 MACRO VISION ACADEMY BURHANPUR	SAMPLE PAPER-I (2025-26)		For Office Use Only
	Class:	XI BIOLOGY	
	Time:	03:00 Hrs.	
	M.M:	100	

Personal Information

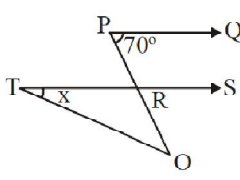
Student's Name:- _____ **Father's Name:-** _____

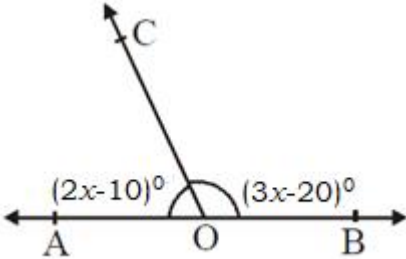
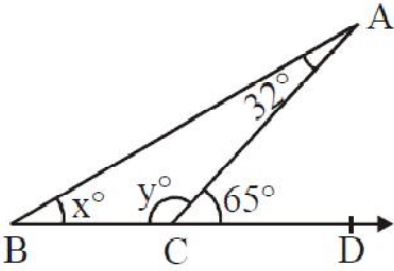
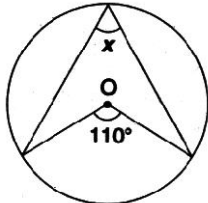
City:- _____ **Mobile No:-** _____ **Exam Date:-** / / 2025

Studying in Class:- _____ **Appearing for class:-** _____ **Board:-** _____

Present School Name:- _____ **Category:-** _____

Section-A		Section-B				Total (100)
Maths (15)	English (05)	Physics (20)	Chemistry (20)	Biology (30)	English (10)	

Section-A Mathematics		
Q.N	Questions	Answers
Instruction:- Q. 1 – Q. 15 carry 1 mark each.		
1.	$\left[\frac{(32)^{0.2} + (81)^{0.25}}{(256)^{0.5} - (121)^{0.5}} \right] = \text{_____}$	
2.	If $A = 4x^3 - 5x + 7$, $B = 2x^3 + x^2 + 3$ and $C = 5x^3 - 8x^2 + 10$, then $A - 2B - C$, is	
3.	Find the remainder when the expression $3x^3 + 8x^2 - 6x + 1$ is divided by $x + 3$.	
4.	In the given figure $PQ \parallel RS$, $\angle QPR = 70^\circ$, $\angle ROT = 20^\circ$, then the value of x . 	
5.	Simplify: $(3x^2 + x - 11) \times (7x^3 + 12)$	

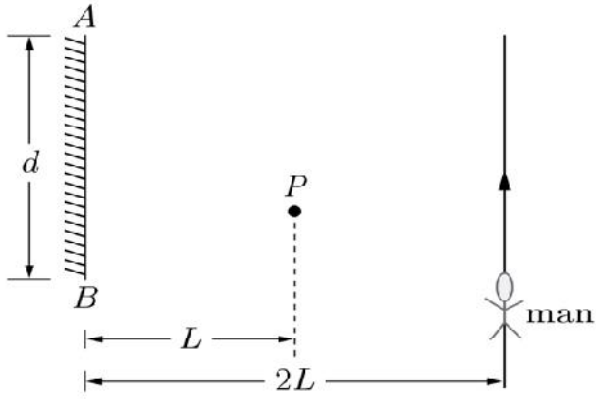
6.	The LCM of $x^2 - 16$ and $2x^2 - 9x + 4$ is	
7.	If we join the points $(-2,0)$, $(0,1)$, $(2,0)$ and $(0,-1)$ then which type of quadrilateral is formed?	
8.	$\sqrt{20\frac{1}{4}} - \sqrt{1\frac{32}{49}} = \underline{\hspace{2cm}}$.	
9.	If $\frac{5x}{4} + \frac{6-x}{8} = \frac{6(x+3)}{3} - \frac{1}{6}$, then $x = ?$	
10.	Factors of $(42 - x - x^2)$ are	
11.	If $x = \left(\frac{3}{2}\right)^2 \times \left(\frac{2}{3}\right)^{-4}$, find the value of x^2 .	
12.	<p>In the given figure, AOB is a straight line and the ray OC stands on it.</p> <p>If $\angle AOC = (2x - 10)^\circ$ and $\angle BOC = (3x - 20)^\circ$, find the value of x.</p> 	
13.	<p>In the figure, find values of x and y.</p> 	
14.	Solve: $3x + 4y - 1 = 0$; $2x - \frac{8}{3}y + 5 = 0$	
15.	<p>Find the angle marked as x in given figure where O is the centre of the circle.</p> 	

