 MACRO VISION ACADEMY BURHANPUR	Entrance Paper (2024-25)		For Office Use Only
	Class:	XI BIOLOGY (SAMPLE PAPER-I)	
	Time:	02:30 Hrs.	
	M.M:	75	

Personal Information

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

City:- _____ **Mobile No:-** _____ **Exam Date:-** / / 2024

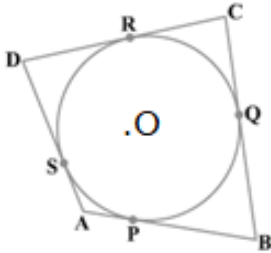
Studying in Class:- _____ **Appearing for class:-** _____ **Board:-** _____

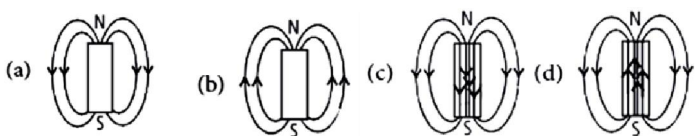
GENERAL INSTRUCTIONS:

- All questions are compulsory.
- Section A contains 10 questions (from 1-10) of Mathematics.
- Section B contains 15 questions (from 11-25) of Physics.
- Section C contains 15 questions (from 26-40) of Chemistry.
- Section D contains 25 questions (from 41-65) of Biology.
- Section E contains 10 questions (from 66-75) of English.

Mathematics (10)	Physics (15)	Chemistry (15)	Biology (25)	English (10)	OBTAINED MARKS (75)

Section-A Mathematics		
Q.N	Questions	Answers
1.	The angle of depression of a car parked on the road from the top of a 150 m high tower is 30° . Find the distance of the car from the tower (in m). (Use $\sqrt{3} = 1.732$)	
2.	2 cubes each of volume 125cm^3 joined end to end. Find the surface area of the resulting cuboid.	
3.	If $\sin A = \frac{9}{41}$, compute $\cos A$ and $\tan A$.	
4.	If $2x, x, 3x + 2$ are in A.P., then the value of x is _____	

5.	The distance of the point P (3,4) from the origin is _____.	
6.	Out of the two concentric circles, the radius of the outer circle is 5 cm and the chord AC of length 8 cm is a tangent to the inner circle. Find the radius of the inner circle.	
7.	<p>Assertion (A): The probability that a leap year has 53 Sundays is $\frac{2}{7}$.</p> <p>Reason (R): The probability that a non- leap year has 53 Sundays is $\frac{1}{7}$.</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 (Q.8 – Q.10)</p> <p>Based on the given information, answer the following questions.</p> <p>In a park, four poles are standing at positions A, B, C and D around the fountain such that the cloth joining the poles AB, BC, CD and DA touches the fountain at P, Q, R and S respectively as shown in the figure.</p>		
		
8.	If O is the centre of the circular fountain, then $\angle OSA =$	
9.	If DR = 7 cm and AD = 11 cm, then AP =	
10.	If AB = 7 cm , BC=6 cm and AD = 11 cm, then CD =	
<p>Section-B</p> <p>Physics</p>		
11.	An object 5.0 cm in length is placed at a distance of 20 cm in front of a convex mirror of radius of curvature 30 cm. The position of the image is-	

