

	<b>Sample Paper-II</b>	
<b>Class:</b>	XI Mathematics	
<b>Time:</b>	02:30 Hrs.	
<b>M.M:</b>	75	



**MACRO**  
VISION ACADEMY

## Personal Information

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

**City:-** \_\_\_\_\_ **Mobile No:-** \_\_\_\_\_ **Exam Date:-** / /2023

**Studying in Class:** \_\_\_\_\_ **Appearing for class:-** \_\_\_\_\_ **Board:** \_\_\_\_\_

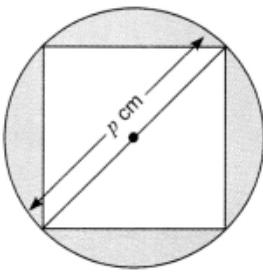
### GENERAL INSTRUCTIONS:

- All questions are compulsory.
- Section A contains 20 questions (from 1-25) of Mathematics.
- Section B contains 25 questions (from 26-40) of Physics.
- Section C contains 10 questions (from 41-55) of Chemistry.
- Section D contains 18 questions (from 56-65) of Biology.
- Section E contains 18 questions (from 66-74) of English.

<b>Mathematics (25)</b>	<b>Physics (15)</b>	<b>Chemistry (15)</b>	<b>Biology (10)</b>	<b>English (10)</b>	<b>OBTAINED MARKS (75)</b>

<b>Section-A</b> <b>Mathematics</b>		
<b>Q.N</b>	<b>Questions</b>	<b>Answers</b>
1.	The largest number that will divide 398,436 and 542 leaving remainders 7,11 and 15 respectively is .....	
2.	If the HCF of 408 and 1032 is expressible in the form $1032 \times 2 + 408 \times p$ , then the value of p is ..... ?	
3.	If one of the zeroes of the quadratic polynomial $(k - 1)x^2 + kx + 1$ is $-3$ , then the value of k is ..... ?	
4.	If the zeroes of the quadratic polynomial $x^2 + (a + 1)x + b$ are 2 and $-3$ , then value of $a=?$ and $b=?$	

5.	If one of the zeroes of the cubic polynomial $x^3 + ax^2 + bx + c$ is -1, then the product of the other two zeroes is ..... ?	
6.	The pair of equations $x = 0$ and $x = 5$ has ..... ?	
7.	The sum of the digits of a two-digit number is 9. If 27 is added to it, the digits of the number get reversed. The number is ..... ?	
8.	The roots of the quadratic equation $2x^2 - 2\sqrt{2}x + 1 = 0$ are ..... & ..... ?	
9.	The $n^{\text{th}}$ term of an A.P. is given by $a_n = 3 + 4n$ . The common difference is ..... ?	
10.	If the sum of three numbers in an A.P. is 9 and their product is 24, then numbers are ..... ?	
11.	The $10^{\text{th}}$ term from the end of the A.P. -5, -10, -15,..., -1000 is ..... ?	
12.	If 7 times the $7^{\text{th}}$ term of an A.P. is equal to 11 times its $11^{\text{th}}$ term, then $18^{\text{th}}$ term is ..... ?	
13.	D and E are respectively the points on the sides AB and AC of a triangle ABC such that $AD = 2 \text{ cm}$ , $BD = 3 \text{ cm}$ , $BC = 7.5 \text{ cm}$ and $DE \parallel BC$ . Then, length of DE (in cm) is ..... ?	
14.	The line $3x + y - 9 = 0$ divides the line joining the points (1, 3) and (2, 7) internally in the ratio ..... ?	
15.	If A and $(2A - 45^\circ)$ are acute angles such that $\sin A = \cos (2A - 45^\circ)$ , then $\tan A$ is equal to ..... ?	
16.	The angle of elevation of an aeroplane from a point on the ground is $60^\circ$ . After a flight of 30 seconds the angle of elevation becomes $30^\circ$ . If the aeroplane is flying at a constant height of $3000\sqrt{3} \text{ m}$ , The speed of the aeroplane is ..... ?	
17.	The area of a square inscribed in a circle of diameter p cm is ..... ?	