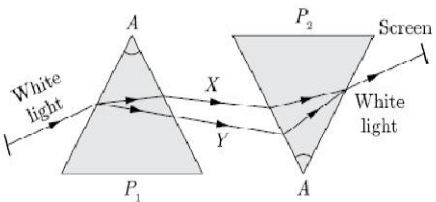
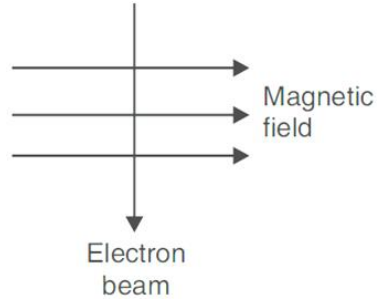
English (05)

16.	Write a paragraph on 'The impact of AI in current education system' in about 100 – 120 words.	(05 Marks)
Ans.		

Section-B**Physics (20)****Instruction: - Q. 17 – Q. 36 carry 1 mark each.**

17.	The purpose of a rheostat is: (a) Increase the magnitude of current only (b) Decrease the magnitude of current only (c) Increase or decrease the magnitude of current (d) None of these	
18.	The focal lengths of two lenses in contact to each other are 20 cm and 50 cm respectively. Their combined power is: (a) + 7.0 D (b) + 70 D (c) + 3.0 D (d) + 30 D	
19.	The image formed on the retina is retained by it for about of a second. (a) 1/15 th (b) 1/16 th (c) 1/18 th (d) 1/20 th	

<p>20.</p>	<p>A point source of light P is placed at a distance L in front of a mirror of width d hung vertically on a wall. A man walks in front of the mirror along a line parallel to the mirror at a distance $2L$ as shown in the figure. The greatest distance over which he can see the image of the light source, in the mirror, is</p>  <p>(a) $d/2$ (b) d (c) $2d$ (d) $3d$</p>	
<p>21.</p>	<p>Choose the incorrect statement from the following regarding magnetic lines of force</p> <p>(a) The direction of magnetic field at a point is taken to be the direction in which the north pole of a magnetic compass needle will point</p> <p>(b) Magnetic field lines are closed curves</p> <p>(c) If magnetic field lines are parallel and equidistant, they represent zero field strength</p> <p>(d) Relative strength of magnetic field is shown by the degree of closeness of the field lines</p>	
<p>22.</p>	<p>What is the unit of refractive index?</p>	
<p>23.</p>	<p>The focal length of a lens of power -2.0 D is-</p>	
<p>24.</p>	<p>The angle between incident ray and reflected ray is 60°. What is the angle of incidence?</p>	
<p>25.</p>	<p>The speed of light in a transparent medium is $1/6$ times that of its speed in vacuum. The refractive index of the medium is:</p>	
<p>26.</p>	<p>If angle of deviation through a prism of angle 60° is 40°, angle of incidence (being equal to angle emergence) would be:</p>	

<p>27.</p>	<p>In given below figure, X and Y indicates which extreme colours of the spectrum?</p> 	
<p>28.</p>	<p>Which of the colours of visible light has minimum wavelength?</p>	
<p>29.</p>	<p>What is the maximum resistance which can be made using ten resistors each of $(1/10) \Omega$?</p>	
<p>30.</p>	<p>What is the direction of magnetic field lines inside the magnet?</p>	
<p>31.</p>	<p>On decreasing the voltage across conductor, current will _____</p>	
<p>32.</p>	<p>An electron beam enters a magnetic field at right angles to it as shown in the Figure.</p>  <p>The direction of force acting on the electron beam will be _____ the page.</p>	
<p>33.</p>	<p>Assertion (A): Eye lens has the ability to focus clearly on the retina by adjusting its focal length</p> <p>Reason (R): This phenomenon is called is called power of accommodation.</p> <p>(a) Both assertion and reason are correct and reason is correct explanation of the assertion.</p> <p>(b) Both assertion and reason are correct, but the reason is not the correct explanation of the assertion.</p> <p>(c) Assertion is correct, but reason is incorrect.</p> <p>(d) Assertion is incorrect, but reason is correct.</p>	

Case Study: Based on the given information, answer the following questions.