12.	What will be the equivalent resistance when five resistors each of 5Ω connected in parallel combination?	
13.	A concave mirror produces three times magnified (enlarged) real image of an object placed at 10 cm in front of it. Where is the image located?	
14.	_____ is the amount of charge flowing through a particular area of cross section of a conductor in unit time.	
15.	Light enters from air to glass having refractive index 1.50. The speed of light in vacuum is $3 \times 10^8 \text{m/s}$. The speed of light in the glass is-	
16.	A current of 1 A is drawn by a filament of an electric bulb. When 200 V supply is connected across the bulb, then resistance of bulb will be _____	
17.	A convex lens forms a real and inverted image of a needle at a distance of 50 cm from it. Where is the needle placed in front of the convex lens if the image is equal to the size of the object?	
18.	The bluish colour of water in deep sea is due to	
19.	When a bar magnet is broken into two pieces then how many number of poles each piece will have?	
20.	Three resistances of 1Ω each are connected to form a triangle. The resistance between any two terminals is	
21.	The magnetic field lines due to a bar magnet are correctly shown in figure 	
22.	<p>Assertion (A): The direction of force is given by Fleming's left hand rule.</p> <p>Reason (R): A magnetic field exerts a force on a moving charge in the same direction as the direction of field itself.</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 (Q.23 – Q.25)</p> <p>Based on the given information, answer the following questions.</p> <p>The hotter air is lighter (less dense) than the cooler air above it, and has a refractive index slightly less than that of the cooler air. Since the physical condition of the refracting medium (air) are not stationary, therefore, the light goes from rarer medium to denser medium in atmosphere. This phenomenon is called atmospheric refraction.</p> <p>The twinkling of stars and advanced sunrise and delayed sunset are common examples of atmospheric refraction.</p>	
23.	Twinkling of stars is due to atmospheric _____.	
24.	which colour of white light has the highest frequency?	
25.	when the ray of light travels from rarer to denser medium it bends ____ the normal	
<p>Section-C</p> <p>Chemistry</p>		
	<p>Case study (Q.26 – Q.28)</p> <p>Based on the given information, answer the following questions.</p> <p>Nisha observed that the bottoms of cooking utensils were turning black in colour while the flame of her stove was yellow in colour. Her daughter suggested cleaning the air holes of the stove to get a clean, blue flame. She also told her mother that this would prevent the fuel from getting wasted.</p>	
26.	Identify the reason behind the sooty flame arising from the stove.	
27.	How will you distinguish between saturated and unsaturated compounds by burning them?	
28.	Why do you think the colour of the flame turns blue once the air holes of the stove are cleaned?	
29.	What happens when Hydrogen combines with Oxygen in the presence of an electric current?	
30.	Complete the missing components / variables given as reactant and product in the following reaction: $X + Na_2SO_4 \rightarrow Y + 2NaCl$	
31.	Write balanced equation for the reaction taking place when, dilute sulphuric acid reacts with magnesium ribbon.	
32.	An acid reacts with a substance X with liberation of a gas which burns with a 'pop' sound when a burning match stick is brought near it. What is the nature of X?	

33.	What is the action of $NaHSO_4$ solution on blue litmus?	
34.	Name the metal whose thin sheets are used for wrapping chapattis. Which physical property is used to draw metals into thin sheets?	
35.	<p>Assertion (A): The reaction of calcium with water is less violent in comparison to that of sodium.</p> <p>Reason (R): The heat evolved is not sufficient for the hydrogen to catch fire.</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>	
36.	<p>Assertion (A): Zinc carbonate is heated strongly in presence of air to form zinc oxide and carbon dioxide.</p> <p>Reason (R): Calcination is the process in which a carbonate is heated strongly in the absence of air to convert into metal oxide.</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>	
37.	During extraction of metals, electrolytic refining is used to obtain pure metals. Which material will be used as anode and cathode for refining of a metal by this process?	
38.	Name the gas evolved when ethanoic acid is added to sodium carbonate.	
39.	Why a candle flame burns yellow, while a highly – oxygenated gas-fuel burns blue?	
40.	Write general formula of alkane and alkyne.	

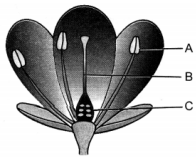
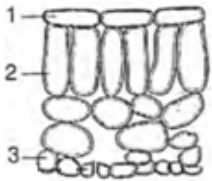
Section-D
Biology

