

**Guess Paper – 2014**  
**Class – XI**  
**Subject –Biology**

Time: 3Hrs.

M.M.70

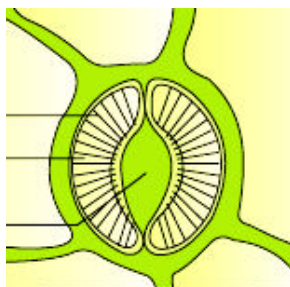
**General Instructions:-**

- a. All Questions are compulsory.
- b. The question paper consists of **30 questions divided into four sections A, B, C and D**. The section A contains **1-8** questions of **1 mark each**, the section B consists of **9-18** question of **2 marks each**, the section C has **19-27** question of **3 marks each** and section D includes **28-30** question of **5 marks each**.
- c. There is no overall choice. However, **internal choice** has been provided in **one** question of 2 marks each, in one question of 3 marks each and in **all the three** questions of 5 marks each. You are to attempt **only one of the two** alternatives in case of an internal choice question.
- d. Wherever necessary, the diagrams drawn should be neat, bold and properly labeled.

**Questions**

**Section A**

01. What are the family of cat and dog?
02. Give the location of casparian strip and explain its role in the water movement.
03. What is inulin? Is it a homopolymer or heteropolymer?
04. Give name of leucocytes responsible for inflammatory reactions and associated with allergic reactions.
05. Give the name of two members of ascomycetes, which are considered delicacies.
06. What is the role-played by luteinizing hormones in males and females respectively?
07. Observe the diagram and answer the following;



- a. Are these types of guard cells found in monocots or dicots?
- b. Which structure of guard cells plays an important role in the opening and closing of stomata?

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08. In which gymnosperm plants will you look for mycorrhiza and corolloid roots?

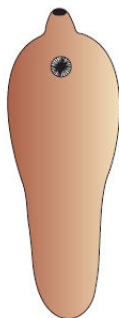
**Section - B**

09. The leucoplasts are colourless plastids of varied shapes and sizes with stored nutrients. Give two type of leucoplast with stored food in it.
10. What is the difference between a nucleotide and nucleoside? Give one examples of each.
11. Pyruvic acid is the end product of glycolysis. What are the three metabolic fates of pyruvic acid under aerobic and anaerobic conditions?
12. What is fungi imperfecti? Give out line classification of kingdom fungi.
13. Give the botanical name of a plant of familysolanaceae. Show the floral formula and floral diagram of the same plant.
14. What is limbic system?  
Give the total number of pairs of motor and mixed nerves in a human being.
15. The mode of arrangements of sepals or petals in a floral bud is known as aestivation. Draw the types of aestivation in Chinrose and Calotropis flowers.
16. Describe the functions of mitochondria.
17. Under what conditions are  $C_4$  plants superior to  $C_3$ ?

**OR**

ATP produced during glycolysis is a result of substrate level phosphorylation. Explain.

18. Identify the following animal and give the zoological name and phylum of this animal.  
Give two unique feature of the phylum it belongs to..

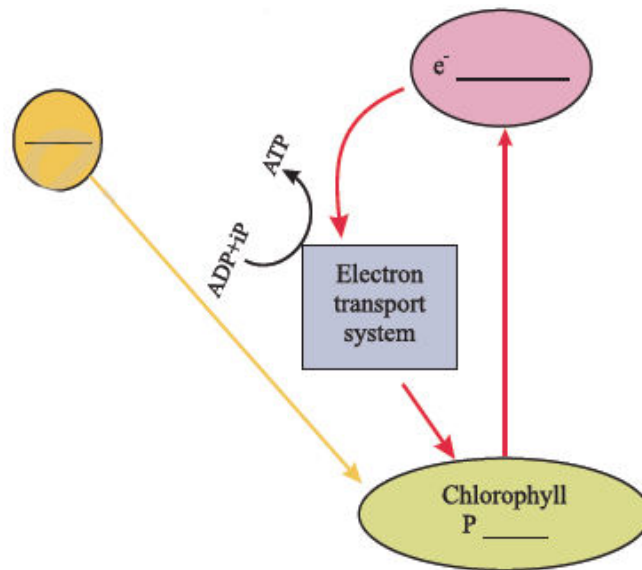


**Section - C**

19. What are different types of neurons? Explain with example of each type?
20. What is Km value for an enzyme? What are different classes of enzymes? Explain any two with the type of reaction they catalyse.
21. Trace the events starting from the coming in contact of *Rhizobium* to a leguminous root till nodule formation. Add a note on importance of leg hemoglobin.
22. List two main groups of natural plant growth regulators.

