



# MACRO VISION ACADEMY, BURHANPUR

Sample Paper

Class: XI (A)

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)		
❖	Why is it necessary to separate oxygenated & deoxygenated blood in mammals & birds? Ans. .... ..... ..... .....	2
❖	How does our body respond when adrenaline is secreted into the blood? Ans. .... ..... ..... .....	2
❖	What are the major factors responsible for population explosion? Ans. .... ..... ..... .....	2
❖	How do we know how old a fossil is? Ans. .... ..... ..... .....	2

❖	<p>Write steps to conserve energy.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p>	<b>2</b>
❖	<p>What will happen if we kill all the organisms in one trophic level?</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p>	<b>2</b>
❖	<p>➤ Why is DNA copying essential part of the process of reproduction?</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>➤ How does the embryo get nourishment inside the mother's body?</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p>	<b>3</b>
❖	<p>Give a reason to explain why?</p> <p>➤ Iodised salt is preferred.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>➤ Secretions of growth hormone should be specific in the human body.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>➤ You blink your eyes as bright light is focused on you.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p>	<b>3</b>
❖	<p>What are the modes of excretion in plants?</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p>	<b>3</b>



	<p>➤ Rheo leaves are boiled in water first and then a drop of sugar syrup is put on it?</p> <p>Ans. ....</p> <p>.....</p>	
<b>(Physics 15)</b>		
❖	<p>Show how you could connect three resistors, each of resistance <math>6\Omega</math>? So that the combination has a resistance of (i) <math>9\Omega</math>, (ii) <math>4\Omega</math>?</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<b>3</b>
❖	<p>Why magnetic line does not intersect draw a magnetic field around any one type of magnet?</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<b>3</b>
❖	<p>Which energy we use most? Explain any one renewable energy conversion.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<b>3</b>

❖	<p>A coin placed at the bottom of a tank appears to be raised when water is poured into it. Explain.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	3
❖	<p>Draw labeled diagrams and explain the working human eye.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	3
<b>(Chemistry 15)</b>		
❖	<p>Write the balanced chemical equation for the following reactions &amp; identify the type of reactions:</p> <p>➤ Zinc reacts with sulphuric acid produces hydrogen gas.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>➤ Sodium hydroxide solution is treated with acetic acid to form sodium acetate.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>➤ Ethanol is warmed with ethanoic acid to form ethyl acetate in presence of conc. <math>H_2SO_4</math>.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p>	3
❖	<p>Write the chemical name &amp; formula of the following:</p> <p>➤ Salt formed by the combination of hydrochloric acid &amp; sodium hydroxide.</p> <p>Ans. ....</p> <p>.....</p> <p>.....</p>	3

	<p>➤ Products formed by chlor-alkali process.          Ans. ....</p> <p>➤ Substance added in cake to make it fluffy.          Ans. ....</p>	
❖	<p>Give reasons for the following:</p> <p>➤ Metals conduct electricity.          Ans. ....</p> <p>➤ Carbon makes lot of compounds.          Ans. ....</p> <p>➤ Aluminium reacts with oxygen but still it can be used for making kitchen utensils.          Ans. ....</p>	3
❖	<p>➤ Draw the electron dot structure of following:</p> <p>i) <math>MgCl_2</math>                      ii) <math>H_2</math></p> <p>Ans. ....</p> <p>➤ Write the formula of following functional groups.</p> <p>i) Aldehyde                      ii) Ketone</p> <p>Ans. ....</p>	3

❖	<p>Give Reasons:</p> <p>➤ The elements of same group have similar chemical properties.          Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>➤ Lithium atom is smaller than sodium atom.          Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>➤ Metallic property decreases left to right along the period.          Ans. ....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<b>3</b>
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**Mathematics (20)**

❖	<p>The HCF of two numbers is 145 and their LCM is 2175. If one of the numbers is 725, find the other number.          Ans.</p>	<b>1</b>
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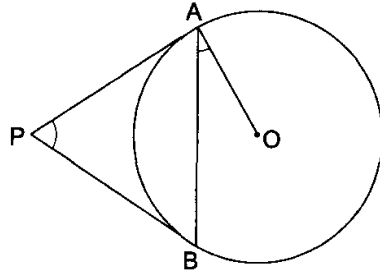
❖	<p>Find the 25<sup>th</sup> term of the A.P. <math>4, 4\frac{1}{2}, 5, 5\frac{1}{2}, 6, \dots</math>          Ans.</p>	<b>1</b>
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❖	<p>If the probability of winning a game is 0.7, what is the probability of losing it?          Ans.</p>	<b>1</b>
❖	<p>If <math>3\tan\theta=4</math>, evaluate <math>\frac{3\sin\theta+2\cos\theta}{3\sin\theta-2\cos\theta}</math>          Ans.</p>	<b>2</b>
❖	<p>Solve the equation <math>3x^2-5x+2=0</math> by the method of completing the square.          Ans.</p>	<b>2</b>



❖ Two tangents PA and PB are drawn to a circle with centre O from an external point P. Prove that  $\angle APB = 2\angle OAB$ .

2



Ans.

