



Ph.D. COMMON ENTRANCE TEST AUGUST 2024
SUBJECT: BOTANY

Roll No:

PART B

Duration: 60 minutes

Maximum Marks: 50

Instructions:

- 1. This entrance test question paper is not to be taken out of the examination hall**
- 2. Part B Question paper consists of Section A and Section B**
- 3. Section A consists of 30 MCQs carrying 1 Mark each. Write the Alphabet of the correct Option in the box given.**
- 4. Section B consists of Descriptive questions carrying 5 marks each. Restrict your answer to 500 words. Additional plain sheets have been attached to the question paper to answer Section B**

SECTION – A

Answer the following by writing the correct alphabet in the box given:

1. Bryophyllum reproduces by

30 X 1 = 30

- Spore Production
- Fragmentation
- Budding
- Vegetative Reproduction

2. Transfer of pollen grains from anther to stigma of another flower of the same plant is called?

- Autogamy
- Xenogamy
- Syngamy
- Geitogamy

3. Which of the following is common to both Aerobic and Anaerobic respiration?

- Krebs Cycle
- Glycolysis
- Alcoholic fermentation
- None Of The Above

4. Colchicine is obtained from plant belonging to which of the following family?

- a. Poaceae
- b. Asteraceae
- c. Cucurbitaceae
- d. Liliaceae

5. Centre of origin of cultivated plants was first given by

- a. Lysenko
- b. Harland
- c. Vavilov
- d. Darlington

6. Who is credited for the development of Theory of Continental Drift?

- a. Oparin
- b. Alfred Wegner
- c. Galileo
- d. Hary Hess

7. Where in epiphytes are velamen cells located?

- a. Below the endodermis
- b. Just outside the cortex
- c. Above the exodermis
- d. Just outside the epidermis

8. Ozone day is observed on

- a. September 16
- b. May 22nd
- c. June 5th
- d. October 20th

9. Northern Hybridization is

- a. Used to identify a specific DNA
- b. Used to Identify both DNA and RNA
- c. Used to identify a specific protein
- d. Used to identify a specific RNA

10. Who is known as father of taxonomy?

- a. Linnaeus
- b. Theophrastus
- c. Laibach
- d. Darwin

11. Which of the following factor does not influence totipotency

- a. Non reduced nitrogen
- b. Relative humidity
- c. Light intensity
- d. Source of explant

12. Calvin cycle is also known as C₃pathway because of presence of 3 carbon compound

- a. Malic acid
- b. OAA
- c. 3-PGA
- d. RuBP

13. Identify the mismatched pair

- a. Thundra – Permafrost
- b. Savanna - Acacia
- c. Coniferous forest – Evergreen trees
- d. Prairies – Epiphytes

14. Labellum in Orchidaceae flowers comes to anterior side by the twisting of the ovary 180 degree. This process is called?

- a. Resupination
- b. Articulation
- c. Resurpination
- d. Attenuation

15. According to current code of Botanical Nomenclature, the names of Order must end with

- a. opsida
- b. idae
- c. ales
- d. aceae

16. Which of the following has maximum genetic diversity in India

- a. Ginger
- b. Mango
- c. Coffee
- d. Potato

17. Genus *Fimbristylis* belongs to which family

- a. Commelinaceae
- b. Fumariaceae
- c. Cyperaceae
- d. Poaceae

18. Golden Rice is a result of which type of plant breeding method?

- a. Mutation Breeding
- b. Artificial Selection
- c. Hybridization
- d. Genetic Modification

19. The National Botanical Research Institute (NBRI) in our country is located in

- a. Mumbai
- b. Kolkata
- c. Chennai
- d. Lucknow

20. Specimen used for original publication by the author is?

- a. Holotype
- b. Syntype
- c. Lectotype
- d. Neotype

21. Origin of species was written by

- a. Darwin
- b. Linnaeus
- c. Lamark
- d. Oparin

22. When individual leaves arise from each node on the stem of plant such phyllotaxy is called?

- a. Opposite Phyllotaxy
- b. Alternate Phyllotaxy
- c. Whorled Phyllotaxy
- d. None Of The Above

23. The number of contrasting characters studied by Mendel for his experiments was

- a. 2
- b. 14
- c. 7
- d. 3

24. Important family character of Solanaceae for identification in field is

- a. Persistent Calyx
- b. Interpetiolar stipules
- c. Synandrous condition
- d. None of the above

25. Ecological succession in water is

- a. Psammosere
- b. Xerosere
- c. Halosere
- d. Hydrosere

26. Introduced Species

- a. are often endangered
- b. increase biodiversity
- c. often enhance the habitat for native species
- d. Usually reduce biodiversity

27. Plant propagation method in which a low branch with a node is bent down and covered with soil is

- a. Mulching
- b. Cutting
- c. Layering
- d. Budding

28. Karyotaxonomy is based on

- a. Morphological Characters
- b. Chemical Characters
- c. Organic Evolution
- d. Number of Chromosomes

29. Scientific name of Marigold is:

- a. *Tagetes erecta*
- b. *Zinnia elegans*
- c. *Dahlia pinnata*
- d. *Helianthus annuus*

30. Which of the following Plant Hormone Column I matches with its major role in Column II.

PLANT HORMONE		MAJOR FUNCTIONS	
A	Auxin	(1)	Fruit Ripening
B	Cytokinin	(2)	Phototropism
C	ABA	(3)	Cell Division Suppression
D	Ethylene	(4)	Stomatal Opening
		(5)	Lateral Bud Growth

- a. A-(5), B-(3), C-(4), D-(2)
- b. A-(3), B-(2), C-(4), D-(1)
- c. A-(2), B-(5), C-(4), D-(1)
- d. A-(2), B-(4), C-(1), D-(5)

SECTION – B

Answer any four of the following:

4 X 5 = 20

1. Explain the different stages of Mitotic cell division.
2. Write notes on different steps involved in C4 cycle.
3. Give the Physiological effects of Auxins
4. Explain different types of *in-situ* and *ex-situ* conservation of plants
5. Explain the steps involved in ecological succession with an example
6. Discuss importance and applications of Botanical Gardens.