A concave mirror has an inwardly curved reflection surface. Concave mirrors are utilized by dentists because they are converging mirrors that reflect light to the focus point. Dentists can use this sort of mirror to see the tooth more clearly if there is an inflammation or a bacterial assault.



34.	What is the nature of image formed in the mirror used by dentist?	
35.	If the magnification of mirror is +2, what type of mirror it is?	
36.	If object is very far from the mirror used by dentist, then where the image is form?	

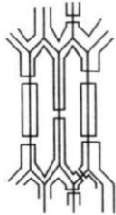

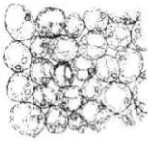
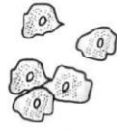
Chemistry (20)

Instruction:- Q. 37 – Q. 56 carry 1 mark each.

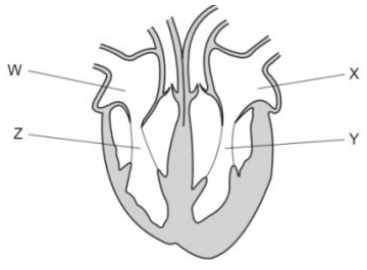
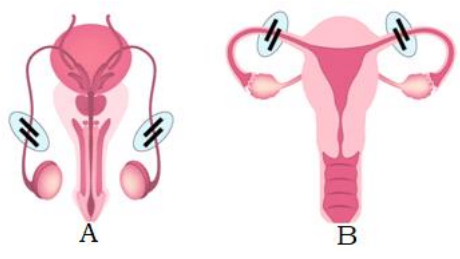
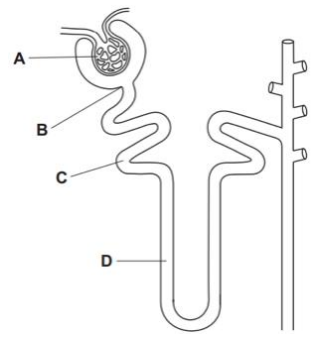
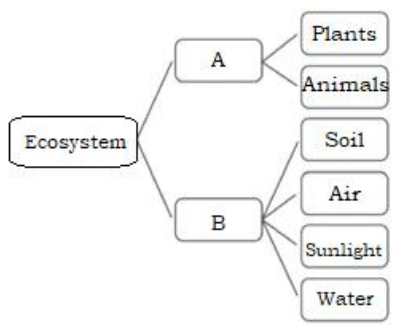
37.	Which of the following statements is correct about an aqueous solution of an acid and of a base? (i) Higher the pH, stronger the acid (ii) Higher the pH, weaker the acid (in) Lower the pH, stronger the base (iv) Lower the pH, weaker the base (a) (i) and (iii) (b) (ii) and (iii) (c) (i) and (iv) (d) (ii) and (iv)	
38.	Which of the following is the correct arrangement of the given metals in ascending order of their reactivity? Zinc, Iron, Magnesium, Sodium (a) Zinc > Iron > Magnesium > Sodium (b) Sodium > Magnesium > Iron > Zinc (c) Sodium > Zinc > Magnesium > Iron (d) Sodium > Magnesium > Zinc > Iron	

