D. J. F. Duthie     | 4. Flora of Upper Gangetic plains and adjacent Siwaliks and sub-Himalayan tract |
|                     | 5. Illustrated flora of Delhi   |
| (a) A B C D         | (c) A B C D   |
| 4 5 2 1             | 1 2 3 4   |
| (b) A B C D         | (d) A B C D   |
| 2 4 3 5             | 2 3 4 1   |
17. Match list I with list II and select the correct answer.
- | List I (families)  | List II (placentations) |
|--------------------|-------------------------|
| A. Caryophyllaceae | 1. Basal                |
| B. Solanaceae      | 2. Parietal             |
| C. Asteraceae      | 3. Axile                |
| D. Cactaceae       | 4. Free central         |
| (a) A B C D        | (c) A B C D             |
| 1 2 3 4            | 3 2 1 4                 |
| (b) A B C D        | (d) A B C D             |
| 2 4 1 3            | 4 3 1 2                 |

## ANSWERS

1. c 2. d 3. b 4. b 5. d 6. c 7. b 8. a  
 9. a 10. b 11. c 12. d 13. c 14. b 15. a 16. c  
 17. d

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# COMMON ACIDS WITH UNCOMMON FUNCTIONS

- Acid that is widely used in food preservation and fermentation industry. When it is allowed to freeze, it forms brilliant needle shaped crystals. The acid is:**
  - Acetic acid
  - Oxalic acid
  - Malic acid
  - Citric acid
- Our body proteins consist of functional unit (  $-\text{CO}-\text{NH}_2$  ) called amino acids. Identify the amino acid.**
  - Crotonic acid
  - Palmitic acid
  - Succinic acid
  - Phenyl alanine
- The acid that is mixed with baking powder used for baking of breads and cakes.**
  - Tartaric acid
  - Acetic acid
  - Lactic acid
  - Cinnamic acid
- Name the acid that is the essential starting material for protein production and is found in all living cells.**
  - Ribonucleic acid
  - Hydrochloric acid
  - Nitric acid
  - Uric acid
- The acid that is used as vitamin C**
  - Ascorbic acid
  - Palmitic acid
  - Glutaric acid
  - Carbonic acid
- Red ant sting creates swelling due to which acid.**
  - Propionic acid
  - Acetic acid
  - Butyric acid
  - Formic acid
- The acid found in the digestive juice and also widely used in industries**
  - Nitric acid
  - Hydrochloric acid
  - Sulphuric acid
  - Chromic acid
- Unripe apples and other fruits contain the acid called**
  - Fumaric acid
  - Citric acid
  - Malic acid
  - Tartaric acid
- The acid used in manufacture of explosives and rocket fuels**
  - Hydrochloric acid
  - Cinnamic acid
  - Nitric acid
  - Sulphuric acid
- Highly dangerous and corrosive acid with wide industrial application**
  - Sulphuric acid
  - Nitric acid
  - Phosphoric acid
  - Adipic acid
- Acid used for manufacture of ink and dyes with the help of microorganism *Aspergillus niger* is**
  - Gallic acid
  - Gibberellic acid
  - Itaconic acid
  - Koji acid
- Important acid that is required for the manufacture of antibiotics and insecticide is:**
  - Gallic acid
  - Itaconic acid
  - Gibberellic acid
  - Koji acid
- The common chemical found in tea and also widely used in tanning industry:**
  - Hydrocyanic acid
  - Carbolic acid
  - Tannic acid
  - Sulphuric acid
- The acid used for the manufacture of synthetic fibres, plasticizers and alkyl resins**
  - Itaconic acid
  - Malonic acid
  - Salicylic acid
  - Uric acid
- Beans are an excellent source of proteins. They mainly contain**
  - Citric acid
  - Malic acid
  - Both a&b
  - Succinic acid
- Banana contains predominant organic acid not found in any citrus fruits.**
  - Ascorbic acid
  - Malic acid
  - Citric acid
  - Tartaric acid
- Potato is the staple food of every human being. It carries the acid:**
  - Malic acid
  - Citric acid
  - Oxalic acid and Phosphoric acid
  - All of these
- Tomatoes are considered as the poor man's apple. The major acids in tomatoes are:**
  - Tartaric and Phosphoric acid
  - Hydrochloric and Sulphuric acid
  - Fumaric and Galacturonic acid
  - Citric and malic acid
- The very familiar household fruit grapes contain malic and tartaric acid along with traces of citric acid and oxalic acid. The proportion in which malic acid and tartaric acid are present is**
  - 2:3
  - 1:3
  - 2:1
  - 3:2
- Carrots used widely as vegetable and salads in India mainly contain:**
  - Oxalic acid
  - Succinic acid
  - Fumaric acid
  - Malic and citric acid

## ANSWERS

1. a    2. d    3. a    4. a    5. a    6. b    7. b    8. c  
 9. c    10. a    11. a    12. d    13. c    14. a    15. c    16. a  
 17. d    18. d    19. d    20. d

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