	Sample Paper-I (2023-24)		
Class:	XI Biology		
Time:	02:30 Hrs.		
M.M:	75		

Personal Information

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

City:-_____ Mobile No:-_____ Exam Date:- / /2023

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

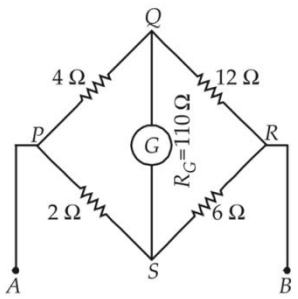
GENERAL INSTRUCTIONS:

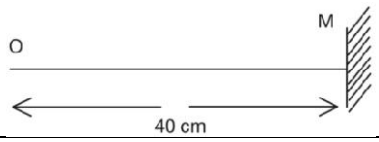
- All questions are compulsory.
- Section A contains 10 questions (from 1-10) of Mathematics.
- Section B contains 15 questions (from 11-25) of Physics.
- Section C contains 15 questions (from 26-40) of Chemistry.
- Section D contains 25 questions (from 41-65) of Biology.
- Section E contains 09 questions (from 66-74) of English.

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

Section-A Mathematics		
Q.N	**Questions**	**Answers**
1.	The pair of equations x = a and y = b graphically represent lines which are: (a) parallel (b) intersecting at (b, a) (c) coincident (d) intersecting at (a, b)	
2.	The nature of the roots of the equation $2x^2 + 6x - 7 = 0$ are	

3.	If $\tan\theta = \frac{3}{4}$, find the value of $\frac{1-\cos\theta}{1+\cos\theta}$.	
4.	If the arithmetic mean of x, 2x + 6 and x + 12 is 10, then x =?	
5.	Find the probability that a number selected from the number 1 to 25 is not a prime number when each of the given numbers is equally likely to be selected.	
6.	The perimeter of a triangle with vertices (0, 4) (0, 0) and (3, 0) is:	
7.	If α, β are the zeroes of $x^2 - 4x + 1, then \frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta = ?$	
8.	If $p-1, p+3, 3p-1$ are in A.P. then the value of p is	
9.	The lengths of three consecutive sides of a quadrilateral circumscribing a circle are 4 cm, 5 cm, and 7cm respectively. Determine the length of the fourth side.	
10.	A wire is looped in the form of a circle of radius 28cm. It is re-bent into a square form. Determine the length of the side of the square.	
Section-B **Physics**		
11.	Write the name of defect of vision in which a person is able to see distant objects clearly, but not nearby objects.	
12.	How an ammeter is connected across the resistor to measure current across it?	

13.	Which type of mirror is used in vehicle to see the rear view?	
14.	Which type of lens is used to correct myopia?	
15.	Write the name of phenomenon behind the twinkling of stars.	
16.	In which direction magnetic field lines move inside the magnet?	
17.	By which law the direction of induced current in a wire moving in magnetic field can be given?	
18.	What is the commercial unit of electrical energy?	
19.	How many time the resistance of a wire changes when it is uniformly stretched to thrice its length?	
20.	How many no. of electrons constitute 1 coulomb charge?	
21.	Two identical resistors are first connected in series and then in parallel. Find the ratio of equivalent resistance in two cases.	
22.	Calculate the Current across 12 Ω resistor when potential difference across terminal A and B is 80 V, shown in the figure. G stands for a galvanometer whose resistance is 110 Ω. It was noticed that the galvanometer did not show any deflection. 	

23.	Magnetic field is produced by the flow of current in a straight wire. This phenomenon was discovered by which scientist?	
24.	A lens of focal length 20 cm produces a real image of a stationary object having magnification 2. Find the distance by which the lens should be moved so that it produces a virtual image of the same magnification.	
25.	An object (O) and a plane mirror (M) are placed in the positions as shown in the figure. If the object and the mirror move simultaneously towards right in a straight path at uniform speeds of 2 cm s^{-1} and 5 cm s^{-1} respectively, find the shift in the image of the object at the end of 10 seconds. 	