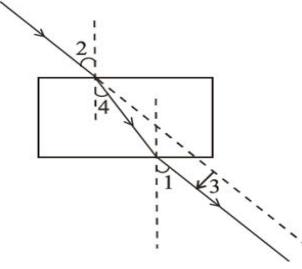
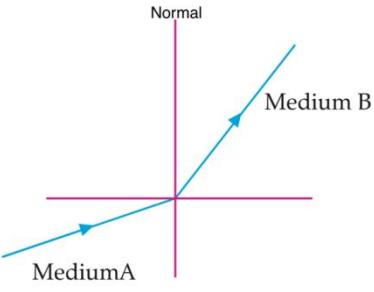
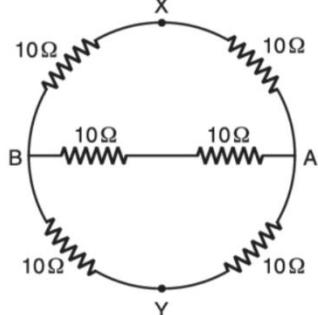


18.	If the perimeter of a semi-circular protractor is 36 cm, its diameter is ..... ?	
19.	A chord of a circle of radius 15 cm subtends an angle of $60^\circ$ at the centre. Find the areas of the corresponding minor and major segments of the circle. (Use $\pi = 3.14$ and $\sqrt{3} = 1.73$ )	
20.	From the top of a 7 m high building, the angle of elevation of the top of a cable tower is $60^\circ$ and the angle of depression of its foot is $45^\circ$ . The height of the tower is ..... ?	
21.	If a point P is 17 cm from the centre of a circle of radius 8 cm, then The length of the tangent drawn to the circle from point P is ..... ?	
22.	A card is selected from a deck of 52 cards. The probability of its being a red face card is: ..... ?	
23.	If radii of two concentric circles are 4 cm and 5 cm, then the length of chord of one circle which is tangent to the other circle is ..... ?	
24.	$\sin 2B = 2 \sin B$ is true when B is equal to ..... ?	
25.	A solid piece of iron in the form of a cuboid of dimension $49 \text{ cm} \times 33 \text{ cm} \times 24 \text{ cm}$ is melted to form a solid sphere. The radius of sphere is ..... ?	

### Section-B

### Physics

26.	In concave mirror when object distance is less than focal length the image is _____ and _____.	
27.	What is the nature of mirror when magnification of image is positive and less than one?	

28.	<p>Rays from sun converge at a point 15 cm in front of a concave mirror. Where should an object be placed so that size of its image is equal to the size of the object?</p>	
29.	<p>The correct sequencing of angle of incidence, angle of emergence, angle of refraction and lateral displacement shown in the following diagram by digits 1, 2, 3 and 4 is.....</p> 	
30.	<p>Which of lens can make a parallel beam of light when light from a point source is incident on it?</p>	
31.	<p>A light ray enters from medium A to medium B as shown in the figure. The refractive index of medium A relative to B will be.....</p> 	
32.	<p>What is the closest distance up to which a normal person can see without any strain in the eyes?</p>	
33.	<p>Which of the phenomena contributes significantly to the apparent position of stars?</p>	
34.	<p>Find the equivalent resistance across A and B.</p> 	

35.	Write the expression of heat energy in terms of Voltage (V) , resistance (R) and time (t).	
36.	The length of a wire is doubled, but its cross-section remains the same, then its resistance will become.....	
37.	In which combination electric fuse is always connected with main supply?	
38.	A moving charge experiences maximum magnitude of force when the angle between its velocity and magnetic field is.....	
39.	A horizontal power line carries current from east to west. The direction of magnetic field at a point above the wire is towards _____.	
40.	What is the full form of MRI?	

