

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 -2
S.S.L.C. MODEL QUESTION PAPER - 2: 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

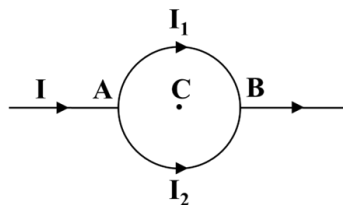
(PHYSICS)

- 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. $2 \times 1 = 2$

1. The S I unit of electric current is

- (A) ampere (A)
- (B) ohm (Ω)
- (C) volt (V)
- (D) watt (W)

2. Observe the figure given below. The magnetic field at the centre 'C' of circular coil is



- (A) zero
- (B) I
- (C) $2I_1$
- (D) $2I_2$

II. Answer the following questions :

$2 \times 1 = 2$

3. Which mirror is used as rear view mirror?

4. List any two suggestions to avoid the overload in domestic electric circuit.

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

5. Draw a simple electric circuit. Label ammeter and voltmeter.
6. An electric motor receives 10A electric current from 220V electric source. Find the power of motor.
7. Draw a diagram of experiment conducted by Newton to show the recombination of white light.

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

8.
 - a) State two laws of reflection of light.
 - b) What is magnification of mirror? What does the negative sign indicate in the magnification value?

OR

Explain the activity which shows the refraction of light through a glass slab.

9.
 - a) What is near-sightedness?
 - b) What is power of accommodation of eye? How does the eye accommodate to see distant objects?

OR

Stars appear to twinkle but the planets do not twinkle. Why?

10.
 - a) What is solenoid?
 - b) State Fleming's left hand rule.
 - c) What is the potential difference between live wire and neutral wire in domestic electric circuit in our country?

V. Answer the following questions :

2 x 4 = 8

11. a) State Joule's law of heating and name four appliances which work on the heating effect of electricity.
- b) Give reason.
- (i) The tungsten is used almost exclusively for filament of electric lamps.
- (ii) Copper and aluminium wires are usually employed for electricity transmission.

OR

- a) State ohm's law. List the factors on which the resistance of conductor depends.
- b) "The potential difference between two points is 1V." Mention the meaning of this statement.
12. a) An object is placed perpendicular to principal axis of a convex lens of focal length 20cm. If the distance of image is to be 60cm, then at what distance the object is to be placed from the lens?
- b) The object distance and image distance of a lens are -30cm and -10 cm respectively. Decide the type of lens and nature of image.

PART – B

(CHEMISTRY)

VI. 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. 3 × 1 = 3

13. The functional group present in pentanal is
- (A) - OH
 - (B) - CHO
 - (C) - COOH
 - (D) - CO -
14. Silver chloride turns grey when exposed to sunlight. This is because silver chloride
- (A) decomposes to form silver.
 - (B) decomposes to form chlorine.
 - (C) combines with oxygen.
 - (D) reacts with atmospheric moisture.
15. To make iron to be hard and strong
- (A) carbon is added to pure iron
 - (B) zinc is added to pure iron
 - (C) fused with some other metals
 - (D) anodization will be done

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

16. Hydrochloric acid is considered as a strong acid. Why?
17. What is roasting in metallurgy?
18. The first member of a group of carbon compounds is CH_3Cl . Write the molecular formula and the name of the third member of this group.

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

19. When concentrated sulphuric acid is added to a test tube containing solid sodium chloride the gas 'X' will be released. What are the ions formed when this gas is passed into water? What are the products formed when the gas 'X' is passed into an aqueous basic solution obtained in the chlor-alkali process?
20. Write the properties of ionic compounds with respect to solubility, melting point, physical state and electrical conductivity.

OR

Give reasons.

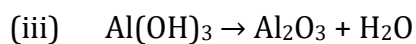
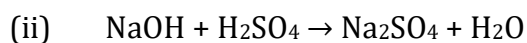
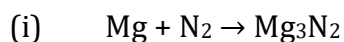
- (i) Magnesium metal displaces copper in copper sulphate solution.
 - (ii) Sodium metal is stored in kerosene.
21. Explain the cleansing action of soap on dirt.

OR

Carbon atoms do not form C^{4+} cation ions or C^{4-} anions. Why?

