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FOR KARNATAKA CLASS 10 PREPARATION

Karnataka SSLC Model Question Paper 2027 for Science (Paper 1, English Medium)

EXAM	YEAR	TYPE	SUBJECT
Karnataka Class 10	2027	Sample Paper	Science

ಕರ್ನಾಟಕ ಶಾಲಾ ಪರೀಕ್ಷೆ ಮತ್ತು ಮೌಲ್ಯನಿರ್ಣಯ ಮಂಡಲಿ

ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು – 560 003

KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD

Malleshwaram, Bengaluru - 560 003

2026–27ರ ಎಸ್.ಎಸ್.ಎಲ್.ಸಿ. ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ –1

S.S.L.C. MODEL QUESTION PAPER - 1: 2026-27

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject: SCIENCE

(ಭೌತ ವಿಜ್ಞಾನ, ರಸಾಯನ ವಿಜ್ಞಾನ ಮತ್ತು ಜೀವ ವಿಜ್ಞಾನ / **Physics, Chemistry and Biology**)

(ಆಂಗ್ಲ ಮಾಧ್ಯಮ / **English Medium**)

ವಿಷಯ ಸಂಕೇತ: **83-E**

ಸಮಯ : 3 ಗಂಟೆ 15 ನಿಮಿಷಗಳು]

ಗರಿಷ್ಠ ಅಂಕಗಳು : 80]

Subject Code : 83-E

[Time: 3 Hours 15 Minutes

[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.

[Turn over

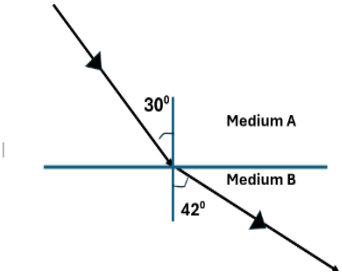
83-E

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. In an electric circuit, the ammeter and voltmeter are generally connected as follows:
   (A) Both are connected in parallel
   (B) Both are connected in series
   (C) Ammeter is connected in series and voltmeter is connected in parallel
   (D) Ammeter is connected in parallel and voltmeter is connected in series

2. The below given image is showing the entry of light from the medium A to the Medium B (given $\angle i = 30^0$ and $\angle r = 42^0$). The correct statement with respect to this image is



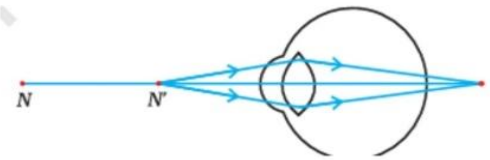
   (A) A is denser medium
   (B) A is rarer medium
   (C) B is denser medium
   (D) The speed of light is higher in medium A

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

3. Write the symbols for the following components used in the electric circuit:
   (i) Closed key
   (ii) Electric Cell
4. A current carrying conducting wire is kept perpendicular to the magnetic field. If the flow of current is doubled then what change will happen in the direction and the magnitude of the force acting on the conductor according to Fleming's left hand rule?

III. Answer the following questions **3 × 2 = 6**

5. What is solenoid? How can this be converted into an electromagnet?
6. Connecting a 'fuse' in domestic electric circuits is essential. Why? Explain.
7. A person who has the defect as shown in the below figure purchases spectacles with a lens power of -2.0 D. Is the use of this lens suitable for this defect? Analyse.



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IV. Answer the following questions: (3 × 3 = 9)

8. Name the phenomena of the light that is responsible to cause the following effects:
   i) Splitting white light into its constituent colours.
   ii) For the twinkling of stars.
   iii) Appearance of the clear sky in the blue colour.
9. Explain an activity to mark magnetic field lines around a bar magnet using a compass needle.

OR

Explain an activity of indicating magnetic field lines using iron filings in a straight current carrying conductor.

10. Draw a ray diagram to show the image formation when an object is kept beyond $2F_1$ in front of a convex lens. Mention the nature and position of the image formed.

V. Answer the following questions 2 × 4 = 8

11. An electrical heater of the power 1100 W is connected to 220 V source. Find the current drawn by the heater and calculate the heat generated by the heater in one minute.

OR

Three resistors R_1, R_2 and R_3 of resistance 4Ω, 6Ω and 12Ω respectively are connected in parallel to a 12 V battery in an electric circuit, then calculate the following:
   i) The total resistance in the circuit
   ii) The current flowing through each resistor.

