

ಕರ್ನಾಟಕ ಶಾಲಾ ಪರೀಕ್ಷೆ ಮತ್ತು ಮೌಲ್ಯನಿರ್ಣಯ ಮಂಡಲಿ
ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು - 560 003

KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD
Malleshwaram, Bengaluru - 560 003

2025-26ರ ಎಸ್.ಎಸ್.ಎಲ್.ಸಿ. ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ -1
S.S.L.C. MODEL QUESTION PAPER - 1: 2025-26

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject: SCIENCE

(ಭೌತ ವಿಜ್ಞಾನ, ರಸಾಯನ ವಿಜ್ಞಾನ ಮತ್ತು ಜೀವ ವಿಜ್ಞಾನ / **Physics, Chemistry and Biology**)
(ಆಂಗ್ಲ ಮಾಧ್ಯಮ / **English Medium**)

ವಿಷಯ ಸಂಕೇತ : **83-E**

Subject Code : 83-E

ಸಮಯ : 3 ಗಂಟೆ 15 ನಿಮಿಷಗಳು]

[Time: 3 Hours 15 Minutes

ಗರಿಷ್ಠ ಅಂಕಗಳು : 80]

[Max. Marks: 80

General Instructions to the Candidate :

1. There are three parts in the question paper:

Part A: Physics, Part B: Chemistry, Part C Biology.

2. This question paper consists of 38 questions.
3. Follow the instructions given against the questions.
4. Figures in the right hand margin indicate maximum marks for the questions.
5. The maximum time to answer the paper is given at the top of the question paper. It includes 15 minutes for reading the question paper.

PART – A**(PHYSICS)**

- I. Four alternatives are given for each of the following questions / incomplete statements. Choose the correct alternative and write the complete answer along with its letter of alphabet.** **2 × 1 = 2**

1. The S I unit of potential difference is

- (A) volt (V)
- (B) ampere (A)
- (C) coulomb (C)
- (D) ohm meter (Ωm)

2. The reciprocal of focal length of lens is

- (A) the power of lens
- (B) the radius of curvature of lens
- (C) equal to the sum of object distance and image distance
- (D) equal to the difference between the object distance and image distance

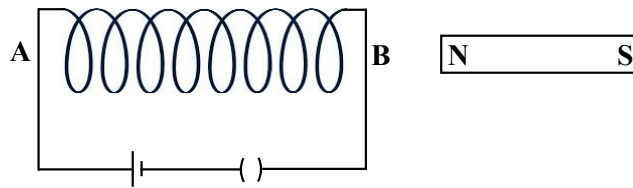
- II. Answer the following questions :**

2 × 1 = 2

3. Write the symbols of the following components used in the electric circuit.

- (i) Dry cell
- (ii) Rheostat

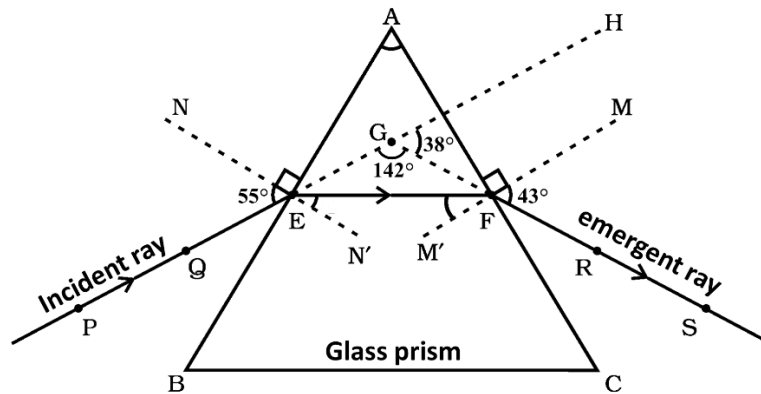
4. Observe the below figure. When switch is closed, does the B end of the solenoid attract the N end of the bar magnet? Clarify the answer.



III. Answer the following questions :

3 x 2 = 6

5. What precautionary measures have to be taken to avoid overload in domestic circuit?
6. Mention the factors on which resistance of a conductor depend.
7. Observe the figure given below. Name the angle of deviation and identify its value.



