



School Level Examination
SLE 2022

GRADE
9

SCIENCE

Subject Code:

3	0	1
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Total Questions: 50

Time: 1 hour

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED TO DO SO

- All questions are compulsory.
- Read the instructions on the **ANSWER SHEET** and fill in your **NAME, CLASS** and **OTHER INFORMATION**.
- To mark your choice of answer by darkening the circles in the **ANSWER SHEET**, use a **BLUE/BLACK BALL PEN** only.
- You **MUST** record your answers on the **ANSWER SHEET** only.
- There are **50 MULTIPLE CHOICE QUESTIONS**. Use the information provided to choose the **BEST** answer among the four possible options. On your **ANSWER SHEET** fill in the circle that matches your answer.
- Marks are **NOT** deducted for incorrect answers.
- Return the **ANSWER SHEET** to the invigilator at the end of the examination.
- You are **NOT** allowed to use a calculator. You may use a ruler and spare paper for rough work.

SCIENCE

Section A (Logical Reasoning)

(This section contains 10 multiple choice questions. Each question has four choices (A), (B), (C) and (D), out of which only ONE is correct.)

- Which among the four words cannot be formed by using the letters of reflections?
 (A) Elections (B) Selection
 (C) Reflect (D) Reaction
- In a row of 25 girls, Riya is twelfth from the left and Heena is eighth from the right. How many girls are between them?
 (A) 7 (B) 4
 (C) 5 (D) 6
- Introducing a girl, Rohan said, "She is my maternal grandfather's only grandson's wife." How is Rohan related to that girl?
 (A) Husband (B) Father
 (C) Brother-in-law (D) Father-in-law
- Choose the correct letter sequence to fill in the blanks correctly.
 bbcaa_bcaab_ca_bbc_a
 (A) ccaa (B) bbaa
 (C) abac (D) abba
- If MARCH is coded as NCUGM and BOX as CQA, then OQWI CQRO is encoded for what?
 (A) NOTE BOOK (B) NOTE BOKE
 (C) NOTE BOPE (D) MAKE BOOT
- 1 year after sowing, the height of a tree is 2 m. If height increases by doubling the last height every year. What will be the height of tree in five years?
 (A) 24 m (B) 32 m
 (C) 48 m (D) 64 m
- Heavier coins are costlier. Ram's coin is heavier than Mohan's and costlier than Ramesh's. Naresh's coin is costlier than Ram's, and heavier than Yogesh's. Ramesh's coin is costlier than Mohan's. So, who is the owner of the costliest coin?
 (A) Ram (B) Ramesh
 (C) Yogesh (D) Naresh
- If $A = 2$, $M = 26$, and $Z = 52$, then sum of $BET = ?$
 (A) 44 (B) 54
 (C) 64 (D) 72
- Find the (?).

9	11	13
3	4	7
3	4	5
81	176	?

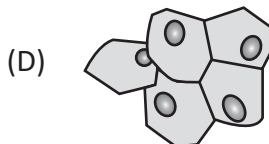
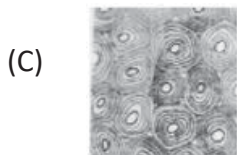
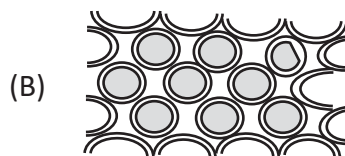
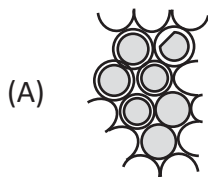
 (A) 169 (B) 143
 (C) 455 (D) 545

10. Fertilizers consumption in India in 1984–85 was 8.21 metric tonnes. By 2000, it was 13.75 metric tonnes and by 2025, it is expected to reach 16 metric tonnes. What is your conclusion?
- (A) Fertilizers consumption is steady.
 (B) There is steady decrease in fertilizers consumption.
 (C) Fertilizer consumption does not show any trend.
 (D) There is steady increase in fertilizer consumption.

Section B (Subject Specific)

(This section contains 25 multiple choice questions. Each question has four choices (A), (B), (C) and (D), out of which only ONE is correct.)

