

056(E)

(JULY, 2009)

Time : 3.00 Hours]**[Maximum Marks : 100****Instructions :**

- (1) Attempt **all** the questions.
- (2) Follow the instructions.
- (3) Begin new section on a **new** page.

SECTION-A

Question Nos. from 1 to 16 are multiple choice questions, each carrying one mark. Choose the correct answer (A/ B/ C/ D) from the given alternative responses and write it. **16**

1. Which mineral element is essential for germination of pollen grains ?
(A) Iron (B) Manganese
(C) Boron (D) Zinc
2. Which white blood cells make 5 to 6% of the total Leucocytes ?
(A) Monocytes (B) Basophils
(C) Lymphocytes (D) Acidophils
3. Which substance is released from organ having chlorophyll according to Ingenhousz ?
(A) CO₂ (B) H₂O
(C) H₂CO₃ (D) O₂
4. Which digestive gland is exocrine as well as endocrine ?
(A) Spleen (B) Pancreas
(C) Liver (D) Gall-bladder

5. Which plant shows viviparous germination ?
- (A) Avicennia (B) Azolla
(C) Orchid (D) Ceratophyllum
6. Which one of the following is R.Q. of carbohydrate in the presence of O_2 ?
- (A) 0.7 (B) 4
(C) 1 (D) ∞ (Infinity)
7. is an example of Thermonasty.
- (A) Lotus (B) Sunflower
(C) Crocus (D) Mimosa
8. Which mineral is essential for blood clotting ?
- (A) Potassium (B) Calcium
(C) Sodium (D) Phosphorous
9. Which hormone has profound influence on the efficiency of endocrine system ?
- (A) Melanin (B) Melatonin
(C) Zeatin (D) LH
10. Which one does not take part in O_2 transport in Earthworm ?
- (A) Haemoglobin (B) Blood plasma
(C) Blood vessels (D) Red blood cells
11. In which plant, root system is absent ?
- (A) Eichornia (B) Salvinia
(C) Lotus (D) Ceratophyllum

12. In which diagnostic method, radio isotopes like C^{11} or O^{15} is used?
(A) PET (B) MRI
(C) CAT (D) DSA
13. Where do crabs stand in Trophic levels ?
(A) Primary carnivores (B) Secondary carnivores
(C) Omnivores (D) Defritivores
14. How many genes are present in Human ?
(A) 4,000 (B) 13,000
(C) 40,000 (D) 23 pairs
15. Which plant is an example of Commensalism ?
(A) Leguminous plant (B) Lichen
(C) Viscum (D) Orchids
16. What is called unreasonable dislike of anything ?
(A) Hypochondria (B) Phobia
(C) Stress (D) Frustration

SECTION - B

Question Nos. from 17 to 32 are very short answer type questions.

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*Each question carry **one** mark. Give answer in the limit of 1 to 10 words.*

17. Which mineral is essential for maintenance of ribosomal constitutes ?
18. Give the location and function of myoglobin.
19. Give full form of G3P.
20. What is Turgidity ?

21. Explain term : Gemmules.
22. Which hormone increases permeability of collecting tubules ?
23. Deficiency of which mineral ion can increase amount of purple pigment in plant ?
24. What is Parthenocarpy ?
25. Write location and function of Bowman's gland.
26. Which vegetative organ of dioscorea produces new plants ?
27. In Azolla, which symbiotic plant is present ?
28. Write effects of Carbon monoxide on human life.
29. What is Agglutination ?
30. How is sedge meadow stage formed ?
31. Write the function of Killer T-cells.
32. Give the example of two plants to which Petroplants belong to.

SECTION - C

Question Nos. from 33 to 44 are short answer type questions, each question carries two marks. Give answers in the limit of 30 words. **24**

33. Describe Photosynthetic and Chemosynthetic nutrition.
34. Explain the importance of S.A. and A.V. node.
35. What is Glaucoma ?

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36. Write short notes on : 'Polyembryony'.
37. Explain Free Radical Theory.
38. Give four effects of Androgen.
39. Describe mechanism of respiration in Arthropoda.
40. Explain Ecesis.
41. Classify vertebrae according to its location.
42. Explain significance of Transpiration.

OR

Explain fermentation which occurs in Yeast.

43. Write the role of Lungs and Skin in excretion.
44. Write aims of Red light.

OR

Write aims of Animal breeding.

SECTION - D

*Question Nos. from 45 to 52 are short answer type questions. Each question carries **three** marks. Give answer in the limit of 50 words.*

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45. Write short notes on 'Pentose-Phosphate Pathway'.
46. Describe the effects of Auxins.
47. Write short notes on - 'Biopiracy'.

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48. Give the characteristic of wind pollinating plants.

OR

Write the hormones of Thyroid and its functions.

49. Describe Egestion and Absorption of digested food.

50. Explain - Haemodialysis.

OR

Describe Reflex Action. (Diagram is not necessary)

51. Describe process of Oxidative Phosphorylation.
(Chart is not necessary)

52. Describe adaptations to saline habitat.

OR

Give any six points of Water conservation.

SECTION - E

*Question Nos. from 53 to 57 are long answer type questions. Each question carries **four** marks. Give answers in the limit of 100 words.* **20**

53. Explain Sonography.

OR

Describe barriers of innate immunity.

54. Describe biological Nitrogen-fixation. (Chart is necessary)

OR

Describe Biosynthetic phase. (Chart is necessary)

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55. Describe the respiratory diseases caused by defects in trachea and tracheal vessels.

56. Write note on Soil pollution and its control.

OR

Describe the depletion of Ozone layer and problems created by it.

57. Explain structure of Ovule and development of female gametophyte.

(Diagram is necessary)