IV. Answer the following questions :

3 x 3 = 9

8. a) Mention any two symptoms of myopic eye. How can this defect be rectified?
- b) What is power of accommodation of eye?

9. Explain an activity of obtaining magnetic field lines around a bar magnet using a compass needle.

OR

Explain experiment that shows 'a current carrying conductor when kept in the magnetic field experiences a mechanical force.'

10. Draw a ray diagram to show the image formation when an object is kept beyond 'C' in front of a concave mirror. Mention the nature and position of the image formed.

[C: Centre of curvature of mirror]

V. Answer the following questions :

2 x 4 = 8

11. a) Observe the below table. Which of the below listed electrical appliances consumes more energy?

Electrical appliances	Electric power	Time of use
T.V	250 W	4 hours
Toaster	1200 W	1 hour

- b) $2\ \Omega$ and $4\ \Omega$ resistors are connected in parallel. If $6\ \Omega$ resistor is used in place of $4\ \Omega$, then find the difference between the difference between the total resistance obtained in both of these arrangements.

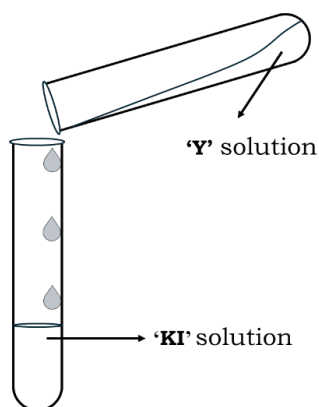
OR

- a) A 350W bread toaster is used 6 hours a day. A 250W iron box is used 4 hours a day. If these appliances are used for 30 days, then calculate the total cost of the energy consumption at the rate of Rs. 4 for 1kWh.
- b) A fan having the power 880W is connected to a source of potential difference 220V in an electric circuit. Calculate the electric current and the electric resistance of this circuit.
12. a) State the laws of refraction of light.
- b) Mention any two differences between convex mirror and convex lens.

PART – B**(CHEMISTRY)****VI. Multiple choice questions.****3 × 1 = 3**

13. The constituent metals in brass are
- (A) copper and zinc
- (B) aluminium and tin
- (C) copper and tin
- (D) zinc and aluminium

14.



Analyse the experiment expressed in the above figure. The molecular formulae of the solution 'Y' that gives a yellow colour precipitate by reacting with KI solution and the another product that forms here respectively are

- (A) $\text{Pb}(\text{NO}_3)_2$ and KNO_3
- (B) PbI_2 and KNO_3
- (C) $\text{Pb}(\text{NO}_3)_2$ and KI
- (D) $\text{Pb}(\text{NO}_3)_2$ and K_2SO_4

15. A property of carbon that is responsible for giving rise large molecules is

- (A) tetravalency
- (B) catenation
- (C) inflammability
- (D) allotropism

VII. Answer the following questions :**3 x 1 = 3**

16. How do you detect a base using blue litmus paper?
17. What are the applications of the thermite reaction?
18. Write the structural formula of an unsaturated carbon compound containing four carbon atoms and a ketone functional group.

VIII. Answer the following questions :**3 x 2 = 6**

19. Draw the diagram of the arrangement of apparatus used to show the reaction of zinc granules with dilute sulphuric acid and label the hydrogen gas bubbles.
20.
 - a) Name the salts responsible for the hardness of water?
 - b) Write the name and the molecular formula of the simplest hydrocarbon.
21. Draw the diagram to the arrangement of the apparatus used in the electrolytic refining of copper and label cathode.

IX. Answer the following questions :**3 x 3 = 9**

22. Write the balanced chemical equations for the following word equations.
 - (i) Manganese oxide + hydrochloric acid $\rightarrow$ manganese chloride + chlorine + water
 - (ii) Calcium hydroxide + carbon dioxide $\rightarrow$ calcium carbonate + water
 - (iii) Zinc carbonate $\rightarrow$ zinc oxide + Carbon dioxide

OR

Convert the following chemical reactions into chemical equations.

- (i) Ammonia forms when nitrogen gas reacts with hydrogen gas.
 - (ii) Sodium oxide reacts with water to form sodium hydroxide.
 - (iii) By reacting with water potassium metal produces potassium hydroxide and hydrogen gas.
23. Four solutions A, B, C and D when tested with universal indicator showed pH as 5, 2, 7 and 11 respectively. Which solution
- (i) has more hydronium ions?
 - (ii) is neutral?
 - (iii) is the weak acid?
24. a) Explain the formation of sodium chloride molecule by the transfer of electrons.
- b) What are the products obtained when aluminium metal reacts with steam?

