

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 -3
S.S.L.C. MODEL QUESTION PAPER - 3: 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 alternative answers are given to the following questions or incomplete statements. Choose one of the appropriate answers and write the complete answer with its letter of alphabet: 2×1=2**

1. A mirror produces erect and enlarged image of an object. Then the type of mirror and the nature of that image is respectively
- (A) Convex mirror and virtual image
 - (B) concave mirror and real image
 - (C) Convex mirror and real image
 - (D) Concave mirror and virtual image
2. The rate of energy consumed in an electrical circuit is, electric
- (A) current
 - (B) potential difference
 - (C) resistance
 - (D) power

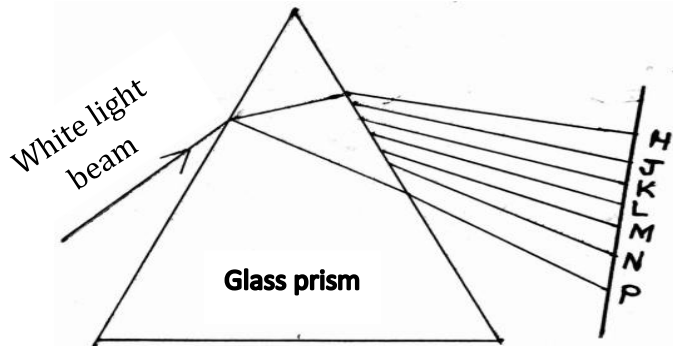
- II. Answer the following questions: 2×1=2**

3. Draw the symbols of the following components used in an electrical circuit.
- i) Rheostat
 - ii) Wires crossing without joining
4. What happens if the fuse is connected to the neutral wire instead of connecting to the live wire in the meter board of the house?

III. Answer the following questions:

3×2=6

5. a) Define the phenomenon expressed in below given figure. Which colour does H and M represent here?



6. How does the resistance of a conductor related to the length of the conductor and the area of cross-section of that conductor?

OR

The resistivity of some materials found at 20° C is given in the table below. Look at it and answer the questions given below

Materials	Resistivity
Silver	$1.60 \times 10^{-8} \Omega\text{m}$
Copper	$1.63 \times 10^{-8} \Omega\text{m}$
Tungsten	$5.2 \times 10^{-8} \Omega\text{m}$
Nichrome	$100 \times 10^{-8} \Omega\text{m}$

- a) Which is the better conductor among silver and copper? Why?
- b) Alloys are used in electric heating devices. Why?
7. One end of the bar magnet is brought near the south pole of a magnetic needle. Then this end of the magnetic needle deflects away from the end of the bar magnet. Name the pole of the bar magnet that has been directed towards the south pole of this magnetic needle. Give reason for your answer.

IV. Answer the following questions:**3×3=9**

8. Draw the diagram to show the image formation when an object is placed between $2F_1$ and F_1 of a convex lens. Mention the position and size of the image formed.
(F_1 -principal focus of lens)
9. What is presbyopia? Mention the reasons and suggest a remedy for this defect?

OR

What is short-sightedness? What are the reasons for this defect? How can it be corrected?

10. a) What are the reasons for overloading in an electric circuit?
b) What is solenoid? How can electromagnet be prepared from a solenoid?

OR

- a) Mention the properties of magnetic field lines.
b) When the number of turns of a current carrying circular loop is increased by ten times what change occurs in the magnetic field produced in it?

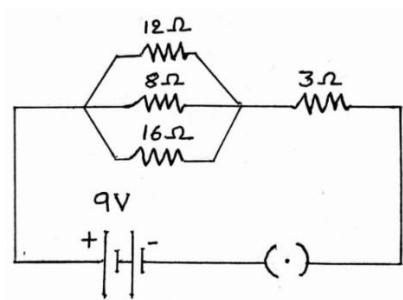
V. Answer the following questions:**2×4=8**

11. a) What is reflection of light?
b) State the laws of reflection of light.
c) What is the focal length of a mirror?

OR

- a) What is refraction of light?
b) State Snell's law of refraction.
c) Define the following with respect to a lens. i) Focal point ii) Aperture

12. a) Observe the diagram of below given electric circuit. Find the total resistance and the total current of the circuit.



- b) An electric fan rated 50 W is used for 6 hours in a day. What is the cost of the energy it consumes for 30 days at Rs.4 per 1kWh?

PART -B

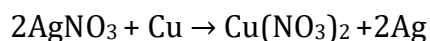
(CHEMISTRY)

- VI. Four alternative answers are given to the following questions or incomplete statements. Choose one of the appropriate answers and write the complete answer with its letter of alphabet: 3×1=3

13. The chemical formula of bleaching powder is

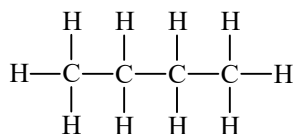
- (A) NaCl
- (B) Na_2CO_3
- (C) CaCO_3
- (D) CaOCl_2

14. $\text{CuSO}_4 + \text{Fe} \rightarrow \text{FeSO}_4 + \text{Cu}$



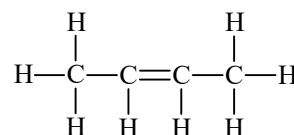
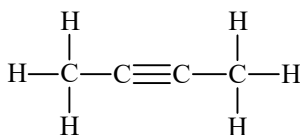
- (A) Copper is more reactive than iron and silver
- (B) Iron is less reactive than copper and silver
- (C) Copper is more reactive than silver but less reactive than iron
- (D) Silver is more reactive than copper and iron.

