



# MACRO VISION ACADEMY, BURHANPUR

Sample Paper

Class: XI (C)

Biology Stream Time 2:00 Hrs. M.M.: 100

Office Use

Student's Name:- \_\_\_\_\_ Father's Name:- \_\_\_\_\_

City:- \_\_\_\_\_ Mobile No:- \_\_\_\_\_ Exam Date:- \_\_\_\_\_

Studying in Class:- \_\_\_\_\_ Appearing for class:- \_\_\_\_\_ Board:- MP/CBSE/Other \_\_\_\_\_

Biology (30)	Physics (15)	Chemistry (15)	Mathematics (20)	English (20)	OBTAINED MARKS (100)

### (Biology 30)

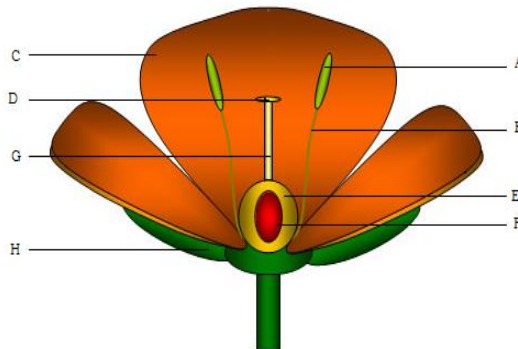
❖ Write two difference between the diseases-night blindness and colour blindness. 2  
 Ans. ....

❖ ➤ What is meant by droplet infection? 2  
 Ans. ....

➤ What are the social aspects that are necessary for individual health?  
 Ans. ....

❖ A person was riding a two-wheeler without wearing a helmet. He met with an accident and sustained a head injury. He was dead before he was shifted to the hospital and it was found that his death was due to breathlessness and heart failure. Which part of his brain might have been damaged? Justify your answer. 2  
 Ans. ....

❖ Observe the given diagram: 2  
 ➤ Label its parts.  
 Ans.



➤ What happens to the parts labeled 'E' 'F', after the process of fertilization?

Ans. ....  
.....

❖ What is meant by exploitation of resources with short-term aims? List its four advantages. **2**

Ans. ....  
.....  
.....

❖ Explain 'biological magnification' with the help of an example. **2**

Ans. ....  
.....  
.....

❖ With the help of a labelled diagram of human excretory system, Mention its important part and explain them. **3**

Ans. ....  
.....  
.....  
.....  
.....

❖ ➤ How is brain protected from injury and shock? **3**

Ans. ....  
.....

➤ Name two main parts of hind brain and state the functions of each.

Ans. ....  
.....

- ❖ ➤ “DNA copies generated during reproduction will be similar but may not be identical to the original.” Justify this statement. **3**

Ans. ....

- Write the full form of DNA. Name the part of the cell where it is located.

Ans. ....

- ❖ ➤ What is meant by analogous organs? Taking a suitable example, explain how they support the theory of Organic Evolution. **3**

Ans. ....

.....  
.....  
.....  
.....

- “The sex of the children is determined by what they inherit from their father and not their mother.” Justify your answer with flow diagram.

Ans. ....

.....

- ❖ ➤ Why do plant cells possess largely sized vacuole? **3**

Ans. ....

.....

- Why does the skin of your fingers shrink when you wash clothes for a long time?

Ans. ....

.....

- Why do vegetable vendors regularly sprinkle water on the vegetables in their baskets?

Ans. ....

.....

- ❖ ➤ Name the tissues for the following: **3**

i) Stores fat in animal body.

Ans. ....

ii) Divides and re-divides to grow in plants.

Ans. ....

iii) Tissue that joins bone to bone.

Ans. ....

iv) Covers the external surface of animal body.

Ans. ....

➤ Give two differences between bone and cartilage.

Ans. ....

.....

.....

**(Physics 15)**

❖ What is meant by resistivity of a material: **3**  
Derive its S.I. unit; Describe an experiment to study the factor on which the resistance of  
conducting wire depends.

Ans. ....

.....

.....

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❖ Why natural magnet posses magnetic property? Can its property be increased or decreased? Why? **3**  
Ans. ....

.....

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.....



**(Chemistry 15)**

❖ ➤ State the kind of chemical reactions in the following examples: **3**

i) Digestion of food in stomach.

Ans. ....

ii) hydrogen reacts with sulphur produces hydrogen sulphide.

Ans. ....

➤ Write the balanced chemical equation for the following reactions.

i) Phosphorus burns in chlorine to form phosphorus pentachloride.

Ans. ....

ii) Aluminium reacts to steam

Ans. ....

❖ ➤ What happens when acetic acid is reacts to sodium metal? **3**

Ans. ....

➤ What is baking powder? How does it make the cake soft & spongy? Write its equation.

Ans. ....

❖ ➤ Write electron dot structures of  $MgCl_2$  by the transfer of electron. **3**

Ans. ....

➤ Name the cation and anion in aluminium oxide.

Ans. ....

➤ Write two properties of ionic compounds.

Ans. ....  
.....  
.....

❖ Write IUPAC names of the following:

3

➤  $CH_3CH_2COOH$

Ans. ....

➤ Why hard water is not suitable for washing clothes.

Ans. ....  
.....  
.....

➤ What is homologous series? Explain with example.

Ans. ....  
.....  
.....

❖ The second period of the long form of periodic table contains the following elements:

3

Li B C N O F Ne

➤ Write down their electronic configuration of N & Ne -

Ans. ....  
.....  
.....

➤ Do they contain the same number of valence electrons?

Ans. ....  
.....  
.....

