Sample Question Paper

(SSLC Examination 2024-25)

Science

(NCERT Textbook)

by

Meghalaya Board of School Education (MBOSE)

A. The Scheme of Examination

	Maximum Marks	**Pass Marks**
Theory Examination	80	24
Internal Assessment	20	6
Total	100	30

B. Scheme of Theory Examination

Section	**Type of Questions**	**Marks for Each Question**	**No. of questions to be attempted/ No. of questions given**	**Total Marks**
Section-A	Multiple choice Questions (MCQs)	1	30/30	1x30=30
Section-B	Very Short Answer Questions	2	10/14	2x10=20
Section-C	Short Answer Questions	3	6/9	3x6=18
Section-D	Long Answer Questions	4	3/5	4x3=12
Total Marks				**80**

C. Scheme of Internal Assessment

Marks for internal assessment can be internally assessed through anyone of the following:

1. Project Work
2. Written Tests
3. Assignments (Class or Home Work)

While Assessing, the weightage to different chapters may be given as provided in "D. Content Weightage in Theory Examination".

Different types of Projects Works

- Class/Interclass discussion and debates.
- Preparations of a reports, charts, posters and Diagrams based on lessons.
- Conducting Activities mentioned in the Textbook.

D. Content Weightage in Theory Examination

The chapter-wise weightage shown below is only indicative for the purpose of information of teachers while prioritising different chapters during teaching or assessment. Though the weightage in Theory Examination conducted by MBOSE would broadly follow the following pattern, there may still be some variation.

Syllabus	Marks (80)
Chapter 1: Chemical Reacions & Equations Chapter 2: Acids, Bases and Salts Chapter 3: Metals and Non-metals Chapter 4: Carbon and its Compunds	26
Chapter 5: Life Processes Chapter 6: Control and Coordination Chapter 7: How do Organisms Reproduce? Chapter 8: Heredity Chapter 13: Our Environment	28
Chapter 9: Light – Reflection and Refraction Chapter 10: The Human Eye and the Colourful World Chapter 11: Electricity Chapter 12: Magnetic Effects of Electric Current	26

Sample Question Paper

Science & Technology
(New Course – NCERT Textbook)
Class-X

Question Paper Code: XY

Time: 3 hours **Max Marks: 80 (Pass Marks: 24)**

General Instructions:

1. Please check that this Question Paper contains 58 Questions.
2. Question Paper Code given above should be written on the Answer Book, in the space provided, by the Candidate.
3. 15 minutes time is given for the candidates to read the Question paper. The Question Paper will be distributed 15 minutes before the scheduled time of the examination. In these 15 minutes, the candidates should only read the instructions and questions carefully and should not write answers on the Answer Sheet.
4. The Question Paper contains 4 sections, Section A, B, C and D.
5. Section-A contains Multiple Choice Questions (MCQ). Choose the most appropriate answer from the given options. The answers to this Section must be provided in the boxes provided in the Answer Sheet. Answers provided anywhere else will not be counted for marking.
6. Section-B contains Very Short Answer Questions. Answer the questions briefly, in not more than 30 (thirty) words.
7. Section-C contains Short Answer Questions. Answer the questions in not more than 50 (fifty) words each.
8. Section-D contains Long Answer Questions. Answer the questions in not more than 70 (seventy) words each.

Section- A

Multiple Choice Questions: Attempt **ALL** Questions. (30 X 1 = 30 marks)

1. Which of the following is not a physical change?
   (A) Boiling of water to give water vapour
   (B) Melting of ice to give water
   (C) Dissolution of salt in water
   (D) Combustion of Liquefied Petroleum Gas (LPG)

2. Electrolysis of water is a decomposition reaction. The mole ratio of hydrogen and oxygen gases liberatedduring electrolysis of water is
   (A) 1:1 (B) 2:1
   (C) 4:1 (D) 1:2

3. What happens when a solution of an acid is mixed with a solution of a base in a test tube?
   (i) The temperature of the solution increases
   (ii) The temperature of the solution decreases
   (iii) The temperature of the solution remains the same
   (iv) Salt formation takes place
   (A) (i) only (B) (i) and (iii)
   (C) (ii) and (iii) (D) (i) and (iv)

