

**BIO BOTANY****MARKS-35****I. CHOOSE THE CORRECT ANSWER : 8X1=8**

- The taxonomy which involves the similarities and dissimilarities among the immune system of different taxa is termed as
 - Chemotaxonomy
 - Molecular systematics
 - Serotaxonomy
 - Numerical taxonomy
- Flowers are zygomorphic in
 - Ceropegia*
 - Thevetia*
 - Datura*
 - Solanum*
- The two subunits of ribosomes remain united at critical ion level of
 - Magnesium
 - Calcium
 - Sodium
 - Ferrous
- Sequences of which of the following is used to know the phylogeny.
 - mRNA
 - rRNA
 - tRNA
 - Hn RNA
- In meiosis crossing over is initiated at
 - Diplotene
 - Pachytene
 - Leptotene
 - Zygotene
- Colchicine prevents the mitosis of the cells at which of the following stage
 - Anaphase
 - Metaphase
 - Prophase
 - interphase
- -was the first to isolate a non-protein substance in nuclei of pus cells and named it as 'Nuclein'.
 - Erwin Chargaff
 - Maurice Wilkins
 - Friedrich Miescher
 - James Watson
- The 5' end has the phosphate group and 3' end has the ____
 - COOH group
 - OH group
 - HO group
 - CH group

II. Answer any four of the following :**4X2=8**

- Where will you place the plants which contain two cotyledons with cup shaped thalamus?
- Bring out the significance of Transmission Electron Microscope.
- Write any three significance of mitosis.
- Write about the Properties of Water
- Draw and label the parts of lamp brush chromosomes.
- Name the types of chromosome classified based on the position of centromere.

III. Answer any three of the following :**3X3=9**

- What is the role of national gardens in conserving biodiversity – discuss
- Distinguish between prokaryotes and eukaryotes.
- Draw the ultra structure of plant cell.
- Given an account of G0 phase.
- Write about the Properties of Enzyme .

IV. Answer all the questions :**2X5= 10**

- Give the floral characters of *Clitoria ternatea*.
 - OR
 - Differentiate between mitosis and meiosis
- How will you distinguish Solanaceae members from Liliaceae members?
 - OR
 - Explain the structure and function of different types of RNA.

BIO- ZOOLOGY**Marks -35****I. CHOOSE THE CORRECT ANSWER :****8X1=8**

- Sexually, earthworms are
 - Sexes are separate
 - Hermaphroditic but not self - fertilizing
 - Hermaphroditic and self – fertilizing
 - Parthenogenic

2. Kidney of frog is
 - a. Archinephros
 - b. Pronephros
 - c. Mesonephros
 - d. Metanephros
3. Presence of gills in the tadpole of frog indicates that
 - a. fishes were amphibious in the past
 - b. fishes evolved from frog-like ancestors
 - c. frogs will have gills in future
 - d. frogs evolved from gilled ancestor
4. Which one is incorrectly matched?
 - a. Pepsin – stomach
 - b. Renin – liver
 - c. Trypsin – intestine
 - d. Ptyalin – mouth
5. Absorption of glycerol, fatty acids and monoglycerides takes place by
 - a. Lymph vessels within villi
 - b. Walls of stomach
 - c. Colon
 - d. Capillaries within villi
6. When 1500 mL air is in the lungs, it is called
 - a. vital capacity
 - b. tidal volume
 - c. residual volume
 - d. inspiratory reserve volume
7. Vital capacity is
 - a. TV + IRV
 - b. TV + ERV
 - c. RV + ERV
 - d. TV + IRV + ERV
8. Asthma is caused due to
 - a. inflammation of bronchus and bronchioles.
 - b. inflammation of bronchione
 - c. damage of diaphragm.
 - d. infection of lungs

II. Answer any four of the following :

4X2=8

9. What are earthworm casts?
10. Head of cockroach is called hypognathous. Why?
11. Why are villi present in the intestine and not in the stomach?
12. Bile juice contains no digestive enzymes, yet it is important for digestion. Why?
13. Name the respiratory organs of flatworm, earthworm, fish, prawn, cockroach and cat.
14. Air moving from the nose to the trachea passes through a number of structures. List in order of the structures

III. Answer any three of the following :

3X3=9

15. Draw a neat labeled diagram of the digestive system of frog.
16. Differentiate between male and female cockroach?
17. Sketch a flow chart to show the path way of air flow during respiration.
18. How do proteins differ from fats in their energy value and their role in the body?
19. Why is pneumonia considered a dangerous disease?

IV. Answer all the questions :

2X5= 10

- 20.a) Explain the female reproductive system of frog.

Or

- b. Digestive secretions are secreted only when needed. Discuss.

21.a. Explain the conditions which creates problem in oxygen transport.

OR

b. Write about the Events involved in Inspiration and Expiration.

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