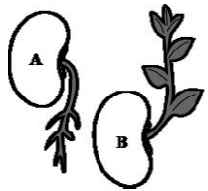
39.	<p>The electronic configurations of three elements X, Y and Z are X - 2, 8; Y - 2, 8, 7 and Z - 2, 8, 2. Which of the following is correct?</p> <p>(a) X is a metal (b) Y is a metal (c) Z is a non-metal (d) Y is a non-metal and Z is a metal</p>	
40.	<p>Which of the following statements are correct for carbon compounds?</p> <p>(i) Most carbon compounds are good conductors of electricity. (ii) Most carbon compounds are poor conductors of electricity. (iii) Force of attraction between molecules of carbon compounds is not very strong. (iv) Force of attraction between molecules of carbon compounds is very strong.</p> <p>(a) (ii) and (iv) (b) (ii) and (iii) (c) (i) and (iv) (d) (i) and (iii)</p>	
41.	<p>$2\text{HNO}_3 + \text{Ca}(\text{OH})_2 \rightarrow \text{Ca}(\text{NO}_3)_2 + 2\text{H}_2\text{O}$; is an example of</p> <p>(i) displacement reaction (ii) double displacement reaction (iii) neutralisation reaction (iv) combination reaction.</p> <p>(a) (i) and (ii) (b) (ii) and (iii) (c) (iii) and (iv) (d) (i) and (iv)</p>	
42.	<p>Name the gas evolved when sodium carbonate or bicarbonate is added to ethanoic acid.</p>	
43.	<p>Copper coin is kept immersed in silver nitrate solution for some time. What change will take place in the colour of the solution? Write balanced chemical equation of the reaction involved.</p>	
44.	<p>Which metal floats on surface on reacting with water?</p>	

45.	<p>In the formation of compound between two atoms A and B, A loses two electrons and B gains one electron.</p> <p>(i) What is the nature of bond between A and B?</p> <p>(ii) Suggest the formula of the compound formed between A and B.</p>	
46.	<p>Identify the compound oxidised in the following reaction:</p> $\text{H}_2\text{S (g)} + \text{Cl}_2 \rightarrow \text{S(s)} + 2\text{HCl (g)}$	
47.	<p>Explain the action of dilute hydrochloric acid on Magnesium ribbon with the help of a chemical equation.</p>	
48.	<p>Give the name and structural formula of the third member of the homologous series of following:</p> <p>(i) Alkane (ii) Alkene</p>	
49.	<p>Write the IUPAC name of the following compound:</p> $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2-\text{C} \equiv \text{C}-\text{H}$	
50.	<p>Identify the functional group present in the following compound:</p> $\begin{array}{c} \text{CH}_3 - \text{CH} - \text{CH}_3 \\ \\ \text{CHO} \end{array}$	
51.	<p>Translate and write a balanced chemical equation with state symbols for the following reaction:</p> <p>Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.</p>	
52.	<p>Assertion (A): Sodium metal is stored under kerosene.</p> <p>Reason (R): Metallic sodium melts when exposed to air.</p> <p>(a) Both assertion and reason are correct and reason is correct explanation of the assertion.</p> <p>(b) Both assertion and reason are correct, but the reason is not the correct explanation of the assertion.</p> <p>(c) Assertion is correct, but reason is incorrect.</p> <p>(d) Assertion is incorrect, but reason is correct.</p>	

<p>58.</p>	<p>In human males all the chromosomes are paired perfectly except one.</p> <p>This/ these unpaired chromosomes is/are</p> <p>(i) Large chromosome (ii) Small chromosome</p> <p>(iii) Y-chromosome (iv) X-chromosome</p> <p>(a) (i) and (ii) (b) only (iii)</p> <p>(c) (iii) and (iv) (d) (ii) and (iv)</p>											
<p>59.</p>	<p>Match the column and answer the following question.</p> <table border="1" data-bbox="213 562 948 958"> <thead> <tr> <th>Column I</th> <th>Column II</th> </tr> </thead> <tbody> <tr> <td>(A) Third trophic level</td> <td>(p) Producers</td> </tr> <tr> <td>(B) Accumulation of pesticides at higher trophic level</td> <td>(q) Carnivores</td> </tr> <tr> <td>(C) Green plants</td> <td>(r) Unidirectional</td> </tr> <tr> <td>(D) Flow of energy in an ecosystem</td> <td>(s) Biomagnification</td> </tr> </tbody> </table> <p>(a) A-(p); B-(q); C-(r); D-(s)</p> <p>(b) A-(q); B-(p); C-(r); D-(s)</p> <p>(c) A-(q); B-(p); C-(s); D-(r)</p> <p>(d) A-(q); B-(s); C-(p); D-(r)</p>	Column I	Column II	(A) Third trophic level	(p) Producers	(B) Accumulation of pesticides at higher trophic level	(q) Carnivores	(C) Green plants	(r) Unidirectional	(D) Flow of energy in an ecosystem	(s) Biomagnification	
Column I	Column II											
(A) Third trophic level	(p) Producers											
(B) Accumulation of pesticides at higher trophic level	(q) Carnivores											
(C) Green plants	(r) Unidirectional											
(D) Flow of energy in an ecosystem	(s) Biomagnification											
<p>60.</p>	<p>Which of these options are not a function of Ribosomes?</p> <p>(i) It helps in manufacture of protein molecules.</p> <p>(ii) It helps in manufacture of enzymes.</p> <p>(iii) It helps in manufacture of hormones.</p> <p>(iv) It helps in manufacture of starch molecules.</p> <p>(a) (i) and (ii) (b) (ii) and (iii)</p> <p>(c) (iii) and (iv) (d) (iv) and (i)</p>											
<p>61.</p>	<p>Four slides were observed under the microscope for spot test as shown below. The correct identification of the four spots is</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>A</p> </div> <div style="text-align: center;">  <p>B</p> </div> <div style="text-align: center;">  <p>C</p> </div> <div style="text-align: center;">  <p>D</p> </div> </div>											

