Chilaw educational Zone

Grade 11 | **Practice Test 2023** | 34 | S | I

Science I | Duration – one hours

- **Answer all questions**
- **In each of the questions 1 to 40, pick one of the alternatives (1), (2), (3), (4) which you consider is correct most appropriate.**
- **g = 10ms^{-2}**

01. Deficiency of which of the following minerals causes retardation of intellectual development and reluctance of learning?
1) Potassium 2) Iodine 3) Iron 4) Calcium

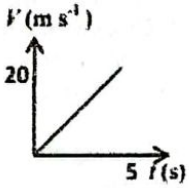
02. What is the color of the compound formed when magnesium metal reacts with oxygen?
1) White 2) Reddish Brown 3) Silver 4) Yellow

03. Which of the electrical equipment does not require to connect the earth wire?
1) Television 2) Electric iron 3) Immersion heater 4) Electric stove

04. The gas released when the setup shown in the diagram is exposed to sunlight.
1) Carbon dioxide 2) Chlorine
3) Nitrogen 4) Oxygen

05. A direct effect of environmental pollution is
1) Desertification 2) Acid rain
3) Loss of habitat for organisms 4) Formation of aggressive species

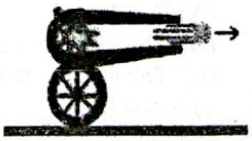
06. According to the velocity-time graph shown in the figure, what is the displacement?
1) 5m 2) 20m
3) 50m 4) 100m



07. The electronic configuration of the positive ion of the element X and the electronic configuration of the negative ion of the element Y is 2, 8, 8, which answer correctly indicates the period and group of these elements.

	X element		Y element	
	Period	Group	Period	Group
1)	3	1	4	7
2)	3	7	4	1
3)	4	1	3	7
4)	4	7	3	1

08. The figure shows how the bullet moves forward when fired from a Cannon. Below are the statements made by the students regarding the existence of the cannon at the moment the bullet moves forward.
(A) The cannon moves backward.
(B) The cannon moves slightly forward.
(C) The cannon is stationary
Which of these statements is correct?



1) A 2) B 3) C 4) A or B

09. A phase that can explain the changes that occur in the ovaries of a woman's menstrual cycle.
1) Menstrual phase 2) Follicular phase 3) Secretory phase 4) Proliferation phase

10. Which statement is correct regarding the frictional force between the road and the contact tire when a car is moving?
    1) Friction forces cause disturbances both when starting and when moving.
    2) Friction is needed to initiate motion and create obstacles while moving.
    3) Friction creates obstacles when initiating motion and is beneficial during movement.
    4) Friction is useful for initiating motion and keeping the car moving.

11. Which of the following is the correct statement about mitosis?
    1) The daughter cell receives half of the chromosomal number of a mother cell.
    2) Takes place in both diploid and haploid cells.
    3) Takes place in two divisions.
    4) Four daughter cells result at the end of the division.

12. Number of moles in 48g of Mg element and molar mass of Mg respectively.
    1) 2 and 24g 2) 2 and 24gmol^{-1} 3) 24 and 24gmol^{-1} 4) 48 and 24gmol^{-1}

13. In the figure 1, a railway engine pulls six compartments by applying a 12000N force. In the second figure, two railway engines pull the six compartments at the same acceleration. What is the resultant force at the second time?
    1) Less than 12000J 2) 12000J
    3) More than 12000J 4) 24000J

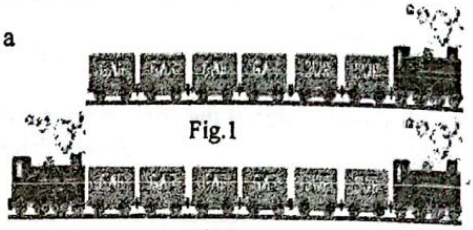


Fig.1

Fig.2

14. Two genetic disorders that occur in humans due to gene mutation are.
    1) Thalassemia and Haemophilia 2) Haemophilia and colorblindness
    3) Colorblindness and Albinism 4) Albinism and Thalassemia

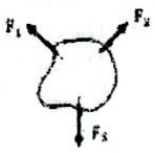
15. Which of the following compounds has the most polar covalent bond?
    1) NaCl 2) $MgCl_2$ 3) HCl 4) $AlCl_3$

