INDIAN SCHOOL AL WADI AL KABIR

FINAL EXAMINATION (2023-24)

CLASS: VIII **Sub: SCIENCE** **MAX.MARKS: 80**

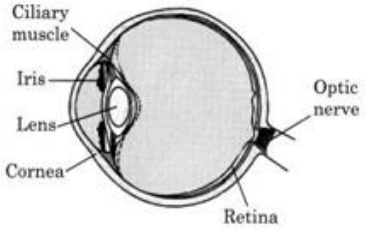
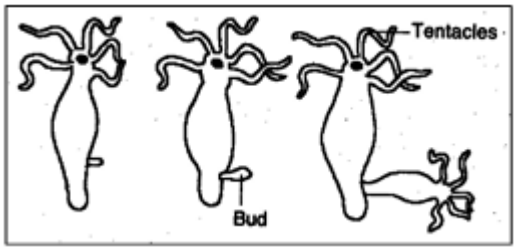
DATE: 10-03-2024 **Set -II** **TIME: 3 HOURS**

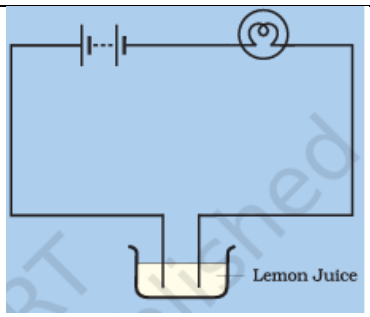
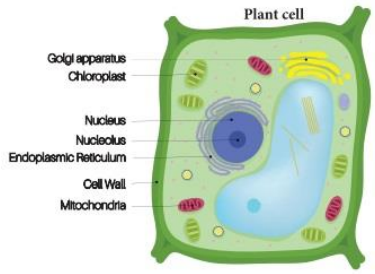
ANSWER KEY

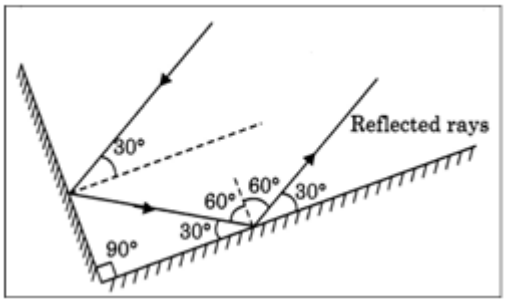
SECTION A (1X20=20)

1	b)It is used to sow the seeds at equal distances	1
2	d)a, b and c	1
3	c) You should keep the paper just above the flame	1
4	d) Inner region < middle region < outermost region	1
5	d) The release of carbon dioxide gas	1
6	b) w-Virus X-Fungus Y- Protozoan	1
7	c) Twice	1
8	c) Decrease in the angle between the two mirrors	1
9	a) New individuals are produced without the fusion of gametes.	1
10	c) Hermaphrodites	1
11	b) Proper diet is needed for the rapid growth taking place in their body	1
12	d) Elephant and human	1
13	d) The waves have same loudness but different pitch	1
14	a) Diagram A	1
15	a) the chemical effect of current.	1
16	b) cell organelles	1
17	***i) Both A and R are true and R is the correct explanation of the assertion.***	
18	***ii) i) Both A and R are true and R is not the correct explanation of the assertion.***	1
19	***i) Both A and R are true and R is the correct explanation of the assertion.***	1
20	***i) Both A and R are true and R is the correct explanation of the assertion.***	1
	SECTION B (2X6=12)	
21	a) irrigation is the process of supplying water to fields through man-made sources like wells, under-ground water, small and big dams etc. b) Irrigation of fields is essential because- (a) seeds do not germinate in the absence of water, (b) plants can absorb minerals and fertilisers along with water, (c) nutrients dissolved in the water get transported to each part of the plant, (d) water protects the crop from both frost and hot air currents.	½ + ½ ½ + ½
22	a) If we are given a sample of wheat seed we will select a good and healthy seeds for sowing by drowning them in a bucket of water the seeds which float on water will bad quality seeds and the seeds which settle down at the bottom of bucket will good seeds. b) Weeds are undesirable plants that grow along with the crops. Weeds steal nutrients from crops. They also occupy space and take water too. Hence, weeds need to be removed.	1+1

23	a) Nitrogen fixation is a process by which free atmospheric nitrogen is converted into nitrogen compounds. In nature, nitrogen is fixed during lightening or by nitrogen-fixing bacteria and blue-green algae.	1 ½ + ½
24	a) Unlike hen's egg, frog's egg is not covered by a shell and it is comparatively very delicate. A layer of jelly holds the eggs together and provides protection to the eggs b) Hens are oviparous in which internal fertilisation takes place. The fertilised egg develops into an embryo inside the body. Frogs are oviparous in which both fertilisation and development of zygote to embryo and young ones occurs outside the body	1+1
25	a) Viviparous animals are the animals that give birth directly to their kind. These individuals grow up and live. Oviparous animals are animals that do not give birth to their kind. Instead, they lay eggs. b) Embryo- When a zygote divides repeatedly to form a ball of hundred cells. Thus, an unborn baby at an early stage of development in the uterus is called an embryo. Foetus- An unborn baby in the uterus at the stage when all the body parts can be identified.)	1+1
26	a) Sound waves always need a material medium to be propagated. Initially when the bell is full of air, its ringing can be heard. But as the air is sucked out of the jar using the air pump, no material medium is available for the sound of the bell. Since vacuum is not a material medium, sound cannot travel through it. b) Loudness of sound is proportional to the square of the amplitude of the vibration producing the sound. For example, if the amplitude becomes twice, the loudness increases by a factor of 4.	1 1
	SECTION C(3X7=21)	
27	a) in order to maintain the fertility of the soil, we have to substitute fertilisers with organic manure or leave the <u>field uncultivated (fallow)</u> in between two crops. Another method of replenishing the soil with nutrients is through <u>crop</u> <u>rotation</u>. This can be done by growing different crops alternately. Earlier, farmers in northern India used to grow legumes as fodder in one season and wheat in the next season. This helped in the replenishment of the soil with nitrogen. b**)** Because when plants use the nutrients it depletes the amount of nutrients in the soil. When the same crop is used again then it will not grow properly due to lack of nutrients in the soil.	2+1