	(a) A: onion peel, B: cheek cells, C: sclerenchyma, D: parenchyma (b) A: cheek cells, B: parenchyma, C: sclerenchyma, D: onion peel (c) A: parenchyma, B: cheek cells, C: onion peel, D: sclerenchyma (d) A: sclerenchyma, B: onion peel, C: parenchyma, D: cheek cells	
	Give one word for:	
62.	Pigment, which can absorb solar energy.	
63.	Mode of reproduction in bread mould.	
64.	The network of several interconnected food chains.	
65.	Triatomic gas that shields the surface of earth.	
66.	Event of reproduction which occurs in fallopian tube.	
	Fill in the blank.	
67.	The process of breathing consists of _____ and _____	
68.	Enzymes are called as _____	
69.	_____ hormone regulates metabolism in human being.	
70.	Junction between two neuron is called _____	
71.	After maturation ovules develop into _____	
	Answer the following questions.	
72.	The kidneys in human beings are a part of which organ system.	
73.	A potted plant is made to lie horizontally on the ground. Which part of the plant will show: (i) Negative geotropism? (ii) Positive geotropism?	
74.	Which organism act as scavengers of environment?	
75.	What are those organisms called which bear both the sex organs?	

76.	Name the branch of biology, which studies the transfer of characteristics of organism from one generation to the next.	
77.	<p>The diagram shows the human heart.</p> <p>Which two chambers contract at the same time?</p> 	
78.	<p>Study the diagram of the reproductive system given below. Answer the questions based on the diagram.</p>  <p>What does the diagram 'A' and 'B' depict?</p>	
79.	<p>The diagram shows the structure of a kidney tubule</p> <p>Where does filtration occur</p> 	
80.	<p>Identify the factor 'A' and 'B' from the following figure.</p> 	

<p>81.</p>	<p>Identify the type of tropic movement in 'A' and 'B'.</p> 	
<p>82.</p>	<p>Assertion (A): Secondary consumers prey on primary producers</p> <p>Reason (R): That is why secondary consumers are carnivores.</p> <p>(a) Both assertion and reason are correct and reason is correct explanation of the assertion.</p> <p>(b) Both assertion and reason are correct, but the reason is not the correct explanation of the assertion.</p> <p>(c) Assertion is correct, but reason is incorrect.</p> <p>(d) Assertion is incorrect, but reason is correct.</p>	
<p>83.</p>	<p>Assertion (A): Dosa and Idli are the fermented preparations of rice and black gram.</p> <p>Reason (R): CO₂ produced during fermentation causes puffing up of the dough.</p> <p>(a) Both assertion and reason are correct and reason is correct explanation of the assertion.</p> <p>(b) Both assertion and reason are correct, but the reason is not the correct explanation of the assertion.</p> <p>(c) Assertion is correct, but reason is incorrect.</p> <p>(d) Assertion is incorrect, but reason is correct.</p>	
<p>Case Study: Based on the given information, answer the following questions.</p> <p>Plants absorb water and minerals by the roots. The roots have root hair. The root hair increase the surface area of the root for the absorption of water and mineral nutrients dissolved in water. The root hair is in contact with the water present between the soil particles. Plants have pipe-like vessels to transport water and nutrients from the soil. The vessels are made of special cells, forming the vascular tissue. A tissue is a group of cells that perform specialized function in an organism. The vascular tissue for the transport of water and nutrients in the plant is called the xylem. The xylem forms a continuous network of channels that connects roots to the leaves through the stem and branches and</p>		