Section-C
Chemistry

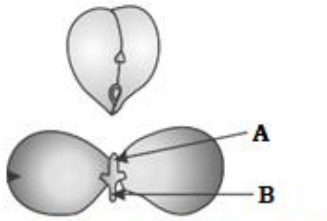
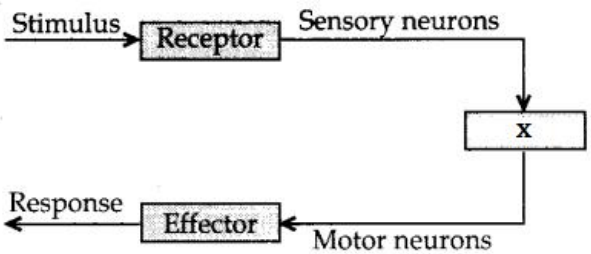
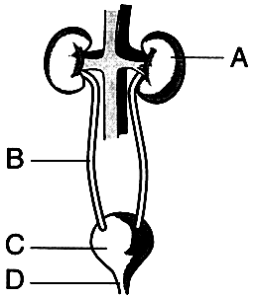
26.	What is the nature of the reaction when an aqueous *NaOH* solution is mixed with aqueous *HCl* solution?	
27.	What happens when CO_2 gas is passed through lime water?	
28.	Out of zinc and copper which can displace iron from aqueous ferrous sulphate solution?	

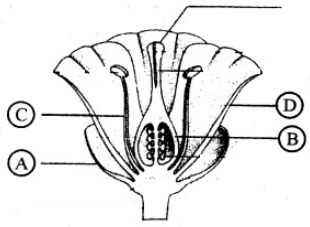
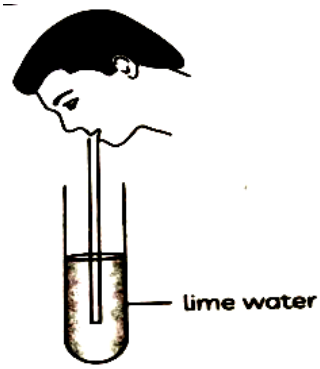
Fill in the missing data in the following table.

	Name of the salt	Formula	Base	Acid
29.	Magnesium nitrate	$Mg(NO_3)_2$	----------	----------
30.	Potassium sulphate	K_2SO_4	----------	H_2SO_4

29.		
30.		
31.	What is the colour of the precipitate formed, when solution of lead (II) nitrate and potassium iodide mix together?	
32.	Sodium hydrogen carbonate when added to acetic acid evolves a gas. Which of the following statements are true about the gas evolved? (i) It turns lime water milky (ii) It extinguishes a burning splinter (iii) It dissolves in a solution of sodium hydroxide (iv) It has a pungent odour (a) (i) and (ii) (b) (i), (ii) and (iii) (c) (ii), (iii) and (iv) (d) (i) and (iv)	
33.	What will happen to a silver spoon if it is kept in copper sulphate solution?	
34.	How are bonds formed between metals and non-metals? What it is the name of these bonds?	
	Complete the following reactions?	
35.	$Al_2O_3(s) + 6HCl(aq) \rightarrow$ _____ + _____	
36.	$ZnO(s) + 2NaOH(aq) \rightarrow$ _____ + _____	
37.	Why is graphite a good conductor of electricity?	
38.	Write the IUPAC names of the following compounds. (i) $CH_3 - \underset{\displaystyle CH_3}{\underset{\vert}{CH}} - CH_2 - CH_3$ (ii) C_5H_{12}	

<table>
<tr><td>39.</td><td>Why are unsaturated hydrocarbons named so?</td><td></td></tr>
<tr><td>40.</td><td>Write the chemical reaction involved in the following conversion:
Ethanol to Ethanoic acid.</td><td></td></tr>
<tr><td colspan="3">Section-D
Biology</td></tr>
<tr><td></td><td colspan="2">Give one word for:</td></tr>
<tr><td>41.</td><td>Organ that pushes blood around body.</td><td></td></tr>
<tr><td>42.</td><td>Sphincter which regulates the exit of waste from the anus.</td><td></td></tr>
<tr><td>43.</td><td>Cell division hormone in plant.</td><td></td></tr>
<tr><td>44.</td><td>Female reproductive part of flower.</td><td></td></tr>
<tr><td>45.</td><td>Unit of heredity.</td><td></td></tr>
<tr><td></td><td colspan="2">Match the terms in column I with those in column
<table>
<tr><th>Column I</th><th>Column II</th></tr>
<tr><td>Pepsin</td><td>Pancreas</td></tr>
<tr><td>Amylase</td><td>Liver</td></tr>
<tr><td>Insulin</td><td>Buccal cavity</td></tr>
<tr><td>Bile</td><td>Ovaries</td></tr>
<tr><td>Estrogen</td><td>Gastric gland</td></tr>
</table></td></tr>
<tr><td>46.</td><td>Pepsin</td><td></td></tr>
<tr><td>47.</td><td>Amylase</td><td></td></tr>
<tr><td>48.</td><td>Insulin</td><td></td></tr>
<tr><td>49.</td><td>Bile</td><td></td></tr>
<tr><td>50.</td><td>Estrogen</td><td></td></tr>
<tr><td></td><td>Fill in the blanks with appropriate term.</td><td></td></tr>
<tr><td>51.</td><td>Iodine turns blue-black on reacting with _____.</td><td></td></tr>
</table>