➤ Do they contain the same number of shells?

Ans. ....  
.....  
.....

### Mathematics (20)

❖ Find a cubic polynomial whose sum, sum of product taken two at a time and product of zeroes are  $3, \frac{1}{2}$  and  $-1$ .

1

Ans.

❖ Show that the system of equations

1

$4x + 6y = 7, 12x + 18y = 21$  has infinitely many solutions.

Ans.

❖ Prove that:  $\sin \theta \cos(90^\circ - \theta) + \sin(90^\circ - \theta) \cos \theta = 1$

**1**

Ans.

❖ If  $A = 60^\circ$  and  $B = 30^\circ$ , verify that:

**2**

a)  $\sin(A+B) = \sin A \cos B + \cos A \sin B$

b) S

Ans.



- ❖ Show that the equation  $9x^2 + 7x - 2 = 0$  has real roots and solve it.  
Ans.

**2**

- ❖ Show that the lengths of tangents drawn from an external point to a circle are equal.  
Ans.

**2**

- ❖ The perimeters of two similar triangles are 25 cm and 15 cm respectively. If one side of the first triangle is 9 cm, find the corresponding side of the second triangle. **2**

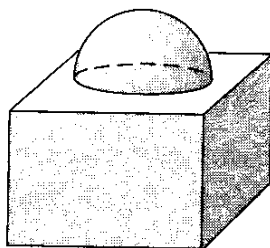
Ans.

- ❖ If  $(3, 3)$ ,  $(6, y)$ ,  $(x, 7)$  and  $(5, 6)$  are the vertices of a parallelogram taken in order, find the values of  $x$  and  $y$ . **3**

Ans.

- ❖ If the sum of first  $n$  terms of an AP is  $\frac{1}{2}(3n^2 + 7n)$ , then find its  $n^{\text{th}}$  term and hence, write its 20<sup>th</sup> term.  
Ans.

- ❖ A solid is made up of a cube and a hemisphere attached on its top, as shown in the figure. Each edge of the cube measures 5 cm and the hemisphere has a diameter of 4.2 cm. Find the total area to be painted.  $\left[ \text{Take } \pi = \frac{22}{7} \right]$  **3**



Ans.

### English (20)

- ❖ Read the following passage carefully and answer the questions given below.

5

#### The Story of Aunt

Two small girls and a small boy Cyril were in a railway carriage. It was uncomfortably warm and all the young occupants were restless. Their aunt, who was also travelling along was unable to keep the kids occupied. The aunt started telling them a story about a girl. This girl was chased by a mad bull. But the bull was driven away by the people. The aunt went on to tell the three kids that the people saved the girl from the bull because she was a very good girl. It was her inherent goodness that made people save her. This story did not seem to interest the three of them. They wanted to know if she wouldn't have been saved had she not been good. The aunt's answer did not convince the kids.

A young bachelor, who was also travelling in the same carriage, was quietly observing all this. He told the aunt that she was not a good storyteller. The aunt challenged the bachelor to narrate a story that would thrill the kids and also be understood by them. The bachelor started a story about an exceptionally good girl, Bertha, who was eaten up by a wolf in the park of a prince. She was the only girl in that town to have won three medals — all for her obedience, punctuality, and good behaviour. She used to wear all these three large medals, which always clinked against each other as she walked.

The park, one day Bertha is chased by a wolf, and she hides behind the thick myrtle bushes. The wolf follows the trembling Bertha to the bushes. However, the smell of myrtle is so strong that the wolf cannot smell the hiding Bertha. Just when the wolf is about to retreat, her medals clink

against each other. The wolf then pounces upon the girl and eats her up to the last bone. The three children liked the story but the aunt considered the story improper. But the young man who was preparing to leave the carriage, was happy to have kept the impatient children quiet for some time and thought that for the next few months the children would trouble their aunt with demands for an 'improper story'.

On the basis of your reading of the above passage answer the following questions briefly

➤ Why were the young occupants restless?

Ans. ....  
 .....

➤ Why did the people save the girl from the bull?

Ans. ....  
 .....

➤ For what did Bertha win the three medals?

Ans. ....  
 .....

➤ Why can't the wolf smell the hiding Bertha?

Ans. ....  
 .....

➤ How does the wolf come to know that Bertha is hiding behind the thick myrtle bushes?

Ans. ....  
 .....

❖ Fill in any four of the blanks in the sentences given below choosing the most appropriate options from the ones that follow: (Any 3) **3**

When I a) ..... back, I saw my friends laughing. I wondered what b) ..... be the reason. Then I c) ..... that my shirt had a black stain on the sleeve. I d) ..... very upset at this and after reaching home, I shouted at my maid servant.

- a) (i) come      (ii) return      (iii) turned      (iv) saw
- b) (i) could      (ii) can      (iii) is      (iv) will
- c) (i) stare      (ii) noticed      (iii) realised      (iv) see
- d) (i) get      (ii) am      (iii) was      (iv) got

❖ In the following paragraph one word has been omitted in each line. Write the missing words in any four lines of the given paragraph. **4**

	e.g.	before approached	missing to	after guru
One day Krishna approached/ guru Gautama in ancient India. He had number of disciples. He called all of them and said, "I am worried about cattle of hermitage. I am unable to bear the sight the suffering these dumb creatures. These cows have to be driven to a distant place where there is pasture and plenty of water.		a) _____	_____	_____
		b) _____	_____	_____
		c) _____	_____	_____
		d) _____	_____	_____

❖ Rearrange any four of the following word clusters to make meaningful sentences.

**2**





## **ROUGH WORK**