OR

- a) Explain the formation of magnesium chloride molecule by the transfer of electrons.
- b) How is pure zinc obtained from zinc oxide?

X. Answer the following questions :

1 x 4 = 4

25. a) Write the structures of n-butane and isobutane.
- b) What is esterification? How ethene is obtained from ethanol?

OR

- a) Write the dot structures of nitrogen and propyne molecules.
- b) Explain the cleansing action of soap on dirt.

PART – C

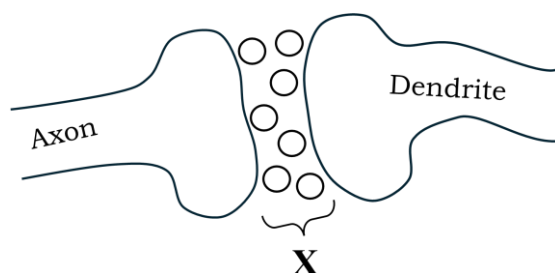
(BIOLOGY)

XI. Multiple choice questions.

3 × 1 = 3

26. An enzyme that secretes by the pancreas to digest protein is
- (A) amylase
- (B) pepsin
- (C) trypsin
- (D) lipase
27. In a zygote there are 24 pairs of chromosomes. Then the number of chromosomes present in the gametes are
- (A) 24 pairs
- (B) 48
- (C) 6 pairs
- (D) 24

28. Observe the figure given below. The name of the part 'X' and its function is



- (A) Neuron; transmits chemicals as electrical impulses
- (B) synapse; transmits electrical signals generated at the axon terminal to the dendrite
- (C) Neuron; transmits electrical impulses as chemicals
- (D) synapse; transmits chemical signals generated at the axon terminal to the dendrite

XII. Answer the following questions :

3 x 1 = 3

29. What is the importance of xylem tissue in plants?
30. Observe the table below showing different forms of pea plants.

Seed colour	Flower position
Green (G)	Middle of stem (A)
Yellow (g)	Top of stem (a)

Write the indicator of the trait having green seeds and flowers at the top of the stem.

31. How is the binary fission in amoeba differs from budding in hydra?

XIII. Answer the following questions :**2 x 2 = 4**

32. Name the following.

- (i) Structures that prevent the collapsing of air-passage part of trachea in the humans.
- (ii) Nitrogenous chemicals that are separated from the blood by the kidney.

OR

- a) In which form the excess glucose is stored in plants and animals?
 - b) Name the structures of the humans small intestine that absorb digested food.
33. Why does the stem of a growing plant bend towards the light? Explain.

OR

Write any two differences between central nervous system and peripheral nervous system.

XIV. Answer the following questions :**3 x 3 = 9**

34. a) Ozone layer is a boon to the life on the earth. Justify.
- b) The organisms of which trophic level in a food chain are most affected by biological magnification? Why?
35. Explain:
- a) The determination of the height of a plant by genes.

- b) The determination of the sex of the male child in humans.

OR

A red flowering pea plant (RR) is crossed with a white flowering pea plant (rr). Show the result of F₂ generation with the help of a checker board. Write the phenotypic ratio and the genotypic ratio of the plants obtained in F₂ generation.

36. Name the hormones that perform the following functions in humans.

- (i) Controlling the sugar level in the blood.
- (ii) Prepare the body to deal with emergency situations.
- (iii) Controlling the fats, proteins and carbohydrates metabolism.

XV. Answer the following questions :

1 x 4 = 4

37. Draw a diagram showing the schematic sectional view of the human heart. Label the following parts.

- (i) Septum
- (ii) Right atrium

XVI. Answer the following questions :

1 x 5 = 5

38. a) List the three methods of contraception that are usually followed by human beings.
- b) What is the function of the vas deferens and prostate gland in the human male reproductive system?

- c) How does the menstrual cycle occur? Explain.

OR

- a) Write any two differences between self and cross pollination.
- b) What are the changes that occur in a flower after fertilization?
- c) Mention any four advantages of vegetative propagation.

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