

NOTE: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink. Cutting or filling two or more circles will result in zero mark in that question.

Q1.

12

1. **In 1927 an English Ecologist developed the concept of Ecological pyramids.**
(A) Charles Elton (B) Mendel (C) Darwin (D) Lamark
 2. **Animal Breeding is a form of:**
(A) Pharmacology (B) Cell Biology (C) Biotechnology (D) Morphology
 3. **Mescaline belongs to:**
(A) Antibiotics (B) Vaccine (C) Sulpha drugs (D) Hallucinogens
 4. **If both lungs are infected the disease is called:**
(A) Typhoid (B) Double Pneumonia (C) Gout (D) Arthrites
 5. **U Shape Renal Tubules is called:**
(A) Neuron (B) Pyramids (C) Loop of Henle (D) Cortex
 6. **There are major region of Human Brain.**
(A) 2 (B) 3 (C) 4 (D) 5
 7. **The middle layer of Eye is called:**
(A) Sclera (B) Retina (C) Cornea (D) Choroid
 8. **Tendons and ligaments are bands of:**
(A) Muscular tissue (B) Nervous tissue (C) Epidermal tissue (D) Connective tissue
 9. **Bryophyllum (Pather Chut) is an example of:**
(A) Stem Tubers (B) Bulbs (C) Suckers (D) Leaves
 10. **Amoeba reproduces a sexually by:**
(A) Budding (B) Binary fission (C) Fragmentation (D) Multiple fission
 11. **James Watson and Francis Crick proposed the structure of DNA.**
(A) 1955 (B) 1954 (C) 1854 (D) 1953
 12. **Mendel selected a plant:**
(A) Pea (B) Rose (C) Cabbage (D) Mustard
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Roll No.(in Figures): (in Words):

Maximum Marks: 48

SUBJECTIVE TYPE

Time Allowed :1.45 Hours

(PART - I)

Q2. Write short answers to any FIVE (5) questions: (5×2=10)

- (i) How does the gaseous exchange occur in leaves and young stems?
- (ii) What is meant by diaphragm?
- (iii) Differentiate between Stomata and Lenticels.
- (iv) Define Hydrophytes and give an example.
- (v) What is meant by concentrated urine? Give its reason.
- (vi) What is meant by Saltatory impulses?
- (vii) Differentiate between Sensory Neurons and Inter-neurons.
- (viii) What is Thalamus? Write its function.

Q3. Write short answers to any FIVE (5) questions: (5×2=10)

- (i) Differentiate between movement and locomotion.
- (ii) Differentiate between Osteocytes and Chondrocytes.
- (iii) What is reproduction? Write names of its two basic types.
- (iv) Define Budding and give one example.
- (v) Differentiate between Self Pollination and Cross Pollination.
- (vi) What are Homozygous genotype and Hetrozygous genotype?
- (vii) Differentiate between monohybrid cross and dihybrid cross.
- (viii) Write two sources of variations.

Q4. Write short answers to any FIVE (5) questions: (5×2=10)

- (i) Define food web.
- (ii) Differentiate between herbivores and carnivores.
- (iii) What is atmospheric nitrogen fixation?
- (iv) Write down two advantages of using fermenters.
- (v) Write down few uses of formic acid.
- (vi) Define narcotics. Give examples.
- (vii) What is the difference between antiseptics and antibiotics?
- (viii) What is meant by pharmacology?

(PART - II)

Note: Attempt any TWO questions. (2×9=18)

- Q5. (a) Explain the removal of extra water and other metabolic wastes from plants. 4
- (b) What is the location of thyroid gland? Write about its hormones and the defects produced by their under and over production. 5
- Q6. (a) What is artheritis? Describe its three types. 4
- (b) Describe the development and structure of seed. 5
- Q7. (a) What is meant by Ecological Pyramids? Explain its two types. 4
- (b) Describe the scope and importance of Biotechnology. 5

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Q1.

12

1. All of these are hormones except.
(A) Insulin (B) Glucagon (C) Glycogen (D) Estrogen
2. Number of bones in human skull is:
(A) 22 (B) 21 (C) 20 (D) 19
3. Method of asexual reproduction in yeast is:
(A) Multiple fission (B) Binary fission (C) Budding (D) Spore formation
4. Asexual reproduction by suckers takes place in:
(A) Mint (B) Lily (C) Ginger (D) Potato
5. The genotype of blood group O is:
(A) $I^A I^A$ (B) $I^B I^B$ (C) $I^A I$ (D) I
6. Union of sperm and ovum is called:
(A) Gamete (B) Genes (C) Fertilization (D) Allele
7. All ecosystems of the world together from:
(A) Biosphere (B) Population (C) Community (D) Species
8. Lactic acid fermentation takes place by:
(A) Algae (B) Yeast (C) Virus (D) Bacteria
9. Chemicals which kill microorganisms on non-living objects are called:
(A) Antiseptics (B) Antigens (C) Antibiotics (D) Disinfectants
10. The number of dangerous chemicals in tobacco smoke is:
(A) 1000 (B) 2000 (C) 3000 (D) 4000
11. The organ for filtration of blood is:
(A) Heart (B) Kidney (C) Lungs (D) Brain
12. Part of neuron which takes impulses towards cell body are called:
(A) Dendrites (B) Axons (C) Ganglia (D) Myelin Sheath

Roll No.(in Figures): (in Words):

Maximum Marks: 48

SUBJECTIVE TYPE

Time Allowed :1.45 Hours

(PART - I)

Q2. Write short answers to any FIVE (5) questions:

(5×2=10)

- (i) How specific sound for talking is produced?
- (ii) How expiration occurs?
- (iii) Give symptoms and cure of pneumonia.
- (iv) What is meant by metabolic wastes?
- (v) Define guttation and give one example.
- (vi) What is meant by night blindness?
- (vii) What is ganglion?
- (viii) Where pons are present in brain and what is their function?

Q3. Write short answers to any FIVE (5) questions:

(5×2=10)

- (i) Differentiate between origin and insertion.
- (ii) What is meant by antagonism?
- (iii) What is meant by Fragmentation? Give an example.
- (iv) Write down procedure of budding in corals.
- (v) What is meant by parthenogenesis?
- (vi) Differentiate between monohybrid cross and dihybrid cross.
- (vii) State Mendel's law of segregation.
- (viii) What is meant by co-dominance?

Q4. Write short answers to any FIVE (5) questions:

(5×2=10)

- (i) What is the difference between Producers and Consumers?
- (ii) What is meant by pyramid of Numbers?
- (iii) Define Atmospheric Nitrogen Fixation.
- (iv) Write two uses of Formic Acid.
- (v) What do you mean by continuous Fermentation?
- (vi) Differentiate between sedatives and disinfectants.
- (vii) Write down four precautions before the use of medicine.
- (viii) What is cephalosporin? Write its two uses.

(PART - II)

Note: Attempt any TWO questions.

(2×9=18)

Q5. (a) Explain osmoregulatory function of kidney.

4

(b) What is meant by feed back Mechanism? Explain its two types.

5

Q6. (a) Explain Osteoporosis.

4

(b) Write note on the following: (1) Fragmentation (2) Parthenogenesis

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Q7. (a) Write a note on nitrogen fixation in nitrogen cycle.

4

(b) Discuss in detail basic steps in genetic engineering.

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