4. An aqueous solution turns red litmus solution blue. Excess addition of which of the following solution would reverse the change?
   (A) Baking powder
   (B) Lime
   (C) Ammonium hydroxide solution
   (D) Hydrochloric acid

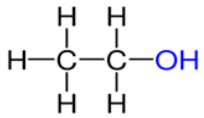
5. Which of the following salts does not contain water of crystallisation?
   (A) Blue vitriol (B) Baking soda
   (C) Washing soda (D) Gypsum

6. Which of the following property is generally not shown by metals?
   (A) Electrical conduction (B) Sonorous in nature
   (C) Dullness (D) Ductility

7. The ability of metals to be drawn into thin wire is known as
   (A) ductility (B) malleability
   (C) sonority (D) conductivity

8. Which one of the following metals do not react with cold as well as hot water?
   (A) Na (B) Ca
   (C) Mg (D) Fe

9. Name the below compound from its structure:



(A) Ethane (B) Ethanol
(C) Ethene (D) Propanol

10. Buckminsterfullerene has _____ atoms in its molecule.
(A) 30 (B) 960
(C) 300 (D) 60

11. Which change occurs in the respiratory rate due to the construction of the diaphragm and rib muscles?

(A) Increases (B) Decreases
(C) Remain the same (D) None of the above

12. The kidneys in human beings are a part of the system for
(A) Nutrition (B) Respiration
(C) Excretion (D) Transportation

13. The breakdown of pyruvate to give carbon-dioxide, water and energy take place in

(A) Cytoplasm (B) Mitochondria
(D) Nucleus (C) chloroplast

14. Electrical impulse travels in a neuron from
(A) Dendrite→ axon→ axonal end→ cell body
(B) Cell body→ Dendrite → axon→ axonal end
(C) Dendrite →Cell body→ axon→ axonal end
(D) Axonal end→ axon → Cell body→ Dendrite

15. Posture and balance of the body is control by
(A) Cerebrum (B) Cerebellum
(C) Medulla oblongata (D) Pons

16. Which of the following is the correct sequence of events of sexual reproduction in a flower?
(A) pollination, fertilisation, seedling, embryo
(B) seedling, embryo, fertilisation, pollination
(C) pollination, fertilisation, embryo, seedling
(D) embryo, seedling, pollination, fertilization

17. In Spirogyra, asexual reproduction takes place by
(A) breaking up of filaments into smaller bits
(B) division of a cell into two cells
(C) division of a cell into many cells
(D) formation of young cells from older cells.

18. If a round, green seeded pea plant (RR yy) is crossed with wrinkled, yellow seeded pea plant, (rr YY) the seeds produced in F1 generation are
(A) round and yellow (B) round and green
(C) wrinkled and green (D) wrinkled and yellow

19. In which trophic level autotrophs are placed?
    (A) First (B) Second
    (C) Third (D) Last

20. Which of the following group contain only biodegradable items?
    (A) grass, flowers and plastic (B) grass, wood and plastic
    (C) fruits peels, cake and lime juice (D) coke, wood and grass

21. Which of the following statements is true?
    (A) A convex lens has 4 dioptre power having a focal length 0.25 m
    (B) A convex lens has –4 dioptre power having a focal length 0.25 m
    (C) A concave lens has 4 dioptre power having a focal length 0.25 m
    (D) A concave lens has –4 dioptre power having a focal length 0.25 m

22. Magnification produced by a rear view mirror fitted in vehicles
    (A) is less than one
    (B) is more than one
    (C) is equal to one
    (D) can be more than or less than one depending upon the position of the object in front of it

23. In torches, search lights and headlights of vehicles the bulb is placed
    (A) between the pole and the focus of the reflector
    (B) very near to the focus of the reflector
    (C) between the focus and centre of curvature of the reflector
    (D) at the centre of curvature of the reflector

24. Twinkling of stars is due to atmospheric
    (A) dispersion of light by water droplets
    (B) refraction of light by different layers of varying refractive indices
    (C) scattering of light by dust particles
    (D) internal reflection of light by clouds

