

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. **Change of nitrogen gas into nitrates is called:**
(A) Nitrogen fixation (B) Ammonification (C) Nitrification (D) Assimilation
 2. **Study of composition and medical application of drugs is called:**
(A) Pharmacology (B) Mycology (C) Biotechnology (D) Physiology
 3. **Human insulin gene was transferred into:**
(A) Fungi (B) Virus (C) Bacteria (D) Yeast
 4. **A muscular passage common to both food and air is:**
(A) Trachea (B) Alveoli (C) Larynx (D) Pharynx
 5. **Number of nephrones in each kidney is:**
(A) 5 Lac (B) 10 Lac. (C) 7 Lac (D) 12 Lac
 6. **Central layer of eye is:**
(A) Cornea (B) Choroid (C) Retina (D) Sclera
 7. **Deficiency of which vitamin causes the poor night vision.**
(A) Vitamin D (B) Vitamin C (C) Vitamin B (D) Vitamin A
 8. **What do some bones produce?**
(A) Mucus (B) Hormones (C) Oxygen (D) Blood cells
 9. **Essential process for the continuation of species is:**
(A) Locomotion (B) Respiration (C) Cloning (D) Reproduction
 10. **The unit of androecium is:**
(A) Stamens (B) Anthers (C) Pollen grain (D) Gamete
 11. **It is hereditary (genetic) material:**
(A) DNA (B) mRNA (C) RNA (D) tRNA
 12. **Model of DNA structure was presented by:**
(A) Mendel (B) Watson (C) Crick (D) Watson and Crick
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Roll No.(in Figures): (in Words):

Maximum Marks: 48

**SUBJECTIVE TYPE
(PART - I)**

Time Allowed :1.45 Hours

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

(5×2=10)

- (i) What is meant by passive smoking?
- (ii) Write symptoms of Bronchitis.
- (iii) Define osmoregulation.
- (iv) Define renal cortex.
- (v) What is meant by selective reabsorption?
- (vi) What are the types of coordination in living organisms, write their names.
- (vii) Define reflex arc.
- (viii) Write two main functions of spinal cord.

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

(5×2=10)

- (i) Differentiate between flexor muscle and extensor muscle.
- (ii) What is meant by osteoarthritis?
- (iii) What are suckers? Give an example.
- (iv) How does the reproduction occur in honey bee?
- (v) What is hypogea germination? Give an example.
- (vi) For which purpose checker board is used?
- (vii) What is meant by template?
- (viii) Define Gene.

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

(5×2=10)

- (i) What are biogeochemical cycles? Name some of them.
- (ii) Write down the difference between ecosystem and biosphere.
- (iii) Write down some uses of glycerol.
- (iv) What do you know about lactic acid fermentation?
- (v) What is the role of Pasteur in the field of fermentation?
- (vi) Define vaccines. Who introduced this process?
- (vii) What is the difference between pharmacy and pharmacology.
- (viii) Differentiate between broad spectrum and narrow spectrum antibiotics.

(PART - II)

Note: Attempt any TWO questions.

(2×9=18)

Q5. (a) Write a note on functioning of kidney.

5

(b) Write a note on thyroid glands and adrenal glands.

4

Q6. (a) Write a note on cartilage.

5

(b) Write a note on binary fission.

4

Q7. (a) What is 3R rule for the conservation of nature? Explain R1 and R3.

5

(b) Write the advantages of using fermenter.

4

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Q1.

12

1. The world 'No Tobacco Day' is celebrated every year on:
(A) 10th May (B) 31 May (C) 10th October (D) 31 October
2. The example of halophytes plants is:
(A) Water lily (B) Sea grass (C) Rose (D) Cactus
3. Which lobe of cerebrum receives and analyzes visual information:
(A) Frontal (B) Parietal (C) Occipital (D) Temporal
4. He wrote three books on diseases and surgery of eye.
(A) Ibn-al-Haytham (B) Bu Ali Sena
(C) Ali Ibn Isa (D) Abdul Malik Asmail
5. The longest bone in human body is:
(A) Sternum (B) Thigh bone (C) Stapes (D) Hyoid bone
6. It is the process used to propagate sugar cane plantation:
(A) Grafting (B) Layering (C) Cutting (D) Fragmentation
7. In mint vegetative propagation occurs by:
(A) Stem tubers (B) Leaves (C) Suckers (D) Corms
8. The book "Natural selection" written by Darwin was published in:
(A) 1859 (B) 1860 (C) 1959 (D) 1960
9. How many years Darwin spent his voyage on HMS?
(A) 4 years (B) 5 years (C) 6 years (D) 7 years
10. Which type of symbiosis relationship is there in termite and protozoan?
(A) Mutualism (B) Predation (C) Commensalism (D) Parasitism
11. When was the work on Genetic Engineering started?
(A) 1934 (B) 1944 (C) 1954 (D) 1964
12. To which group aspirin belongs?
(A) Drug from animals (B) Drug from plants
(C) Drug from bacteria (D) Synthetic drug

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

Maximum Marks: 48

**SUBJECTIVE TYPE
(PART - I)**

Time Allowed :1.45 Hours

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

(5×2=10)

- (i) Differentiate between stomata and air spaces.
- (ii) Give symptoms of Amphysema.
- (iii) Differentiate between guttation and transpiration.
- (iv) Define dialysis, name its two methods.
- (v) What are the causes of kidney stones?
- (vi) Define co-ordination.
- (vii) Write fuctions of Medulla Oblongata.
- (viii) What is hypermetropia? How can it be rectified?

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

(5×2=10)

- (i) What is osteoporosis? Give one reason for this disease.
- (ii) Define exoskeleton and endoskeleton. Give examples also.
- (iii) Differentiate between binary fission and fragmentation.
- (iv) What is seed coat? Describe its function.
- (v) Defferentiate between epicotyl and hypocotyl.
- (vi) Define monohybrid and dihybrid cross.
- (vii) Define trait. Give two examples of human trait.
- (viii) Define Mendel law of independent assortment.

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

(5×2=10)

- (i) Define population.
- (ii) What is meant by "Nitrogen assimialtion"?
- (iii) Define fermentation.
- (iv) Write objectives of genetic engineering.
- (v) What is urokinase? What is its function?
- (vi) Write names of two drugs prepared from minerals.
- (vii) What are effects of sedatives?
- (viii) What is the function of tetracyclines? For which disease it is used?

(PART - II)

Note: Attempt any TWO questions.

(2×9=18)

Q5. (a) How plants remove extra carbon dioxide, oxygen and water out side.

5

(b) Describe structure of neuron.

4

Q6. (a) What is meant by cartilage? Explain its types.

5

(b) Describe the advantages and disadvantages of vegetative propagation in plants.

4

Q7. (a) Describe the different steps of nitrogen cycle in detail.

5

(b) Define bio-technology and also describe the area in which bio-technology is applicable.

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