28	a) Green leaves contain moisture and as a result, the ignition temperature of green leaves is much higher than that of dry leaves. Due to this, it is difficult to burn a heap of green leaves but dry leaves catch fire easily. b) When coal burns in a closed room carbon monoxide is produced. This poisonous gas has the affinity to mix with the hemoglobin present in our blood and forms carboxyhemoglobin. This carboxyhemoglobin decreases the oxygen carrying capacity of blood in our body. Thus, the brain gets deprived of oxygen. c)The use of diesel and petrol as fuels in automobiles is being replaced by Compressed Natural Gas (CNG) in big cities because CNG produces harmful products in a very small amount. It burns without producing smoke.	1+1+1
29	a) Typhoid – caused by bacteria, spread by water Chicken pox – caused by virus and spread by air or contact.. b) The probable reason is that the chaat was contaminated by pathogenic microbes due to unhygienic conditions near the shop or the utensil used for serving could have contaminated.	2 ½ + ½
30	a) Distance between object and image in a plane mirror is 40 cm. Therefore, distance between object and mirror will be 40/2=20 cm.  b)	1 1½+1/2
31	Budding: In budding, the organism develops a bulge called bud which further develops into an adult organism and separates itself from the parent body to lead an independent life. This type of reproduction is shown in Hydra.  	1 2
32	a) Menarche: The first menstrual flow which begins at puberty is known as menarche. Menopause: At 45 to 50 years of age, the menstruation cycle stops. Stopping menstruation is known as menopause.] b) The male hormone <u>or testosterone</u> begins to be released by the testes at the onset of puberty. This causes changes in boys about which you have just learnt, for example, the growth of facial hair. Insulin. Maintain the levels of blood sugar. Lack of insulin can lead to a condition called diabetes.	½ + ½ 1+1

33	a)  b) No, add a pinch of salt, acid or base	2 1
	SECTION D(5X3=15)	
34	a) Amount of fuel burnt = 3.5 kg Amount of heat produced = 70,000 kJ The calorific value of the fuel = Heat produced /Amount of fuel = 70,000 / 3.5 = 20,000 kJ/kg b) The amount of heat produced by the complete combustion of 1 kilogram of fuel is known as its calorific value.] The lowest temperature at which a substance catches fire is called its ignition temperature.] c) Rapid combustion- Substance burns in a short span of time. Rapid Combustion requires external heat energy to start. This reaction results in enormous amounts of light and heat energy. Spontaneous combustion- Type of combustion in which a material suddenly bursts into flames, without the application of any apparent cause. Less amount of heat and light energy is released]	2 2 1
35	a) The presence of excessive noise in the surroundings may cause many health-related problems. Lack of sleep, hypertension (high blood pressure), anxiety, and many more health disorders may be caused by noise pollution. b) This is due to the differences in the length of the vocal cord. The vocal cords in men are about 20 mm long. In women these are about 5mm shorter. Children have very short vocal cords. This is the reason why the voices of men, women and children are different. c) Time period = Total time taken/ Number of oscillations = 20/10 = 2 seconds.	½ x4=2 1 (any two
36	a)  b) Prokaryotic - Cells without well-organised nuclei i.e. lacking nuclear membrane are called prokaryotes. e.g. Bacteria and Bluegreen algae. Eukaryotes -The cells with well-organised nuclei with nuclear membranes are eukaryotic cells. e.g. Onion cells, Cheek cells etc.]	2 1

	c) Genes help in inheritance or transfer of characters from the parents to the offspring.	1+1
	SECTION E (3X4=12)	
37	i) Regular reflection occurs when light waves strike a smooth and even surface, such as a mirror. As a result, the reflected light waves create a clear and sharp image. ii)  iii) According to the laws of reflection, the angle of incidence is equal to the angle of reflection. Here, the angle between the incident ray and the reflected ray is 90°. i.e., $\angle i + \angle r = 90°$ Since, $\angle i = \angle r$ We can write, $\angle i + \angle i = 90° \Rightarrow 2\angle i = 90° \Rightarrow \angle i = 45°$ Thus, angle of incidence is 45°.	1+1+2
38	i) **The basic components of the cell are – i) The cell membrane, ii) Cytoplasm, iii) Nucleus]** ii) Cells show a very neat division of labour, each cell has various organelles which have their function to perform iii) **PLANT CELL** / **ANIMAL CELL** It has a cell wall / The cell wall is absent Plastids are present. / Plastids are absent The vacuole is large. / Vacuoles are smaller in size	1 ½ + ½ 2
39	i. The process of depositing a layer of any desired metal on another material using electricity is called electroplating. ii. Electroplating of tin is done on the iron to make cans used for storing food because tin is less reactive than iron. Coating of tin prevents food from coming in contact with iron and thus, prevents it from getting spoiled. iii. Advantages: • It protects the metals from being corroded. • It prevents the rusting of metals.	1 1 2

	Disadvantages • Pollutants from electroplating industries are very harmful. Some chemicals are very lethal for both humans and animals. • It is an expensive process.	