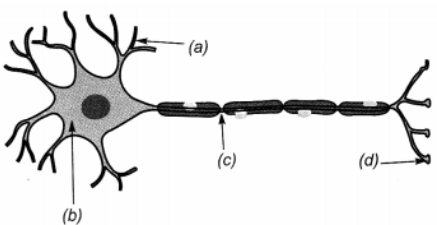
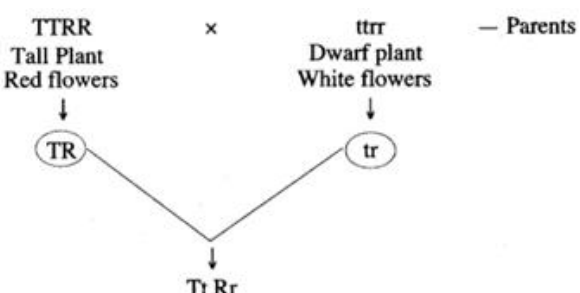
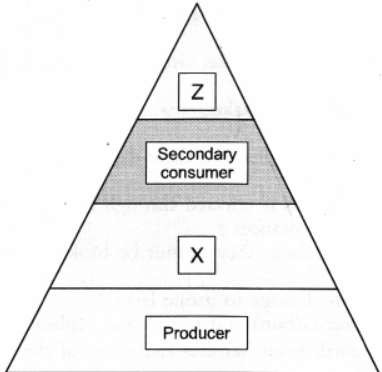
Case study (Q.41 – Q.43)

Based on the given information, answer the following questions.

The male reproductive system consist of portions which produce the germ-cells and other portions that deliver the germ-cells to the site of fertilisation. Testes are located outside the abdominal cavity, because sperm formation requires a lower temperature than normal body temperature. It also has a role of secretion of male sex hormone which brings changes in appearance seen in boys at the time of puberty. Vas deferens unites with a tube coming from urinary bladder. Urethra is a common passage for sperms and urine. Prostate gland and seminal vesicles add their secretions so that sperms are now in fluid.

41.	Name the sex hormone associated with males.	
42.	What is the fluid that carries and nourishes the sperm?	
43.	Name the pouch like structure in which testis is situated outside the abdominal cavity.	
44.	<p>Assertion (A): The anaerobic respiration which takes place in yeast, has one of the end products as an acid.</p> <p>Reason (R): During anaerobic respiration, there is incomplete combustion.</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>	
45.	<p>Assertion (A): Genes inherited from the parents decide the sex of a child.</p> <p>Reason (R): X chromosome in a male child is inherited from his father.</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>	

Give one word for:	
46.	Flower containing both male and female parts.
47.	Organ protected by rib cage.
48.	Information source for making proteins in the cells
49.	Various interlinked food chains in an ecosystem
50.	Part of bryophyllum where the buds are produced for vegetative propagation.
Fill in the blank.	
51.	_____ layer protect from harmful ultra violet radiations.
52.	In a turtle high incubation temperature results in development of _____ progeny.
53.	After fertilization ovary develops into _____ in plants.
54.	The inheritance of characters from the parents to their offspring's is called_____.
55.	_____ breakdown proteins into peptones and proteoses in acidic medium
Answer the following questions.	
56.	Mention the site of complete digestion in our body?
57.	Which hormone is known as stress hormone in plants?
58.	What will be the amount of energy available to the organisms of the 2nd trophic level of a food chain, if the energy available at the first trophic level is 10,000 joules?
59.	What is the probability that a human progeny will be a boy?
60.	Where does digestion of fat take place in our body?
61.	Identify the part from diagram given below which help in formation of pollen grains. 
62.	The diagram shows the arrangement of cells inside the leaf of a green plant. Which cells normally contain chloroplasts? 

63.	<p>Identify the parts of a neuron in figure given below which receive the impulse.</p> 	
64.	<p>What will be the phenotype of F1 generation</p> 	
65.	<p>Write the appropriate names of trophic levels Z and X in the figure</p> 	

Section-E
English

Read the following passage carefully and answer the following questions.