16. "X" is caused by,
    1) Anti-clockwise moment of 5Nm
    2) Clockwise moment of 5Nm
    3) Anti-clockwise moment of 20Nm
    4) Clockwise moment of 5Nm

17. Following are the special Characteristics of three phyla.
    (A) The body is divided in to head, muscular foot and visceral mass.
    (B) Tube feet present for locomotion and respiration
    (C) There is a nematocyst / cnidocyst
    Select the correct answer which shows A, B, C Characteristics respectively.
    1) Cnidaria, Annelida, Mollusca 2) Annelida, Mollusca, Echinodermata
    3) Mollusca, Echinodermata, Cnidaria 4) Echinodermata, Cnidaria, Arthropoda

18. When a P^H paper was placed in an aqueous solution, no colour change occurred in the paper. What would be the observation when a litmus paper is placed in that solution?
    1) Blue litmus turns into red 2) No colour change in blue litmus
    3) Red litmus turns in to blue 4) No colour change in red litmus

19. The figure shows how an object is in equilibrium under three forces. Consider the following statements.
    (A) $F_1 = F_2 = F_3$
    (B) The resultant force of F_1 and F_2 is equal to F_3
    (C) The lines of action of the three forces F_1, F_2, and F_3 meet at a one point
    1) A and B only 2) A and C only
    3) B and C only 4) All of A, C and C

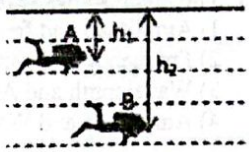


20. An instance where cathodic protection is used to control rusting of iron
    1) Painting on iron surfaces 2) Tin plating on iron surfaces
    3) Nickel plating on iron surfaces 4) Zinc plating on iron surfaces

21. Which of the following cannot be a phenotype of a child born to a carrier mother and a carrier father for hemophilia?
1) Healthy daughter 2) Healthy son 3) Carrier daughter 4) Carrier son

22. If 500g of water at 30^0C is heated and its temperature rises to 50^0C, what is the amount of heat gained by the water? (Specific heat capacity of water is 4200 $JKg^{-1}K^{-1}$)
1) 21 000J 2) 42 000J 3) 750 000J 4) 42 000 000J

23. The figure shows two divers swimming in water. What is the pressure exerted on diver B than on diver A? (Density of water = 1000kgm^{-3})
1) $(h_1-h_2) \times 1000 \times g$ 2) $(h_1-h_2) \times 1000 \times g$
3) $(h_2-h_1) \times 1000 \times g$ 4) $(h_2 \times 1000 \times g$



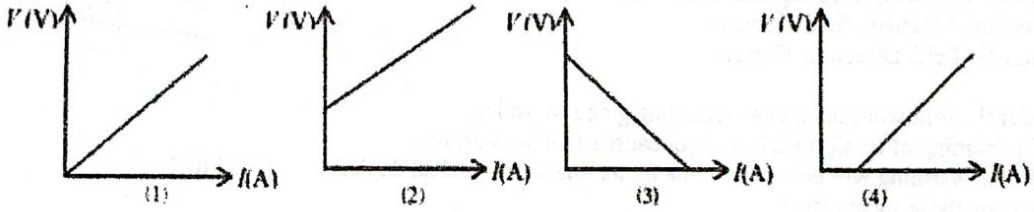
24. Which answer has the elements arranged in ascending order of activity?
1) Ca, Na, Cu, and Ag 2) Cu, Mg, Na, and K 3) Au, Cu, Na and Fe 4) K, Na, Al, and Hg

25. It takes 2 seconds to lift an object of mass 250g up 4m using a crane. The amount of work done by the machine and the efficiency of the machine.
1) 1000J and 500W 2) 1000J and 2000W 3) 10,000J and 500W 4) 10,000J and 5000W

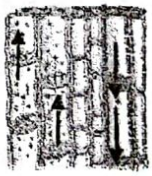
26. Heart sounds are made
1) Because of the pulse 2) Due to valve closing
3) Because of the heartbeat 4) Due to valve opening

27. Which of the following devices shows the use of electromagnetic force?
1) DC motor and Loud speaker 2) Loud speaker and Bicycle Dynamo
3) Bicycle Dynamo and Milliammeter 4) Milliammeter and coil magnetic microphone

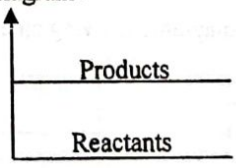
28. Which of the following is the graph that represents the variation of current with potential difference when the temperature is constant?



