

**Standard 11****BIOLOGY****PART - I (Bio-Botany)****Section - I**

Time: 3.00 Hours

Marks: 35

Note: 1. Answer all the questions. 1×8=8
2. Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

- 1) The haploid number of chromosomes for an angiosperm is 14, the number of chromosome in its endosperm would be
a) 28 b) 42 c) 56 d) 7
- 2) In a floral formula, the symbols $\%$, ♀ , \bar{G} indicates
a) Actinomorphic, male flower, inferior ovary
b) Zygomorphic, female flower, Superior ovary
c) Actinomorphic, female flower, inferior ovary
d) Zygomorphic, female flower Inferior ovary
- 3) Match and choose the correct sequence.
a) Thylakoids - i) Disc - shaped sacs in Golgi apparatus
b) Cristae - ii) Condensed structure of DNA.
c) Cisternae - iii) Flat membranous sacs in stroma
d) Chromatin - iv) Infoldings in Mitochondria
a) a - iii, b - iv, c - ii, d - i b) a - iv, b - iii, c - i, d - ii
c) a - iii, b - iv, c - i, d - ii d) a - iii, b - i, c - ii, d - iv
- 4) The inactive enzyme without its non-protein component
a) Prosthetic groups b) Apoenzyme c) Coenzymes d) Holoenzyme
- 5) The last layer of cortex is called
a) Endodermis b) Epidermis c) Pericycle d) Pith
- 6) What is the fate of primary xylem in a dicot stem showing extensive secondary growth?
a) It gets surrounded by primary phloem.
b) It is retained in the center of the axis
c) It gets crushed
d) May or may not get crushed.
- 7) is an important mineral required for normal growth and functioning of a plant.
a) Molybdenum b) Nitrogen c) Iron d) copper.
- 8) During oxidation of two molecules of cytosolic NADH + H⁺, the number of ATP molecules produced in plants are
a) 4 b) 6 c) 18 d) 3

Section - II**4×2=8****II. Answer any four of the following questions.**

- 9) Why do farmers plant leguminous crops in crop rotation/mixed cropping?
- 10) How root climbers differ from stem climbers?
- 11) What are types of classification?
- 12) Why the cells are arrested in G₁ phase without undergoing cell division?
- 13) Define : Imbibition
- 14) Write the correct equation of photosynthesis.

Section - III**3×3=9****III. Answer any three of the following questions. Q.No. 19 is compulsory.**

- 15) What is open and closed form of growth?
- 16) Draw and label: Vetra structure of plant cell.
- 17) Write any three differences between sap wood and heart wood.
- 18) What is hydroponics? Explain its techniques.
- 19) Differentiate between aggregate fruit with multiple fruit.

Section - IV**2×5=10****IV. Answer all the questions.**

- 20) What is phyllotaxy? Explain its types.

(OR)

- Write the characteristics features of DNA.
- 21) Explain any one experiment to show Osmosis.

(OR)

Explain Glycolysis pathway.

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PART - II (Bio-Zoology)

Section - 1

1×8=8

Note: 1. Answer all the questions.
2. Choose the most appropriate answer form the given four alternatives and write the option code and the corresponding answer.

- 1) There are some exceptional animals which can produce sterile offspring, because mating with closely related male Tiger and female Lion results in
 - a) Hinny
 - b) Mule
 - c) Liger
 - d) Tigon
- 2) Four chambered heart is present in
 - a) Crocodile
 - b) Lizard
 - c) Snake
 - d) Scorpion
- 3) Choose the wrong statement among the following
 - a) In earthworm, a pair of male genital pore is present
 - b) Setae help in locomotion of earthworms.
 - c) Muscular layer in the body wall of earthworm is made up of circular muscles and longitudinal muscles.
 - d) Typhlosole is part of the intestine of earthworm.
- 4) During inspiration the diaphragm
 - a) Expands
 - b) Contracts and flattens
 - c) unchanged
 - d) relaxes to become domed shaped
- 5) Malpighian tubules remove excretory products from
 - a) mouth
 - b) Oesophagus
 - c) haemolymph
 - d) alimentary canal
- 6) Which is otherwise called "Gulls disease"
 - a) Acromegaly
 - b) myxodema
 - c) Cretinism
 - d) Gigantism
- 7) Eri silk is obtained from
 - a) Attacus ricini
 - b) Attacus mylitta
 - c) Laccifer lacca
 - d) Nosema bomby
- 8) Column I represents disease and column II represents their symptoms choose the correctly paired option

Column I

Column II

P) Asthma

i) Recurring of bronchitis

Q) Emphysema

ii) Accumulation of WBC in alveolus

R) Pneumonia

iii) Allergy

a) P - iii Q - ii R - i

b) P - iii Q - i R - ii

c) P - ii Q - iii R - i

d) P - ii Q - i R - iii

Section - 2

4×2=8

Note: Answer any 4 of questions. Question No. 14 is compulsory.

- 9) Define species? What is the role of charles Darwin relationi to concept of species?
- 10) Differentiate between peristomium and prostomium in earthworm.
- 11) Define BMI? What is the normal BMI range for adult?
- 12) Diffusion of gases occurs in the altheolar region only and not in any other part of the respiratory system. Discuss.
- 13) Comment on Acini of thyroid gland.
- 14) What are the advantages of artificial insemination?

Section - 3

3×3=9

Note: Answer any 3 of questions. Q.No. 19 is compulsory.

- 15) Hormones are known as chemical messenger. Justify.
- 16) The Choroid plescus secretes cerebrospinal fluid. List the function of it.
- 17) Differentiate unconditional reflex and conditioned reflex.
- 18) What are the heart sounds? when and how are these sounds produced?
- 19) Differentiate white adipose tissue from brown adipose tissue?

Section - 4

2×5=10

Note: Answer all the questions.

- 20) Describe the Tools for study of taxonomy.

(OR)

What is Respiration? Write the events in Inspiration and expiration.

- 21) What is Heart beat? Describe the mechanism by which the human heart beat is initiated and controlled (with diagram).

(OR)

Draw and Label the parts of the Human L.S. of the eye.