52.	A disc-like special tissue develops between the uterus wall and the embryo called _____.	
53.	If a round, green seeded pea plant (RRyy) is crossed with wrinkled, yellow seeded pea plant (rrYY), the seeds produced in F1,generation will be _____ and _____.	
54.	The phenotype ratio of dihybrid cross is _____.	
55.	Central nervous system consists of _____ and _____.	
	Answer the following questions.	
56.	In the following figure showing a germinating seed, name the part labeled as A and B.  **Germination of gram seed**	
57.	Identify X  *Reflex arc*	
58.	Observe the diagram and name the part labeled as B and D.  	

59.	Which part of flower gets transform into fruit after fertilization?  	
60.	Observe the diagram of an activity given. What does it help to conclude, when the person exhales into the test tube.  	
	Answer the following questions.	
61.	Where does the fertilization occur in human reproductive system?	
62.	Name the hormone responsible for metabolism of carbohydrate ,fats and protein in human being.	
63.	What is the ultimate source of energy in an ecosystem? Which process helps to trap this energy in producers?	
64.	Which part of the roots is involved in exchange of respiratory gases?	
65.	Name the respiratory organs of (i) fish (ii) mosquito	

	Section-E **English**
	Read the following passage carefully and answer the following questions.
	Evelyn Glennie was born in 1965 and grew up on a farm near Aberdeen in Scotland. She loved playing music, and her ambition was to become a solo percussionist. She started having problems with her ears and began to lose her hearing. By the time she was twelve, she was deaf. She couldn't hear at all. Evelyn became very angry; it seemed to her that she would never fulfill her dream of being a great musician. After a while Evelyn stopped being angry and instead found ways of adapting her playing to suit her deafness. At the age of sixteen, she became the first deaf student at the Royal Academy in London. She went on to make lots of CDs and is now famous for being the world's only full time solo percussionist. Evelyn likes to play unusual instruments and has over a thousand instruments some of which she has made herself. She likes to play with musicians from all over the world, and requests composers to create music especially for her. An example of this is a piece, which was composed for her by the jazz composer Diango Bates, for which kitchen pots and pans were used as instruments. Her sixteen solo albums (including twelve on the RCA/BMG label) have reached a remarkably diverse public, as have her numerous collaborations with musicians from the non-classical world. Glennie contends that hearing is a form of touch, and that everyone, whether "deaf" or not, processes sound in an individual way. When Evelyn performs, she doesn't wear shoes or socks. This is to enable her to feel the music through the floor and her body. Usually, percussionists play at the back of the Orchestra, Evelyn plays at the front so that she can lip-read signals from the conductor. Glennie has said that she doesn't want an operation to cure her deafness; she likes being who she is and doesn't want to change the way she works. Like many other courageous people, she tries hard to help others. She has helped many deaf children by giving them an opportunity to learn a musical instrument.

	Answer the following questions:	
66.	What was Glennie's ambition?	
67.	Why did she become very angry?	
68.	What is she now famous for?	
69.	What is meant by the word 'unusual'? (para 2) (a) uncommon (b) unknown (c) employment (d) uncover	
70.	Find the synonym of the word 'content'. (a) satisfy (b) assert (c) keep (d) draw	
	Read the passage given below and fill in the blanks by choosing the most appropriate word/phrases from the given options.	
	One of the (71) _____ problems facing the world today is global warming. Many scientists believe that our production of carbon dioxide and other greenhouse gases is having a heating effect on the atmosphere and this (72) _____ be very dangerous for human life. We (73) ____ examine the problem of global warming and suggest some ways of solving it.	
71.	(a) bigger (b) biggest (c) big (d) most big	
72.	(a) could (b) shall (c) Is (d) ought	
73.	(a) may (b) can (c) should (D) must	
74.	**The recent reports in the press about the growing incidence of bullying in schools, has greatly disturbed you. Write a letter to the editor of 'Education Plus' newspaper expressing your views on this problem and suggesting ways to solve it. Sign yourself as Mohan/Monica of Class IX B of D C Arya Public School, New Delhi (2 M)** **Ans.**	

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