11. Which of the following statements are correct about iron sulphide?
- I. It is a black coloured solid.
 II. It is attracted by magnet.
 III. It liberates H_2S gas when reacts with dilute H_2SO_4 , which smells like rotten eggs.
 IV. It is yellow in colour.
- (A) I and II (B) II and III
 (C) III and IV (D) I and III
12. The mass of chromium obtained from 76 g of Cr_2O_3 is _____ .
 (Cr = 52 and O = 16)
- (A) 48 g (B) 104 g
 (C) 52 g (D) 152 g
13. Which of the following properties is same for the isotopes of an element?
- (A) Mass (B) Atomic number
 (C) Number of neutrons (D) Density
14. I contain chemicals and organelles (i.e. cell parts) that carry special functions. I provide a medium for many chemical reactions to take place. Who am I?
- (A) Vacuole (B) Cytoplasm
 (C) Cell membrane (D) Cell wall
15. Which of the following diagrams is correct for cheek cells?



16. Presence of coelom and metamerism is the most important character of _____ .
- (A) annelids (B) mollusca
 (C) arthropods (D) polyplacophoras

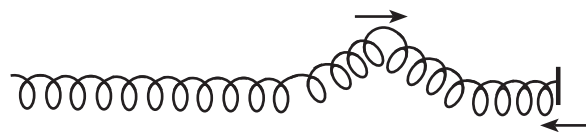
17. If the object moves with uniform acceleration, its displacement will be proportional to _____ .

- (A) time (B) time^2
(C) $\frac{1}{\text{time}}$ (D) $\frac{1}{\text{time}^2}$

18. Rocket works on the principle of conservation of _____ .

- (A) Mass (B) Energy
(C) Momentum (D) Inertia

19. When a pulse produced in a slinky moves through it and strikes a rigid pole, as shown in the following diagram, it is reflected back. Which of the given diagram does the shape of the reflected pulse resemble?



- (A) (B)
(C) (D)

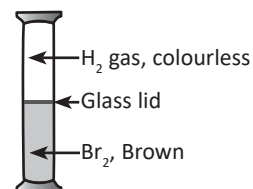
20. Antibiotics are ineffective for viral disease because antibiotics _____ .

- (A) block the biosynthetic pathways but virus have very few mechanism of their own
(B) kill microorganism but not virus
(C) do not suppress the multiplication of virus
(D) are immune to virus

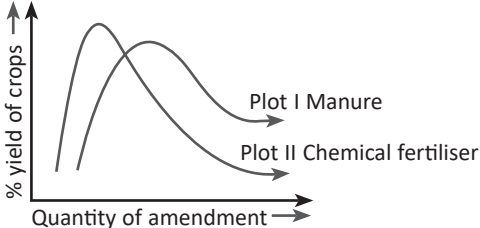
21. Golden rice is a genetically modified crop plant in which incorporated gene is meant for the biosynthesis of _____ .

- (A) omega 3 fatty acids (B) vitamin A
(C) vitamin B (D) vitamin C

22. One gas jar contains bromine and other gas jar contains hydrogen gas. Two gas jars are kept over each other as represented in the given diagram. The glass lid was removed and gases were allowed to move. Which of the following is representing the correct state?



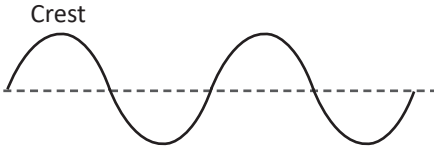
- (A) (B)
(C) (D)

23. Which of the following cell organelle has its own DNA?
 (A) Endoplasmic reticulum (B) Golgi apparatus
 (C) Lysosome (D) Mitochondria
24. What is the height of a building if a stone dropped from the roof of it takes 10 s to reach the ground?
 [g = 9.8 m s²]
 (A) 49 m (B) 4.9 m
 (C) 490 m (D) 0.49 m
25. Gold was selected for Rutherford's experiment because _____ .
 (A) gold is a precious metal (B) gold is a heavy metal
 (C) gold is highly lustrous (D) gold is highly malleable
26. The given diagram shows the crop fields I and II. They have been treated by manure and chemical fertilisers respectively, keeping other environmental factors same. Observe the graph and identify the correct statements.
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- I. The plot II shows the sudden increase and then gradual decrease in yield of crops.
 II. The highest peak in plot I is delayed.
 III. Manures supply nutrients slowly but fertilisers supply nutrients faster.
- (A) I and II (B) II and III
 (C) I and III (D) I, II and III
27. What is the maximum number of electrons that can be accommodated in the 4th energy level?
 (A) 32 (B) 18
 (C) 2 (D) 8
28. Oxygen is harmful for _____ .
 (A) ferns (B) nitrogen fixing bacteria
 (C) poddar (D) mango tree
29. Which of the following electronic configurations is incorrect?
 (A) Be (4) = 2, 2 (B) O (8) = 2, 6
 (C) S (16) = 2, 6, 8 (D) P (15) = 2, 8, 5
30. Who proposed five kingdom classification?
 (A) Hyman (B) Linnaeus
 (C) Whittaker (D) Aristotle
31. Which is an example of a coelenterate?
 (A) Sea pen (B) Sea cucumber
 (C) Sea horse (D) Sea dollar
32. Which is a diploblastic animal?
 (A) Hydra (B) Leech
 (C) Ascaris (D) Fasciola