	thus transports water to the entire plant. One thing is very interesting here that when gravity pulls every- thing downwards, then how the water can rise up against gravity. There are only two possibilities, either the water is being pushed from below or the water is being pulled from the top of the plant. Now the question is which force is strong. It is very similar to the principle behind the sipping of soft drink from a bottle with a straw.	
84.	Name the force responsible for upward pulling of water.	
85.	Name the tissue that transport food in plants.	
86.	Name the process in which water is lost as water vapour from the aerial parts of the plants through stomata.	
English (10)		
	Instruction:- Q. 87 – Q. 96 carry 1 mark each.	
	Read the following passage carefully.	
	<p>1. Parents of teenagers or preteens should realise the normal struggles with fads, music and other efforts of independence occur in every family. Once they know that, they can relax more and worry less about how their children are “turning out”. Chances are they will be just fine, and the challenging teen will grow up to be a responsible adult.</p> <p>2. In the early years of children’s lives, parents are the most important figures in their world. Their approval, love and support are critical to children. Consequently, much of what children do and say is aimed at maintaining that love and approval. As children get older and have more contact with people other than their parents, their behaviour and attitude will be influenced by other people.</p> <p>3. When children are young many parents maintain control over most aspects of their child’s life. These parents choose their child’s clothes, friends, hobbies and so on. As children grow older, they realise they can never grow into adults without having control of their lives. Consequently, teens begin to fight for control.</p> <p>4. For teens, this struggle for adulthood is terribly risky because they risk losing the most important thing in their lives—the love of parents. At the same time, parents may feel rejected, hurt and anxious about teens’ abilities to care for themselves. Their struggle is stressful because everyone cares go greatly about each other.</p> <p>5. A common complaint from teens is that parents “want me to be the way they want me to be.” In other words, many parents want a certain career, appearance or college for their teen. These parents experience varying amounts of disappointments and sometimes anger because their children fail to live up to the parents’ expectations.</p>	

6. Accepting teens as individuals who will have to make their own decisions about how to be an adult in the world can be extremely hard to do. But the healthy teen will grow up and do just that. Parents who reject their teen for failing to follow the parents's plans or who reject some aspect of their teens's life may find themselves painfully alienated from this person who they care about so much.



7. A survey was conducted where 500 teenagers were asked a question "What is the one thing your parents can do to make you happier?". The responses of the teenagers were presented in the form a pie chart.

Answer the following questions:

<p>87.</p>	<p>What is the normal struggles between parents and teenagers?</p> <p>(a) Efforts of independence (b) Efforts of dependence (c) Efforts of pre-dependence (d) Efforts of affection</p>	
<p>88.</p>	<p>What is the challenging teen likely to grow up into?</p> <p>(a) A responsible citizen (b) A responsible adult (c) A responsible lawyer (d) A responsible social worker</p>	
<p>89.</p>	<p>Why is the struggle for adulthood terrible risky?</p> <p>(a) They risk losing the bond of friends. (b) They risk losing the trust of siblings. (c) They risk losing love of parents. (d) They risk losing the respect for teachers.</p>	
<p>90.</p>	<p>Which word in the passage means same as 'isolate' (used in para 6)?</p> <p>(a) reject (b) Accept (c) Alienate (d) Grow</p>	
<p>91.</p>	<p>Which of these pictorials is the closet representation of the people saying 'Nothing'?</p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%; text-align: center;"> <p>(a) </p> </div> <div style="width: 50%; text-align: center;"> <p>(b) </p> </div> <div style="width: 50%; text-align: center;"> <p>(c) </p> </div> <div style="width: 50%; text-align: center;"> <p>(d) </p> </div> </div>	