15. Another structure with the same molecular formula of the compound in the following structural formulas



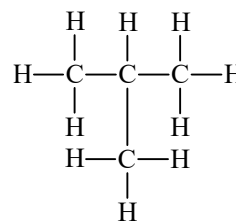
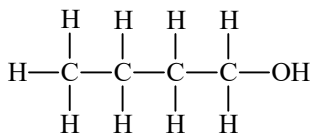
(A)

(B)



(C)

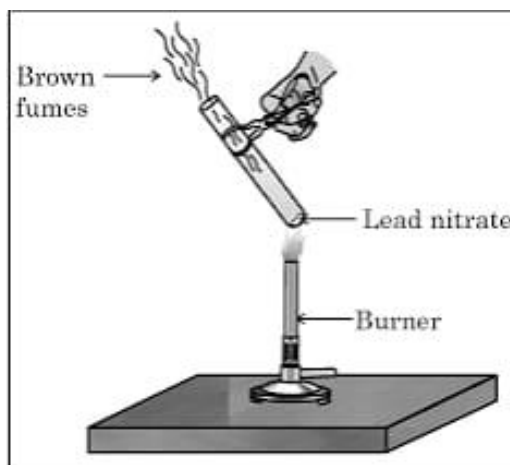
(D)



VII. Answer the following questions:

3×1=3

16. What is the reason for the formation of brown coloured fume in the experiment shown through the below given figure?



17. Name any two metals that are available in the pure form in the nature.
18. What is the significance of hydrogenation?

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

19. A solution of baking soda is commonly applied to the area of a honeybee stung area. Justify this action.
20. How is pure mercury obtained from cinnabar?

(OR)

Why the calcium does not catches fire when it reacts with water?

21. Carbon compounds are found in the larger number in the nature. Why? Clarify the reasons.

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

22. a) Magnesium ribbon burns with a dazzling white flame in the air and changes into magnesium oxide. Mention the type of this reactions.
- b) List out the observations that help us to determine that a chemical reaction has been taken place.

(OR)

- a) Chemical equations have to be balanced. Why?
- b) Mention the measures that are followed to prevent rusting of iron.
23. Draw the diagram to show the reaction of the zinc granules with dilute sulphuric acid and testing hydrogen gas by burning. Label the following parts.
- i) Zinc granules
- ii) Delivery tube
24. a) Show the formation of magnesium chloride molecule by transfer of electrons.
- b) Aluminium oxide is called an amphoteric oxide. Why?

X. Answer the following question:**1×4=4**

25. a) Write any two differences between saturated and unsaturated carbon compounds.

- b) Write the molecular formula and structural formula of the following carbon compounds.
- i) Propanoic acid
 - ii) Cyclohexane

PART-C
(BIOLOGY)

XI. Four alternative answers are given to the following questions or incomplete statements. Choose one of the appropriate answers and write the complete answer with its letter of alphabet: 3×1=3

26. The function of stomata among the following is
- (A) Exchange of gases
 - (B) Transportation of water and food
 - (C) Preparation of food
 - (D) Establishing osmotic pressure
27. The plant hormone responsible for phototropism in plants is
- (A) Auxin
 - (B) Cytokinin
 - (C) Absciscic acid
 - (D) Gibberellin
28. A common bacterial infection that spreads through sexual contact in human beings is
- (A) Gonorrhoea
 - (B) AIDS
 - (C) Hepatitis B
 - (D) Warts

XII. Answer the following questions:**3×1=3**

29. Double circulation of the blood is essential to maintain constant temperature in mammals. How?
30. "Is Self-pollination possible in flowers that have only stamens?" Justify your answer.
31. What is DNA replication?

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

32. Draw the diagram to show the structure the structure of the nephron and label the part Bowman's capsule.
33. What is reflex arc? In many animals reflex arcs have been found an effective way of functioning. Why?

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

34. Draw the diagrams to show the structure of human brain. Label the following parts
- i) Hypothalamus
 - ii) Pons
35. a) Father only determines the sex of a child. Why?
- b) Yellow seed producing pea plant (YY) is crossed with green seed producing plant (yy). Then draw a checker board showing the results obtained in F₂ generation.

(OR)

Red flowering tall pea plant (TTRR) is hybridised with white flowering short pea plant (ttrr). Then draw a checker board showing the results obtained in F₂ generation.

36. a) Grass → Frog → Snake; If the amount of energy in the first trophic level of this food chain is about 100 J, What is the amount of the energy available for the organism at the third trophic level?

- b) If all the wastes we generate are biodegradable, what kind of the effects this would impact on our environment? Discuss.

XV. Answer the following question :

1×4=4

37. a) How are inorganic substances transported from the xylem tissue in plants? Explain.
- b) Write any four methods used by plants to eliminate waste materials.

OR

- a) Explain the digestion process in the small intestine of humans.
- b) What is the main function of alveoli in the human lungs?

XVI. Answer the following questions:

1×5=5

38. a) How do daughter organisms produced in hydra, spirogyra and amoeba? Explain briefly.
- b) What are the changes that occur in a flower after fertilization?

OR

- a) How does a fertilized egg in a female develop into an embryo in the uterus?
How does this embryo get nourishment in the mother's womb? Explain
- b) Explain the important functions of
- i) Testis and
- ii) Seminal vesicle in male reproductive system in humans.
