ZIET CHANDIGARH
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SUBJECT – SCIENCE CLASS - IX

Summative Assessment –II (SA 2 - Term II)

MAX. Marks: 90 **TIMES: 3 Hrs.**

General Instructions:

a. *The question paper comprises of two sections A and B, you are to attempt both the sections.*
b. *All questions are compulsory.*
c. *There is no overall choice. However internal choice has been provided in all the three questions of five marks category. Only one option in each question is to be attempted.*
d. *Questions from **1 to 3** in section A are one mark questions these are to be answered in one word or a sentence.*
e. *Questions from **4 to 7** in section A are Two marks questions. These are to be answered in about 30 word each.*
f. *Questions from **8 to 19** in section A are Three marks questions These are to be answered in about 50 word each.*
g. *Questions from **20 to 24** in section A carry five marks questions. These are to be answered in 70 words each.*
h. *Questions from **25 to 42** in section B are multiple choice questions based on practical skills. Each question is one mark question. You are to select one most appropriate response out of the four provided to you.*

SECTION – A

1.	Give an example of tri atomic gas.	1
2.	The growth in plants is limited to certain regions. What is the reason?	1
3.	How the frequency of wave is related to its time period?	1
4.	State the factors on which work done depends.	2
5.	What are the main points of the Cell Theory proposed by Sclieden and Schwan?	2

6.	A car with a speed of 25m/s weighing 900 Kg stops at a distance of 40 metres. Calculate the force exerted and the and work done by the brakes.	2
7.	What is Relative Density ? If an object is immersed wholly in a liquid causing upthrust equal to the weight of the body, then what will be the relation between the Relative densities of liquid and the object.	2
8.	What is Symbiosis? Name a symbiotic life form. Mention the specific organisms which display the symbiotic relationship in this life form.	3
9.	Write the formulas & names of the compounds formed between : a) Sodium and carbonate ions b) Aluminium and sulphate ions c) Barium and chloride ions	3
10.	a) Calculate molar mass of S_8. b) Convert into mole : i) 12 gram of oxygen gas ii) 32 gram of oxygen molecule	3
11.	Write three significant features of Bohr's Model of atom.	3
12.	Suppose a man is trying to push a wall. But the wall doesn't move. What is the amount of work done? Calculate the amount of work done in lifting a body of mass 3 Kg through a distance of 11 metres.	3
13.	Explain the salient features of Phylum Mollusca.	3
14.	a) What are Concentrates in animal feed ? b) Name two Internal Parasites that cause diseases in animals.	3
15.	a) Describe an activity to demonstrate the process of Osmosis. b) How does carbon dioxide move in and out of cells?	3
16.	Give three differences, between Angiosperms and Gymnosperms.	3
17.	Calculate the wavelength of a sound wave whose frequency is 220 Hz and speed is 440 m /s in a given medium.	3
18.	Explain the principle behind the wind up toys. A cat and a mouse are running with the same speed. If the weight of the cat is 20 times that of mouse, what is the ratio of their kinetic energy?	3
19.	State Archimedes Principle. Why does an object float or sink in water ?	3

20.	a) State the Law of conservation of mass & Law of definite proportion with the help of one example each. b) What are polyatomic ios ? Give two examples. OR a) State any two differences between an atom and molecule. b) How $^{22}_{10}Z$ and $^{20}_{10}Z$ related to each other and why ? If abundance of $^{22}_{10}Z$ and $^{20}_{10}Z$ is 90% & 10% respectively then calculate the average atomic mass of Z?	5
21.	Which part of the ear contains the actual hearing organ? Draw the structure of the ear and label it. OR Show that the reflector must be situated at a least distance from the observer for formation of distinct echo. What is the value of this distance at room temperature? Why ceilings of concert halls and conference halls are made curved?	5
22.	a) What is transformation of energy? Explain with any two suitable examples. b) What must be the velocity of a moving body of mass 2 kg so that its K.E. is 25 J? c) Represent graphically constant force acting on a body producing a displacement along the direction of motion on a force-displacement graph. What is the significance of force-displacement graph? OR a) Define potential energy. Give two examples. b) Two bodies of different masses m_1 and m_2 ($m_1 > m_2$) have same kinetic energy. They are stopped by applying same retarding force. Which body will stop first?	5
23.	a) Why do we classify organisms ? Write its any four advantages. b) Why is there a need for systematic naming of living organisms ? Write four conventions that are followed while writing scientific names of the species. OR a) What are the basis of putting plants and animals in two different categories ? Write one main difference between fungi and plantae. b) Classify the following in their respective phylum / class; Jellyfish , Earthworm , Cockroach, Rat.	5

