

**Standard 11**

Time Allowed: 3.00 Hours

BIOLOGY

Maximum Marks: 70

BIO-BOTANY**Marks : 35****Section - I****I. Answer all the questions. Choose the correct answers: 8×1=8**

- 1) Which of the plant group has gametophyte as a dominant phase?
a) Pteridophytes b) Bryophytes c) Gymnosperms d) Angiosperms
- 2) Which chlorophyll molecule does not have a phytol tail?
a) chl-a b) chl-b c) chl-c d) chl-d
- 3) Vexillary aestivation is characteristic of the family
a) Fabaceae b) Asteraceae c) Solanaceae d) Brassicaceae
- 4) Flowers are zygomorphic in
a) Ceropegia b) Thevetia c) Datura d) Solanum
- 5) In meiosis crossing over is initiated at
a) Diplotene b) Pachytene c) Leptotene d) Zygotene
- 6) Cauliflower mosaic virus contains
a) ds DNA b) ss RNA c) ss DNA d) ds RNA
- 7) **Match it:**

1. Molybdenum	-	a) Pollen germination
2. Magnesium	-	b) Photolysis of water
3. Boron	-	c) Nitrogen fixation
4. Chlorine	-	d) Binding of ribosomal subunit
a) 1-c, 2-d, 3-a, 4-b		b) 1-c, 2-b, 3-d, 4-a
c) 1-d, 2-a, 3-c, 4-b		d) 1-b, 2-c, 3-d, 4-a
- 8) Gymnosperms with vessel
a) Cycas and Pinus b) Ephedra and Gnetum
c) Taxus and Ephedra d) Cupressus and Aracecaria

Section - II**II. Answer any four questions: 4×2=8**

- 9) Differentiate homoimerous and heteromerous lichens.
- 10) Define Blackman's law of limiting factor.
- 11) Compare sympodial and monopodial branching.
- 12) Draw the diagram of bicollateral vascular bundle and label the parts.
- 13) From the economic point of view heartwood is more useful than sapwood. Why?
- 14) The nitrogen is present in the atmosphere in huge amount but higher plants fail to utilize it. Why?

Section - III**III. Answer any three questions. Question Number 19 is compulsory: 3×3=9**

- 15) Write any three significance of photosynthesis.
- 16) Write the role of nitrogenase enzyme in nitrogen fixation.
- 17) Mention three characters shared by gymnosperms and angiosperms.
- 18) A transverse section of the trunk of a tree shows concentric rings which are known as growth rings. How are these rings formed? What are the significance of these rings?
- 19) Draw the diagram of Region of root and label the parts.

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

- 20) a) Write about Pachytene and Diplotene of Prophase I. **(OR)**
b) Differentiate the C₃ plants and C₄ plants.
- 21) a) What is the role of national garden in conserving bio-diversity? Discuss. **(OR)**
b) Name the organelles which performs these functions.
 - i) Helps in cell plate and cell wall formation.
 - ii) They produce energy rich ATP.
 - iii) Place where the dark and light reactions takes place.
 - iv) It causes self destruction of cell.
 - v) Helps in protein synthesis.

I. Answer all the questions:

- 1) Three domain classification was proposed by
 - a) Cavalier Smith
 - b) R.H. Wittakar
 - c) Carolus Linnaeus
 - d) Carl Woise
- 2) Which of the following have the highest number of species in nature?
 - a) Insects
 - b) Birds
 - c) Angiosperms
 - d) Fungi
- 3) The ciliated epithellum lines the
 - a) Skin
 - b) Digestive tract
 - c) Gall bladder
 - d) Trachea
- 4) **Match Column I with Column II and choose the correct option:**

P) Lipase	-	i) Starch	
Q) Pepsin	-	ii) Casein	
R) Renin	-	iii) Protein	
S) Ptyalin	-	iv) Lipid	
a) P-iv, Q-ii, R-i, S-iii		b) P-iii, Q-iv, R-ii, S-i	
c) P-iv, Q-iii, R-ii, S-i		d) P-iii, Q-ii, R-iv, S-i	
- 5) Vital capacity is
 - a) TV+IRV
 - b) TV+ERV
 - c) RV+ERV
 - d) TV+IRV+ERV
- 6) Synovial fluid is found in
 - a) ventricles of the brain
 - b) spinal card
 - c) immovable joint
 - d) freely movable joints
- 7) Which part of the human brain is concerned with the regulation of body temperature?
 - a) Cerebellum
 - b) Cerebrum
 - c) Medulla oblongata
 - d) Hypothalamus
- 8) The maintanance of constant internal environment is referred as
 - a) Regulation
 - b) Homeostasis
 - c) Co-ordination
 - d) Hormonal control

II. Answer any four of the following:

4×2=8

- 9) What is the role of Charles Darwin in relation to concept of species?
- 10) What are flame cells?
- 11) Write the dental formula of human.
- 12) Differentiate Osmoconformers and from Osmoregulators.
- 13) How is tetany caused?
- 14) Why is the blind spot called so?

III. Answer any three questions:

3×3=9

- 15) What is the difference between a zoo and wildlife sanctuary?
- 16) What are adipocytes?
- 17) Why are villi present in the intestine and not in the stomach?
- 18) What might be the effect on a person whose diet has less iron content?
- 19) Comment on Acini of thyroid gland.

IV. Answer the following questions:

2×5=10

- 20) A) Write down the rules of Nomenclature.

(OR)

B) Explain the distinct features of phylum chordata.

- 21) A) Describe the mechanism by which the human heart beat is initiated and controlled.

(OR)

B) Describe the structure of Sarcomere.