29. Below is a diagram of plant transport tissue. Consider the following statements.
(A) P tissue is xylem tissue and Q tissue is phloem tissue.
(B) Sucrose is transported along the Q tissue.
(C) Both tissues contain living cells as well as non-living cells.
Which of these is true?
1) A and B 2) A and C 3) B and C 4) A, B, and C



30. Which of the following chemical reactions can be represented in the diagram?
1) $NaOH + HCl \longrightarrow NaCl + H_2O$
2) $Mg + H_2SO_4 \longrightarrow MgSO_4 + H_2O$
3) $CaCo \longrightarrow CaO + CO_2$
4) $Mg + O_2 \longrightarrow MgO$



31. A hormone secreted by the adrenal glands is
1) Glucagon 2) Adrenaline 3) Estrogen 4) Insulin

32. Three solutions A, B, and C were prepared by dissolving glucose ($C_6H_{12}O_6$) in distilled water as given below. (C=12, H=1, O=16)

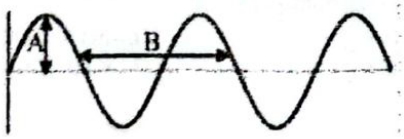
A solution	Dissolve 4.5g of $C_6H_{12}O_6$ in 50ml of water
B solution	Dissolve 4.5g of $C_6H_{12}O_6$ in 100ml of water
C solution	Dissolve 18g of $C_6H_{12}O_6$ in 200ml of water

Which of the solutions has an equal concentration?

1) A and B only 2) A and C only 3) B and C only 4) All of A, B and C

33. The graph shows several physical quantities associated with wave motion A and B are indicated

1) Amplitude and frequency
2) Frequency and wavelength
3) Wavelength and Amplitude
4) Amplitude and Wavelength



34. Mirrors that produce an image of the same size as the object are.

1) Convex mirrors and concave mirrors
2) Concave mirrors and plane mirrors
3) Plane mirrors and convex mirrors
4) Convex mirrors, concave mirrors, and plane mirrors

35. Consider the following statements regarding the zinc-copper (Zn/Cu) Chemical cell.

(A) Electrons flow from zinc to copper.
(B) When the cell operates, the zinc plate dissolves.
(C) The copper plate is the anode of the cell.
Which of these statements is correct?

1) A and B only 2) A and C only 3) B and C only 4) All of A, B and C

36. When Fleming's right-hand rule is used to determine the direction of current in a conductor, the thumb, index finger, and middle finger represent.

1) Magnetic field, Current, and direction
2) Current, direction, and Magnetic field
3) Direction, Magnetic field, Current
4) Magnetic field, Direction, Current

37. Consider the following statements regarding global warming.

(A) The burning of fossil fuels is a major cause of global warming.
(B) Global warming will not occur in the future due to the gradual depletion of fossil fuels
Among these statements.

1) A is true and B is false. 2) B is true and A is false. 3) Both A and B are true 4) Both A and B are false

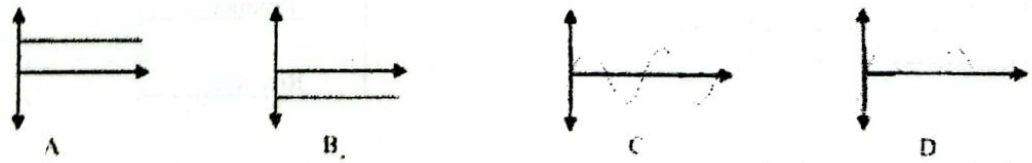
38. Below are three statements represent by a student regarding hydrocarbons.

(A) Contains only carbon and hydrogen.
(B) There can be C - C bonds and C = C bonds between carbon atoms.
(C) Ethene is a hydrocarbon that contains only one carbon atom.

Which of these is correct?

1) A and B only 2) A and C only 3) B and C only 4) All of A, B and C

39. Below are four diagrams showing an electric current



Choose the graph showing simple current.

1) A 2) A and B 3) A, B, and C 4) A, B, and D

40. What is the most suitable method to control dengue disease without harming the environment.

1) Use of mosquitonet
2) Use of mosquito coils
3) Use of anti – mosquito fumes
4) Raising fish that eat mosquito larvae