1. Every day is an opportunity to invest in life; an opportunity to renew yourself, to shed yesterday's skin, to discharge yourself to get rid of yesterday's pain. Take joy in life each day as it gives you the opportunity to work, love and play, and look at the sun. And then when the sun goes down, don't cry, tears will make you miss the beauty of the stars.
2. Life moves on, and if you don't stop and look at the wonders that are already present in your life, you will miss out on life altogether.
3. Think big thoughts but enjoy the small joys that life offers you every day. Maybe it's as simple as smiling at someone. Because that could be the last day of life, for you or for the other person.
4. A small genuine act on your part will cost you nothing, but it could mean everything to someone that day. Life is a succession of moments. Live every moment. Life has no romance without risk. All actions carry a certain amount of risk, it can be less or more, but the element of risk is always present.
5. If there is no wind, row. Make things happen instead of letting things happen. You can't

	<p>give anything without giving yourself, without taking risks. The most important thing in life is not what you receive but what you give.</p> <p>6. Once a preacher visited the home of a very poor family. When he left, he found a son admiring his new car, so the preacher explained that he had received it as a gift from his brother. Most guys would say, "I wish I had a brother like that," but this one said, "Lord, I wish I could be a brother like that."</p> <p>7. If you are not enjoying this trip, surely you will not enjoy the destination. It will become a time to fear, not a time you can really look forward to. It is not what happens that determines our future, but what you do with what happens those counts.</p> <p>Conquer the mind and you will conquer the world. Looking back tenses the neck muscles. Likewise, living in the past strains your life. Don't dwell on the past. Have faith in yourself and you will have faith in others. Fulfill your destiny. Remember, no one can make you unhappy without your consent.</p>	
	Answer the following questions:	
66.	<p>Why should we be glad of each day?</p> <p>(a) Because we are more mature each new day.</p> <p>(b) Because we have more energy.</p> <p>(c) Because we are free of yesterday.</p> <p>(d) Because we can live life, work and enjoy each new day.</p>	
67.	<p>We should not dwell on the past because _____</p> <p>(a) we should learn from our mistakes in the past</p> <p>(b) the past does not allow us to progress</p> <p>(c) our mistakes and failures in the past can depress us</p> <p>(d) the past will never come back</p>	
68.	<p>Succession in para 4 means _____</p> <p>(a) achievement (b) inheritance</p> <p>(c) happiness (d) series</p>	
	Read the passage given below and fill in the blanks by choosing the most appropriate word/phrases from the given options.	
	<p>A mosque is a place where Muslims worship and pray to God. Some mosques are also places where Muslims ...(69).... and discuss things or where religious education takes place. In some countries mosques also serve political ...(70).... and imams discuss political issues. Mosques date back to the seventh century when they first ...(71).... on the Arabian Peninsula. The most famous mosques are in Turkey and the Middle East. The best examples are the Blue Mosque in Istanbul, The Grand Mosque of Mecca or the Prophet's Mosque in Medina.</p>	
69.	<p>(a) drop in (b) pass away</p> <p>(c) get together (d) drift apart</p>	
70.	<p>(a) conflicts (b) purposes</p> <p>(c) results (d) gatherings</p>	
71.	<p>(a) emerge (b) were emerging</p> <p>(c) have emerged (d) emerged</p>	

72.	<p>Directions: In the following questions, some parts of the sentence have been jumbled up. You are required to rearrange these parts which are labelled P, Q, R and S to produce the correct sentence. Choose the option with proper sequence.</p> <p>The man _____</p> <p>P: when he was Q: in the office last evening R: Could not finish S: all his work</p> <p>The correct sequence should be: (a) P Q R S (b) Q R S P (c) R Q P S (d) R S P Q</p>	
73.	What is the jumbled word of 'ROSU'?	
74.	<p>Choose the group of words that shows the same relationship as</p> <p>Ink: Pen : Paper</p> <p>(a) Watch : Dial : Strap (b) Book : Paper : Words (c) Colour : Brush : Canvas (d) Farmer : Plough : Field</p>	
75.	<p>Select the most appropriate meaning of the given phrase/idiom.</p> <p><i>'Bite your tongue.'</i></p> <p>(a) Be impossible to be understood (b) Get bruises in the mouth (c) Talk for a long time (d) Stop yourself from saying something</p>	