**Section-C**  
**Chemistry**

	<b>Give one word for the following:</b>	
41.	Identify the compound which is oxidised in the following reaction: $H_2S + Br_2 \rightarrow 2HBr + S$	
42.	Write the formula of rust.	
43.	Complete the equation $Fe_2O_3 + Al \rightarrow$ .	
44.	What is the nature of $NaHCO_3$ salt?	
45.	What will be the colour acquired by a basic solution if a few drops of indicator methyl orange are added to it?	
46.	Arrange the following in increasing order of their pH values: $NaOH$ solution, blood, lemon juice	
47.	Write the name of products formed by heating gypsum at 373 K.	
48.	Name the metal which is most abundant in earths crust.	
49.	Arrange the following metal in order of their decreasing reactivity: Fe, Zn, Ca, Mg, Cu, Ag.	

50.	Name the metal whose foils are used for the packing of food materials.	
51.	If copper metal is heated over a flame, it develops a coating. What is the colour and chemical formula of this coating?	
52.	What is the valency of carbon in its compounds?	
53.	Name the compound formed by the reaction between alcohol and acid.	
54.	Write IUPAC and common names of (i) $CH_3OH$ (ii) $C_2H_5COOH$	
55.	Which metal is extracted from bauxite ?	

#### **Section-D**

#### **Biology**

56.	The neck of a person appears to be swollen. (i) Name the disease this person suffering from. (ii) Name the mineral whose deficiency in the diet causes this disease.	
57.	Where does the break down of pyruvate to give carbondioxide, water and energy takesplace?	
58.	Name the substrate for following enzyme. (i) Trypsin                   (ii) Lipase	
59.	If we step on something sharp accidentally we move our foot away at once what is this type of response known as?	
60.	Name the largest artery of human body.	
61.	Which structure in a neuron helps to conduct a nerve impulse? (i) Towards the cell body? (ii) Away from the cell body?	
62.	Which process taking place in the nucleus of a cell leads to variation in the offspring during reproduction?	

63.	Blue prints of body design are stored in the _____.	
64.	The genetic constitution of an organism is called _____.	
65.	What will be the percentage of ab gametes produced by AaBb parent?	

### **Section-D**

#### **English**

	<b>Read the following passage and answer the following.</b>
	<p>Subhash Chandra Bose passed through quarters inhabited by Englishmen and also met a large number of them in the tram cars. The British using these cars were purposely rude and offensive to Indians in various ways. The sensitive mind of Subhash revolted against such insulting and rude behavior of the British. On many occasions, there was an exchange of hot words between him and misbehaving British. Majority of the students of the Presidency College, where he studied, were free thinkers. The college continued to be a storm centre and was looked upon by the British Government "as a hotbed of sedition, rendezvous of revolutionaries" and was frequently searched by the police. The first two years of his life were greatly influenced by the group, which styled itself as the neo-Vivekananda group and Subhash developed intellectually during this period. The group generally followed the teachings of Rama Krishna and Vivekananda with special emphasis on social service as means of spiritual development and was non-aligned to a revolutionary group. The shock of the Great World War roused his political consciousness. He graduated at the age of 22 and enrolled himself for the postgraduate with experimental psychology as a special subject.</p> <p>His father, however, wanted him to go to England to appear for the Indian Civil Services. In spite of his mental reservations, Subhash took it as a challenge. In England, he was greatly impressed with the freedom allowed to students at Cambridge. Every student behaved in a dignified manner. Not withstanding his preoccupation with his studies, he displayed his public spirit and fearlessness throughout his stay in England. He and K. L. Gouba were selected by the Indian</p>



	<p>The home that encourages inquisitiveness (71) _____ to creative development. The teacher (72) _____ stresses questions rather answers and rewards curiosity rather (73) _____ restricting it, is teaching a child to be creative. This helps in bringing out the talent of the child.</p>			
71.	(a) contributes (c) contributed	(b) contribute (d) contributing		
72.	(a) that (b) who	(c) which (d) one		
73.	(a) than (b) then	(c) the (d) that		
74.	<p><b>You are John/Jennifer, the incharge of tour and excursion club of Grand Public School, Agra. During the summer break, you are planning to organise a tour to a place of historical importance. Write a letter to the India Travel and Tour Agency, Agra, enquiring about the charges, facilities and all the other necessary details.</b></p>			
	<p><b>(2 M)</b></p> <p><b>Ans.</b> .....</p> <p>.....</p>			

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