Which one of the plant growth regulators would you use if you are asked to:

- (a) Quickly ripen a fruit
  - (b) Delay leaf senescence
  - (c) 'Bolt' a rosette plant
  - (d) Induce immediate stomatal closure in leaves.
23. Complete the flow chart for cyclic photophosphorylation of the photosystem-I. What is the possible location where this could be happening in chloroplast? What is the condition of light at which cyclic photophosphorylation occurs.



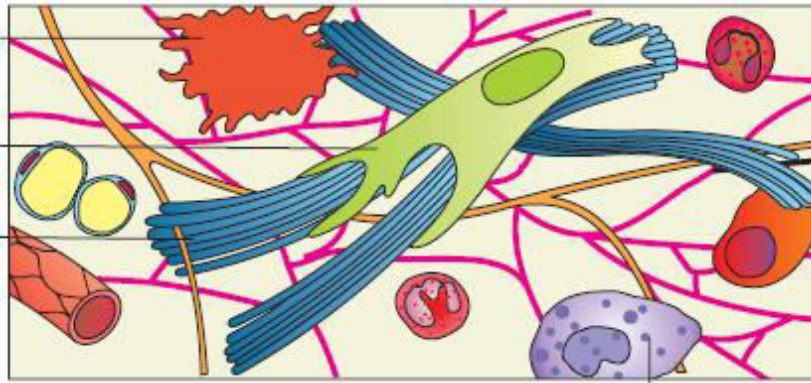
24. What are vital capacity and functional residual capacity? How much time is solubility of CO<sub>2</sub> as compared to O<sub>2</sub>?
25. What do you mean by steroid hormone. Give target gland of following hormones.

Hormones	Target gland
(a) GnRH	_____
(b) TRH	_____
(c) ACTH	_____
(d) FSH	_____

26. Why is the RuBisCo enzyme more appropriately called RUBP Carboxylase-Oxygenase and what important role does it play in C<sub>3</sub> plants photosynthesis? Give the substrate and product of the same enzyme in C<sub>3</sub> plants. Name the one important enzymes of C<sub>3</sub> and C<sub>4</sub> pathway, respectively?
27. Classify and describe epithelial tissue on the basis of structural modifications of cells.

OR

Identify the two different types of cells found in areolar connective tissue given below, Give function of these cells.



On the basis of structure and function, differentiate between bones and cartilages.

**Section - D**

28. Explain sliding filament theory of muscle contraction with neat sketches.

**OR**

The glomerular filtrate in the loop of Henle gets concentrated in the descending and then gets diluted in the ascending limbs. Explain with diagram of nephron to show the loop of henle.

29. (i) Arrange the following in the sequence you would find them in a plant starting from the periphery – phellem, phellogen, phelloderm.
- (ii) A transverse section of the trunk of a tree shows concentric rings which are known as growth rings. How are these rings formed? What is the significance of these rings?

**OR**

Answer the following:

- (i) Give the location and number of hepatic caeca in a cockroach? What is their function?
- (ii) Give terms for mouth parts in cockroach.
- (a) Lower lip      (b) Upper lip
- (iii) Explain the function of gizzard in digestive system of Cockroach with the help of a labeled sketch of digestive system.
30. What are the various stages of meiotic prophase-I? Enumerate the chromosomal events during each stage? Comment on the statement – Telophase is reverse of prophase.

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**OR**

Eukaryotic cells have organelles which may

- a) Not be bound by a membrane
- b) Bound by a single membrane
- c) Bound by a double membrane

Group the various sub-cellular organelles into these three categories.

The two lamellar models can not explain the permeability of plasma membrane and passing of water through it. How is it explained by the fluid mosaic model?

**ALL THE BEST**

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