❖	<p>ABCD is a trapezium in which <math>AB \parallel DC</math> and its diagonals intersect each other at the point O.</p> <p>Then show that <math>\frac{AO}{OC} = \frac{BO}{OD}</math>.</p> <p>Ans.</p>	<b>2</b>
❖	<p>Each one of A and B has some money. If A gives Rs.30 to B then B will have twice the money left with A. But, if B gives Rs.10 to A then A will have thrice as much as left with B. How much money does each have?</p> <p>Ans.</p>	<b>3</b>

❖	Show that the points $A(-3,2)$ , $B(-5,-5)$ , $C(2,-3)$ and $D(4,4)$ are the vertices of a rhombus. Find the area of this rhombus. Ans.	<b>3</b>

❖	<p>An open metal bucket is in the shape of a frustum of a cone of height 21cm with radii of its lower and upper ends as 10cm and 20cm respectively. Find the cost of milk which can completely fill the bucket at Rs.30 per litre.</p> <p>Ans.</p>	<b>3</b>
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**English (20)**

❖	<p><b>Read the following passage carefully:</b></p> <p style="text-align: center;"><b>Title: Power Foods</b></p> <p>a) Power foods are foods that provide rich levels of nutrients like fibre, potassium and minerals. With people becoming increasingly health conscious today, a lot of fitness trainers encourage their clients to include these foods in their daily diet to increase muscle development. There are various ways of incorporating power foods in your daily diet. Of course, the key to enjoying power foods is proper preparation of these foods, the use of season-fresh foods, and indentifying your choice of flavour among power foods.</p> <p>b) Some of the recommended power food combinations are those that are prepared in our kitchens on a regular basis. Take for instance, the combination of chickpeas and onions. This combination is a powerful source of iron which is required by the body to transport oxygen to its various parts. Iron deficiency can lead to anaemia, fatigue, brain fog and tiredness. A study by the Journal of</p>	<b>5</b>
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	<p>Agricultural and Food Chemistry says that sulphur compounds in onion and garlic help in the absorption of iron and zinc from chickpeas. The combination is a hit with teenagers who need to be diligent about getting iron in their diet. A quick way to prepare this power food is to make a chickpea salad with chopped onions, chaat masala and cilantro.</p> <p>c) Another favourite combination with power food takers is yoghurt and bananas. This makes for a perfect snack after a rough game of football. Exercising burns glucose and thus lowers blood sugar. Yoghurt is packed with proteins that help preserve muscle mass, and bananas are packed with carbohydrates that help in refuelling energy and preventing muscle soreness. A quick and easy recipe with bananas is a banana smoothie topped with cool yoghurt.</p> <p>d) Among beverages, green tea is the best source of catechins that are effective in halting oxidative damage to cells. According to researchers at the Purdue University, adding a dash of lemon juice to green tea makes the catechins even more easily absorbable by the body. So, the next time you have instead of are friends serve them rounds of iced green tea with mint and lemon juice.</p> <p><b>Answer the following questions briefly:</b></p> <p>➤ What are power foods?  Ans. ....</p> <p>➤ What are the rules regarding the partaking of power foods?  Ans. ....</p> <p>➤ What is the advantage of including onions and garlic in our diet?  Ans. ....</p> <p>➤ Suggest a quick recipe with chickpea and onions.  Ans. ....</p> <p>➤ Why is yoghurt and bananas, an enriching power food?  Ans. ....</p>																																				
❖	<p>Change the following sentences into passive voice.</p> <p>➤ They made him king.  Ans. ....</p> <p>➤ We have invited him.  Ans. ....</p>	2																																			
❖	<p>In the following paragraph one word has been omitted in each line. Write the missing words in any four lines of the given paragraph.</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 45%;"></td> <td style="width: 10%; text-align: center;">before</td> <td style="width: 15%; text-align: center;">missing</td> <td style="width: 10%; text-align: center;">after</td> <td style="width: 10%;"></td> </tr> <tr> <td>One day Krishna approached/guru and said,</td> <td style="text-align: center;">e.g. approached</td> <td style="text-align: center;">the</td> <td style="text-align: center;">guru</td> <td></td> </tr> <tr> <td>“Oh wise one! We often find your eyes with</td> <td style="text-align: center;">a) _____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td></td> </tr> <tr> <td>tears.” There must a strong reason for this</td> <td style="text-align: center;">b) _____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td></td> </tr> <tr> <td>grief. Please tell us. No act service can be</td> <td style="text-align: center;">c) _____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td></td> </tr> <tr> <td>so holy and meritorious as restoring joy</td> <td style="text-align: center;">d) _____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td></td> </tr> <tr> <td>in our guru’s heart.</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		before	missing	after		One day Krishna approached/guru and said,	e.g. approached	the	guru		“Oh wise one! We often find your eyes with	a) _____	_____	_____		tears.” There must a strong reason for this	b) _____	_____	_____		grief. Please tell us. No act service can be	c) _____	_____	_____		so holy and meritorious as restoring joy	d) _____	_____	_____		in our guru’s heart.					4
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Write a short story in about (100-150 words) on the basis of the hints provided:  
Going for long walks has always been a passion with me. As usual I was walking amongst the thick  
green forest till I heard that voice .....

As the ticket inspector asked for the ticket, I dug my hand into my pocket only to discover that the  
purse along with the ticket had disappeared .....

Ans. ....

Lined writing area consisting of 25 horizontal dotted lines for the student's response.

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## **ROUGH WORK**