

**BIOLOGY****2013**

Time: 30 minutes

Max. Marks: 15

**SECTION "A" (MULTIPLE CHOICE QUESTIONS)****1. Choose the correct answer for each from the given options:**

- i. The tissue which conducts water and salts in plants is called:
- a) **Xylem**
  - b) Phloem
  - c) Cambium
  - d) Pith
- ii. The sensory Layer of eyeball is:
- a) **Sclerotic**
  - b) Choroid
  - c) Retina
  - d) Cornea
- iii. The part of stem which gives rise to leaf is called:
- a) **Node**
  - b) Internode
  - c) Petiole
  - d) Lamina
- iv. The number of chromosomes in each cell is:
- a) 23
  - b) 26
  - c) 36
  - d) **46**
- v. Typhoid is a disease of:
- a) Kidneys
  - b) Lungs
  - c) Liver
  - d) **Intestine**
- vi. Nephrons are connected with:
- a) Respiratory system
  - b) **Nervous system**
  - c) Circulatory system
  - d) Excretory system
- vii. The respiratory organs of insects are:
- a) **Flame Cells**
  - b) Malpighian tubules
  - c) Tracheae
  - d) Lungs
- viii. Which of the following is a gill breather?
- a) Frog

- b) **Fish**  
c) Whale  
d) Turtle
- ix. Agraicus is commonly known as:  
a) Bread mold  
b) Yeast  
c) **Mushroom**  
d) All of them
- x. Amoeba moves with the help of:  
a) Cilia  
b) **Pseudopodia**  
c) Flagella  
d) Limbs
- xi. Crocodile belongs to class:  
a) Amphibia  
b) **Reptilia**  
c) Aves  
d) Mammalia
- xii. The basic unit of classification is:  
a) Phylum  
b) Order  
c) Class  
d) **Species**
- xiii. The seed is a:  
a) **Ripened ovule**  
b) Ripened ovary  
c) Endosperm  
d) Cotyledon
- xiv. The fourth whorl of a flower is:  
a) Androecium  
b) **Gynoecium**  
c) Calyx  
d) Corolla
- xv. This vitamin is essential for vision:  
a) **Vitamin A**  
b) Vitamin B  
c) Vitamin C  
d) Vitamin D

**BIOLOGY****2013****Time; 2 ½ Hours****Max. Marks: 68**

Instruction: This paper consisting of Short-Answer Questions (Section "B") and Detailed-Answer Questions (Section "C") will be given after 30 minutes and its total duration will be 2 ½ hours only.

**SECTION "B" (SHORT-ANSWER QUESTIONS)  
ZOOLOGY (MARKS 21)**

**NOTE: Answer any 7 questions from this section. Each questions carries 3 marks.**

2. Define the following branches of Biology:
  - i. Palaeontology
  - ii. Embryology
  - iii. Genetics
3. Write down any three distinctive characteristics of Phylum Echinodermata.
4. Define Portal System. Name the two kinds of Portal System of frog.
5. Write three functions of human skeleton.
6. Write any three differences, light Microscope and Electron Microscope.
7. State Lamarck's Theory of Evolution.
8. Define the following and give one example of each:
  - i. Herbivores
  - ii. Insectivores
  - iii. Carnivores
9. Write three functions of blood.
10. Define Cold Blooded and Warm Blooded animals and give two examples of each.
11. Draw a neat and labelled diagram of human tooth.

**(SHORT-ANSWER QUESTIONS)  
BOTANY (MARKS 21)**

**NOTE: Answer any 7 questions from this section. Each questions carries 3 marks.**

12. Draw a neat and labeled diagram of chlamydomonas.
13. Define Photosynthesis and write its chemical equation.
14. Describe any three types of bacteria according to their shape.
15. Write three differences Angiosperms & Gymnosperms.
16. Write three points of economic importance of Fungi.
17. Define Phototropism and Geotropism.
18. Write one functions of each Of the following:
  - i. Root
  - ii. Stem

- iii. Leaf
- 19. Define Pollination and write the names of its two kinds.
- 20. State Mendel's Law of Dominance and the law of Segregation.
- 21. Define the following:
  - i. Transpiration
  - ii. Osmosis
  - iii. Diffusion

**SECTION 'C' (DETAILED-ANSWER QUESTIONS)**  
**ZOOLOGY\_ (MARKS 14)**

**NOTE: Attempt Two questions from this section. Each question carries 7 marks.**

- 22. Draw a neat and labeled diagram of the Digestive system of frog.
- 23. Define Mitosis. Write the names of the four phases of Mitosis. Describe the significance of Mitosis.
- 24. What are Viruses? Write general characteristics of viruses. Write the names of four viral diseases.

**(DETAILED-ANSWER QUESTIONS)**  
**BOTANY\_ (MARKS 14)**

**NOTE: Attempt Two questions from this section. Each question carries 7 marks.**

- 25. Draw a neat and labeled diagram of the T.S. of the root of Brassica.
- 26. Describe an experiment to prove that oxygen is evolved during photosynthesis. Draw its labeled diagram also.
- 27. Define Aerobic respiration. Write its chemical equation. Define anaerobic respiration. Write its chemical In bacteria and in animals.