12. Explain the New Cartesian sign convention, while dealing with the reflection of light by spherical mirrors.

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 most ductile metal is
   (A) Gold
   (B) Silver
   (C) Copper
   (D) Iron

14. $Fe_2O_3 + 2Al \rightarrow Al_2O_3 + 2Fe$
   Choose the correct answer confirming displacement
   (A) Aluminium changes into a gas.
   (B) Iron is obtained as a product.
   (C) Oxygen is released.
   (D) Water is formed.

[Turn over

15. Carbon bonds with other carbon atoms to form large molecules. This unique property of carbon is

(A) Saponification (B) Catenation

(C) Hydrogenation (D) Esterification

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

16. What is an amphoteric oxide?
17. If one of the component of an alloy is mercury, then it is called as?
18. Which among the alkane, alkene and alkynes generally undergo substitution reaction?

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 'delivery tube'.
20. What is hydrogenation? Mention its industrial application.
21. Draw the diagram showing the electrolytic refining of copper and label 'anode mud'.

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

22. $MnO_2 + 4HCl \rightarrow MnCl_2 + 2H_2O + Cl_2$

Is the above reaction, redox reaction? Justify your answer.

OR

Write the balanced chemical equations for the following:

i) Hydrogen + Oxygen → Water

ii) Zinc sulphate + Copper → Copper sulphate + Zinc

iii) Zinc carbonate → Zinc oxide + Carbon dioxide

23. Four solutions P, Q, R and S when tested with universal indicator showed pH as 8, 1, 6 and 7 respectively. Among these which of the solution

i) has more hydronium ions?

ii) is neutral?

iii) is the weak base?

24. Explain the formation of an ionic bond by transfer of electrons between magnesium and chlorine atoms.

OR

What is ionic bond? List any four properties of ionic compounds.

X. Answer the following questions : 3 x 3 = 9

25. a) Write the molecular formula and structural formula of the following carbon compounds.

i) Chlorobutane

ii) Propanol

b) How does soap clean dirt? Explain.

OR

a) Carbon atoms do not form C^{4-} anion and C^{4+} cation. Why?

b) Write any two differences between saturated and unsaturated compounds.

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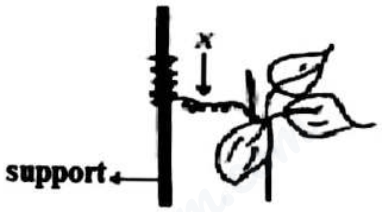
PART – C
(BIOLOGY)

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. The blood vessels that carries oxygenated blood from the heart is
    (A) Pulmonary vein
    (B) Superior vena cava
    (C) Aorta
    (D) Pulmonary artery

27. Evolution occurs mainly due to the accumulation of:
    (A) Similarities
    (B) Selected variations
    (C) Acquired traits
    (D) DNA duplication

28. Observe the given diagram. The response shown by part X is



    (A) Positive thigmotropism and directional movement
    (B) Positive geotropism and independent movement
    (C) Positive phototropism and non-directional movement
    (D) Positive chemotropism and independent movement

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

29. A person's blood contains less amount of Red blood cells than the normal level, which life process of the person will be directly affected?

30. Write the differences between male sex chromosomes and female sex chromosomes in humans.

31. An organism of a specific species reproduces only through asexual reproduction. What major limitation may arise if environment conditions suddenly change?

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

32. Name the enzyme present in saliva. Write its function.

OR

Write any two methods used by plants to eliminate waste materials.

33. How is the action of heartbeat different from reflex action?

OR

What is reflex arc? In many organisms' reflex arcs are considered as efficient ways of functioning. Why?

[Turn over

83-E

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

34. Grass → Insect → Frog → Snake → Eagle.
In this food chain, if the frog population decreases drastically,
(i) predict one possible change in the insect and snake population
(ii) In this food chain, if organisms of one trophic level gets destroyed, what are the effects on that ecosystem?

35. Pea plants producing yellow (YY) seeds are crossed with pea plants with green (yy) seeds. Then write the checkerboard that shows the results obtained in F_2 generation with
i) Phenotype ratio and
ii) Genotype ratio

OR

Red flowering tall pea plant (TTRR) is hybridised with white flowering short pea plant (ttrr). Then write a checkerboard showing the results obtained in F_2 generation.

36. What is the role of insulin, testosterone and thyroxin hormones in our body?

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) Aorta (ii) Right ventricle

XVI. Answer the following questions : **1 x 5 = 5**

38. a) What are the functions of ovaries female reproductive system?
b) What changes are found among the boys at the time of sexual maturation?
c) What happens if the egg is not fertilized in women? Explain

OR

a) Testes are in the lower abdomen in men. Why? Explain
b) Explain the role of placenta in the development of embryo.
c) List any two differences between the methods of reproduction found in hydra and planaria.

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