24.	With the help of a labeled diagram, show a) Nitrogen cycle in nature. b) Describe briefly any two processes involved in the cycling of N_2 in the atmosphere. OR With the help of a labeled diagram show the cycling of carbon in nature. What are the two ways in which carbon-di-oxide is fixed in the environment.	5
	SECTION – B	
25.	State the chemical reaction between Barium Chloride (aqueous) & Sodium Sulphate (aqueous) . a) $BaCl_2$ (aq) + Na_2SO_4 (aq) → $BaSO_4$ (white ppt) + 2NaCl (aq) b) $BaCl_2$ (aq) + Na_2SO_4 (aq) → $BaSO_3$ (red ppt) + 2NaCl (aq) c) Both (a) & (b) d) None of these	1
26.	In accordance with the law of conservation of mass give the co-efficient of O_2 in the equation: C_5H_{12} + O_2 → $5CO_2$ + $6H_2O$ a) 4 b) 6 c) 8 d) 2	1
27.	Which of the following is not an aerial adaptation of a bird? a) Presence of strong flight muscles. b) Presence of vertebral column c) Streamlined body d) Forelimbs modified into wings.	1
28.	The time period of a sound wave travelling in a medium is T. At a given instance (t=0) a particular region in the medium has minimum density. The density of this region will be minimum again at a) t=T b) t=T/2 c) t=T/3 d) t=T/4	1
29.	Which of the following is not an aquatic adaptation : a) Streamlined body b) Hollow bones c) Presence of Gills c) Presence of fins	1

30.	The frequency ,wavelength and speed of a sound wave are related as : a) v= λxV b) λ=V x c) v = λ / V d) V = λ x v	1
31.	If a flower has 6 petals which type of a plant would it be ? a) Dicot b) Monocot c) Both (a) and (b) d) None of these	1
32.	If the density of air in the lab ,at a point through which a sound wave is passing is maximum at an instant , the pressure at that point will be : a) Minimum b) Same as the density of air c) Equal to the atmospheric pressure d) Maximum	1
33.	Amphibians of the plant kingdom are : a) Thallophyta b) Pteridophyta c) Bryophyta d) None of these	1
34.	Choose the option which includes the feature that helps the fish to change its direction a) caudal fin and pelvic fin b) Dorsal fin and anal fin c) Dorsal fin only d) Caudal fin only	1
35.	You are shown two slides of plant tissues; Parenchyma and Sclerenchyma. You can identify the Sclerenchyma by the: a) location of nucleus b) thickness of the cell wall c) size of the cell d) position of vacuoles	1
36.	A sound wave consists of **:** a)A number of compression pulses one after the other b) A number of rarefaction pulses one after the other. c) Compression and rarefaction pulses one after the other. d) A compression and rarefaction pulse separated by a distance equal to one wavelength.	1

37.	Wave produced along a compressed spring are : a) Longitudinal wave b) Transverse wave c) Seismic wave d) Electromagnetic wave	1
38.	Water meniscus in a graduated cylinder is of concave shape.While finding the volume, the correct reading will correspond to : a) upper end of meniscus b) lower end of meniscus c) the midpoint of meniscus d) anywhere on the meniscus	1
39.	The buoyant force on a body acts in a : a) vertically downward direction b) vertically upward direction c) Horizontal direction d) direction between the horizontal and vertical	
40.	While taking readings on the spring balance what are the things you should take into account ? a) Zero error b) Least count c) Both (a) and (b) d) None of these	1
41.	A body floats in a liquid if the buoyant force is: a) Zero b) Greater than its weight c) Less than its weight d) equal to its weight	1
42.	Two bodies of unequal masses are dropped from the table. At any instant , they have equal: a) Momentum b)acceleration c) Potential energy d)Kinetic energy	1

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