33. Which of the following tissues is present in kidneys?
 (A) Squamous epithelium (B) Cuboidal epithelium
 (C) Columnar epithelium (D) Compound epithelium
34. On which of the following do action reaction forces act upon?
 (A) Same body (B) Different bodies
 (C) Along different lines (D) In the same direction
35. Two bodies collide at the same temperature. Which of the following is conserved?
 (A) Velocity (B) Momentum
 (C) Kinetic energy (D) Potential energy

Section C (Competency Based)

(This section contains 15 multiple choice questions. Each question has four choices (A), (B), (C) and (D), out of which TWO are correct.)

36. Choose the incorrect statements.
 (A) In a chemical equation, the number and type of atoms in L.H.S. (Left Hand Side) must be equal to atoms in R.H.S. (Right Hand Side)
 (B) Total mass is conserved in chemical reactions.
 (C) Total number of atoms of all elements should be equal on the both sides of an equation.
 (D) Volume of reactants must be equal to total volume of products.
37. Which of the following statements are correct?
 (A) The nerve impulse is self propagating.
 (B) Muscular contractions take place after calcium ions are released.
 (C) When calcium ions are actively transported back into the storage sacs, muscular contractions take place.
 (D) Phenylketonuria is not an autosomal recessive disorder.
38. A ripple tank is used to study water waves. The diagram shows a side view of wave. A wave crest is marked.
 Which of the following statements are correct?
 (A) The distance travelled horizontally by a crest in one second is the speed of the wave.
 (B) Number of wave crests passing a point in one second is the frequency.
 (C) Speed is the distance travelled vertically by crest in one second.
 (D) Speed is the time taken for a crest to make one vibration.
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39. Which of these pairs illustrate law of multiple proportions?
 (A) Sodium chloride and sodium bromide (B) Sulphur dioxide and sulphur trioxide
 (C) Magnesium hydroxide and magnesium oxide (D) Water and hydrogen peroxide
40. When a work of 1 joule is done in 1 s, the power is _____ .
 (A) 1 W (B) 1 KW
 (C) 0.001 Kw (D) 12 J

41. Which of the above mixtures are considered as true solution?
 (A) Air (B) Sea water
 (C) Cold drink (D) Milk
42. Which of the following are the units of force?
 (A) Dyne (B) Newton meter
 (C) Newton (D) newton/meter square
43. Valency of tin is _____ .
 (A) +2 (B) -3
 (C) +4 (D) -1
44. A 10 N force applied on a body produces in it an acceleration of 2 m s^{-2} . What is the mass of the body?
 (A) 20 kg (B) 0.2 kg
 (C) 5 kg (D) 5000 g
45. Where would you most likely find the cuboidal epithelium?
 (A) Lining of the mouth (B) Lining of kidney tubules
 (C) Ducts of salivary glands (D) Inner lining of the intestine
46. Penicillin is a drug that can _____ .
 (A) interfere in the biological pathway of bacteria (B) an antibiotic that can kill bacteria
 (C) cause death of the patient (D) weaken the immunity system
47. In mammals, both the hemispheres of cerebrum are connected by _____ .
 (A) corpus callosum (B) hippocampal commissure
 (C) corpus striatum (D) corpus magnum
48. Find out the INCORRECT matches.

	Kingdom	Example
(A)	Porifera	Sponge
(B)	Annelida	Octopus
(C)	Mollusca	Pila
(D)	Echinodermata	Tapeworm

49. On heating, limestone is required to produce calcium oxide and carbon dioxide. What mass of limestone is reduced to produce 84 kg of calcium oxide and how much CO_2 gas will be formed?
 (A) 150 kg of CaCO_3 (B) 44 kg of CO_2
 (C) 66 kg of CO_2 (D) 100 kg of CaCO_3
50. Abscisic acid _____ .
 (A) does not cause faster leaf fall (B) causes retardation in growth
 (C) does not combine dormancy of tubes (D) causes dormancy of seeds

