

B**8045**Register
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Part III — BOTANY

(English Version)

Time Allowed : 3 Hours]

[Maximum Marks : 150

SECTION - A

Note : i) Answer all questions.

ii) Choose and write the correct answer.

iii) Each question carries one mark.

30 × 1 = 30

1. An example for cladode is

- a) *Phyllanthus emblica*
- b) *Ricinus communis*
- c) *Jatropha curcus*
- d) *Euphorbia tirucalli*.

2. Liliaceae is placed under the series

- a) Inferae
- b) Heteromerae
- c) Multiovulate aquaticae
- d) Coronarieae.

3. The change from meristematic tissue to permanent tissue is called

- a) cell division
- b) differentiation
- c) redifferentiation
- d) dedifferentiation.

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17. If the naming of the plant is from the source of error, it is regarded as
- a) Tautonym
 - b) Nomen ambiguum
 - c) Epithet
 - d) Cohort.
18. Rapinet Herbarium is in
- a) Chennai
 - b) Coimbatore
 - c) Trichy
 - d) Kolkata.
19. The ovules are naked in
- a) Monocots
 - b) Angiosperms
 - c) Dicots
 - d) Gymnosperms.
20. In *Ixora Coccinia* the stamens are
- a) monadelphous
 - b) epipetalous
 - c) diadelphous
 - d) syngenesious.
21. The balloon like ingrowths that block the lumen of the Xylem vessels are called
- a) alburnum
 - b) duramen
 - c) phellogen
 - d) tyloses.
22. The protective layer developed during the secondary growth of the stem is called
- a) epidermis
 - b) rhizodermis
 - c) periderm
 - d) cortex.
23. Lampbrush chromosomes were first observed by
- a) Flemming
 - b) Balbiani
 - c) Bridges
 - d) Waldeyer.

24. Nullisomy is represented by

- a) $2n - 1$
- b) $2n + 1$
- c) $2n - 2$
- d) $2n + 2$.

25. Hugo de Vries first observed mutation in

- a) Neurospora
- b) Oenothera lamarckiana
- c) Lathyrus odoratus
- d) Sorghum.

26. Which of the following is C_4 plant ?

- a) Rice
- b) Wheat
- c) Sugarcane
- d) Potato.

27. An example for saprophytic Angiosperm is

- a) Drosera
- b) Viscum
- c) Monotropa
- d) Vanda.

28. Photorespiration is otherwise called

- a) C_2 cycle
- b) C_3 cycle
- c) C_4 cycle
- d) C_5 cycle.

29. One molecule of $FADH_2$ on oxidation yields

- a) one ATP
- b) two ATPs
- c) three ATPs
- d) four ATPs.

30. Ganong's respiroscope demonstrates the liberation of

- a) O_2
- b) CO_2
- c) SO_2
- d) H_2 .

SECTION - B

Note : i) Answer any *fifteen* questions.

ii) Each question carries *three* marks.

$15 \times 3 = 45$

31. What is called type specimen ?
32. What is allicin ?
33. What is a toddy ? State its use.
34. Write the binomials of three dye-yielding plants of Rubiaceae.
35. What is aerenchyma ? Give an example.
36. What are Isoacceptor tRNAs ?
37. Write the significance of Crossing over.
38. What are loosely linked genes ?
39. What is a somatic hybrid ?
40. Define Inoculation.
41. Differentiate PS I from PS II.
42. What is enzyme-substrate complex ?
43. State the conditions under which cycle photophosphorylation occurs.
44. Define photorespiration.
45. What is Fermentation ?
46. Why are the chloroplasts of C_4 plants called dimorphic chloroplasts ?

47. Why is Krebs' cycle called amphibolic process ?
48. Define vernalization.
49. What is bio-pesticide ?
50. Write the medicinal uses of solanum nigrum.

SECTION - C

Note : i) Answer any seven questions including Question No. 55 which is compulsory. This question should not be left as option.

ii) Each question carries five marks.

iii) Draw diagrams wherever necessary.

7 × 5 = 35

51. Bring out the merits of Bentham and Hooker's classification of plants.
52. Give an account of the habit in Euphorbiaceae.
53. Draw the internal structure of Monocot leaf and label the parts.
54. Describe periderm formation.
55. Differentiate the vascular bundle of Dicot stem from that of Monocot stem.
56. Draw the structure of chromosome and label the parts.
57. Write about the special types of chromosomes.
58. Give a brief account of herbicide resistance in transgenic plants.
59. Write any five applications of tissue culture.
60. Write notes on Respiratory quotient.
61. Describe Lever Auxanometer experiment.
62. Write short notes on microbes in medicine.

SECTION - D

Note : i) Answer any *four* questions.

ii) Each question carries *ten* marks.

iii) Draw diagrams wherever necessary.

4 × 10 = 40

63. Describe *Clitoria ternatea* in technical terms. Draw floral diagram and write the floral formula.
64. a) Add a note on the economic importance of *Malvaceae*. 5
- b) Describe the Head Inflorescence of *Asteraceae*. 5
65. Describe the transverse section of primary dicot root.
66. Write an account on Mutation.
67. Describe various steps involved in protoplasmic fusion.
68. Draw Calvin cycle without explanation.
69. Describe Pentose Phosphate pathway.
70. What are biofertilizers ? Discuss their role and benefits.
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