25. Which of the following statements is correct regarding the propagation of light of different colours of white light in air?
    (A) Red light moves fastest
    (B) Blue light moves faster than green light
    (C) All the colours of the white light move with the same speed
    (D) Yellow light moves with the mean speed as that of the red and the violet light

26. Which of the lenses would you prefer to while reading small letters found in a dictionary?
    (A) a convex lens of focal length 50 cm.
    (B) a concave lens of focal length 50 cm.
    (C) a convex lens of focal length 5cm.
    (D) a concave lens of focal length 5cm.

27. If the current I through a resistor is increased by 100% (assume that temperature remains unchanged), the increase in power dissipated will be
    (A) 100 % (B) 200 %
    (C) 300 % (D) 400 %

28. The resistivity does not change if
    (A) the material is changed
    (B) the temperature is changed
    (C) the shape of the resistor is changed
    (D) both material and temperature are changed

29. Choose the incorrect statement

(A) Fleming's right-hand rule is a simple rule to know the direction of induced current

(B) The right-hand thumb rule is used to find the direction of magnetic fields due to current carrying conductors

(C) The difference between the direct and alternating currents is that the direct current always flows in one direction, whereas the alternating current reverses its direction periodically

(D) In India, the AC changes direction after every second

30. The strength of magnetic field inside a long current carrying straight solenoid is

(A) more at the ends than at the centre

(B) minimum in the middle

(C) same at all points

(D) found to increase from one end to the other

Section-B

Very Short Answer Questions: Answer **any 10 (ten)**. (2x10=20 marks)

31. What do you mean by decomposition reaction? Give one example.
32. How bleaching powder can be prepared? Give chemical equation.
33. Write the general formula of alkanes? Give the names of two alkanes having 3 carbon atoms and the other having 4 carbon atoms.
34. Why does the aqueous solution of an acid conduct electricity?
35. How are fats digested in our bodies? Where does this process take place?
36. Write any two advantages of vegetative propagation.
37. What is zygote? How is the sex of the child determined in human beings?
38. What is ozone? Give its function.
39. What are trophic levels? Give an example of a food chain and state the different trophic levels in it.
40. What is the role of decomposers in the ecosystem?
41. Why do we prefer a convex mirror as a rear-view mirror in vehicles? Give two reasons.
42. Why do stars twinkle?
43. Name the factors which determine the resistance of a conductor.
44. An electric iron of resistance 20 Ω takes a current of 5A. Calculate the heat developed in 30 seconds.

Section- C

Short Answer Questions: Answer **any 6 (six)**. **(**3x6=18 marks)

45. What would you observe when zinc is added to a solution of Iron (II) sulphate? What type of reaction is this? Write the chemical reaction involved.
46. Draw the structure of the following compounds: (i) Bromo-pentane; (ii) Hexanal; (iii) Butanone
47. Explain in brief the mechanism of cleansing action of soap.
48. Name the glands present in the walls of the stomach. Give two functions of HCl produced in the stomach.
49. Give three differences between Arteries and Veins.
50. What is a reflex action? Trace the sequence of events which occur when a bright light is focuses on your eyes.
51. What is optical density? Light enters from air to glass having refractive index 1.50. What is the speed of light in the glass?
52. List two properties of magnetic field lines. Why two magnetic field lines cannot intersect each other?
53. What is earthing? Why is earthing of electrical appliances necessary?

Section-D

Long Answer Questions: Answer **any 3 (three)** **(**3x4=12 marks)

54. Esters are sweet smelling substances and are used in the making of perfumes. Suggest some activity and the reaction involved for the preparation of an ester with neat labelled diagram?
55. Draw the diagram of alimentary canal of man and label the following parts mouth, esophagus, stomach, intestine.
56. Draw the structure of a neuron and label its parts.
57. Write the laws of refraction of light. Explain the same with the help of ray diagram, when a ray of light passes through rectangular glass slab.
58. Draw a labelled circuit diagram of a simple electric motor and explain its working.

*** End of the Question Paper ***