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

22. Balance the following equations

**OR**

Convert the following chemical reactions into chemical equations.

(i) Copper reacts with concentrated nitric acid.

(ii) Silver nitrate solution is added to potassium bromide solution.

(iii) Zinc oxide is reduced by coke.

23. a) What is acid rain?

b) Which gas is liberated when an acid reacts with a metal carbonate?

c) Write the chemical name and molecular formula of baking soda.

24. Draw the diagram of the arrangement of apparatus used to show the action of steam on a metal. Label the following parts.

(i) Glass-wool soaked in water

(ii) Delivery tube

X. Answer the following questions :**1 x 4 = 4**25. a) How many single bonds and double bonds are there in the molecule of $\text{C}_3\text{H}_7\text{COOH}$?

b) Write the structural formulae of cyclopentane and propanol.

[Turn over

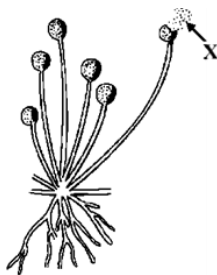
- c) Name the substance that do not undergo a chemical change that is used in the reaction of converting a compound containing a carbon-carbon double bond into a compound containing only single bonds. Write an example for this reaction in the form of an equation.

PART – C

(BIOLOGY)

- XI. 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. 3 × 1 = 3**

26. Observe the figure below. The characteristic and function of the structure 'X' are respectively



- (A) wall is absent and pollinates.
- (B) it has a thick wall and grows into a new rhizopus.
- (C) it has a thin wall and grows into a new rhizopus.
- (D) it has a thick wall and pollinates.
27. The correct statement regarding bile juice among the following is, this juice is secreted by the
- (A) stomach and acidifies food.
- (B) stomach and alkalises food.
- (C) liver and alkalises food.

(D) pancreas and alkalises food.

28. The correct statement/s about gene among the following is/are

(i) It is an unit of DNA.

(ii) It is the source of information for protein.

(iii) A single gene synthesizes several proteins.

(iv) It functions as an enzyme.

(A) (i) only

(B) (i) and (ii) only

(C) (ii), (iii) and (iv) only

(D) (i), (ii) and (iii) only

XII. Answer the following questions :

3 x 1 = 3

29. What is DNA replication?

30. What is the relationship between the amount of haemoglobin in the blood and the amount of ATP released in the human body?

31. What is the function of abscisic acid in plants?

XIII. Answer the following questions :

2 x 2 = 4

32. Draw a diagram showing the structure of a nephron. Label glomerulus.

33. a) Name the prominent parts of reflex arc.

b) Which hormones are responsible for sexual maturation in humans?

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

34. Draw the diagram showing the structure of human brain. Label the following parts.
- (i) Cerebrum
 - (ii) Pons
35. Red flowering tall pea plant (TTRR) is hybridised with white flowering dwarf pea plant (ttrr). Show the result of F₂ generation with the help of a checker board and write the ratio of varieties of plants.

OR

Yellow seeds producing pea plant (YY) is hybridised with green seeds producing pea plant (yy). Show the result of F₂ generation with the help of a checker board. Write the phenotypic and genotypic ratios of F₂ generation.

36. a) What are biodegradable substances?
- b) Which synthetic chemical is responsible for the depletion of the ozone layer?
- c) Write two examples of decomposers.

XV. Answer the following questions :**1 x 4 = 4**

37. a) What are the functions of the aorta and pulmonary veins?
- b) State the events that occur during the photosynthesis in plants.

OR

- a) In the first stage of cellular respiration, the glucose molecule is broken down into which molecule in the cytoplasm? How is this broken molecule breaks down in muscle cells?
- b) Write any two differences between xylem and phloem.

XVI. Answer the following questions :

1 x 5 = 5

38. a) What is the role of the placenta at the development stage of the embryo in the female uterus?
- b) Testes are located outside the abdominal cavity in males. Why?
- c) How is the number of chromosomes reestablished in sexual reproduction? Explain.

OR

- a) How are the reproductive processes in hydra and planaria differ?
- b) What are the changes that occur in the flower after fertilization?
- c) How does a seed grows into future plant?

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