

**KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD
MODEL QUESTION PAPER 2018-19**

Subject: Science-83E

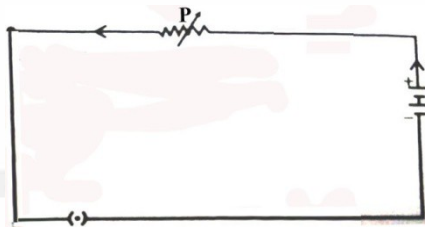
Time: 3 hours

Marks: 80

I. Four alternatives are provided for each question. Choose the most appropriate alternative and write it along with its alphabet.

10 x 1 = 10

1.



In the figure the device labelled as is

- A) Ammeter B) Bulb C) Rheostat D) Voltmeter

2. In the following reactions, the chemical reaction that takes place in sunlight is

- A) B)

- C) D)

3. Method of managing used envelopes: Reuse :: Method of managing fuels:

- A) Recycling B) Use for repurpose

- C) Reduce the use D) Refuse the use

4. The magnetic field around a current carrying circular loop can be increased by

- A) increasing the radius of the coil.

- B) converting the coil into straight wire.

- C) decreasing the radius of the coil.

- D) reducing the amount of electric current through the coil.

5. The part of the human eye that controls the amount of light entering into the eye is

- A) iris

- B) pupil

- C) rod and cone

- D) retina

11. The properties of metals are given in column 'A' and examples are given in column 'B' Match them and write the answer along with its alphabet.

4 x 1 = 4

Column 'A'	Column 'B'
i Reacts with cold water	a) Iron
ii Forms amphoteric oxide	b) Magnesium
iii Exists in liquid state at room temperature	c) Aluminum
iv Best conductor of heat	d) Sodium
	e) Silver
	f) Lead
	g) Mercury

II. Answer the following questions:

7 x 1 = 7

12. Name the type of the mirror that always produces virtual image. Mention one use of this mirror.
13. Identify the reactants which are oxidized and which are reduced in the following chemical reaction.
14. Genes related to one character has two contrast traits. But only one among them is considered as dominant. How?
15. Name the gaseous products obtained by the electrolysis of aqueous sodium chloride solution.
16. Fuse wire should have higher resistance than the other wires in the circuit but it should not have high melting point. Why?
17. What is the reason for the formation of food webs in an ecosystem?
18. Small intestine is called the site of complete digestion. Why?

III. Answer the following questions:

16 x 2 = 32

19. Explain briefly the breathing cycle in the human body.

OR

Explain the strategy of transportation of water to the highest points of the plant body by the xylem tissue.

20. Draw the diagram to show the structure of nephron and label Bowman's capsule.

21. Draw the diagram showing the magnetic field lines around a current carrying conductor. Label the following.

- i) The direction of magnetic field lines
- ii) The direction of electric current

22. What is electric power? Write any two formulae used to calculate electric power.

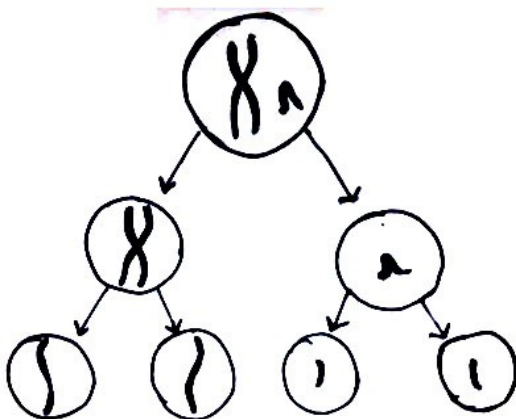
OR

What is electric current? Which is the device used to measure electric current in the circuit? How should that device be connected in the circuit?

23. Draw the diagram of the apparatus used to demonstrate that acidic solutions conduct electricity. Label the following parts.

- i) The solution taken
- ii) Source of electric current

24. With the help of the following pattern briefly explain the reason for a) DNA Stability
b) Variation phenomenon found in the successive generation of species.



25. How are dilute acid and weak acid different from one another? What are the precautions to be taken while diluting an acid?
26. What is electromagnetic induction? Name the device that works on this principle. Mention the frequency of the electric current produced in India.

OR

What is magnetic field? Write the two properties of magnetic field lines.

27. Related to water harvesting system mention

- A) two advantages of rejuvenating indigenous methods
- B) two disadvantages by the construction of huge dams

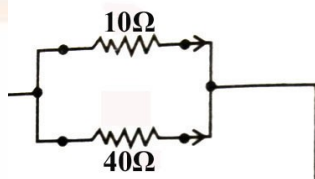
OR

What are the advantages of harvesting water by setting of the khadinsystem.

28. Draw the diagram of the apparatus used to show that water is a compound of hydrogen and oxygen. Label the following parts.

- i) The part where oxygen is collected
- ii) The part where hydrogen is collected

29. In the figure calculate the total electric current flowing in the circuit.



35. The focal length of a converging mirror is . If the object of height is placed from the mirror, then find the image distance, nature and size of the image.

OR

The velocity of light in water and kerosene respectively is and .Which material has highest refractive index? Prove your answer by calculation.

36. (i) What is the advantage of using atomic number instead of atomic mass while constructing modern periodic table?

(ii) Sodium and chlorine are placed in the third period of the modern periodic table with group and respectively.State their valency. Which of them can form anion? Which of them can form cation? Give reason for your answer.

37. Read the following information and answer the given questions.

- Thousands of years ago only one species of squirrels was there and were evolved from common ancestor.
- At present there are two species of squirrels, though they have similarities among them, cannot perform reproduction between them.
 - a) Analyze the factor responsible for this change.
 - b) How can this kind of changes be considered as beneficial for species?

OR

Justify the following statements with one illustration each

- a) Though organs of different organisms have more similarities in the shapes of organs they need not be evolved from common ancestor.
- b) Though the variations are more between the organisms, they might have been evolved from common ancestor.

38. Draw the schematic diagram of gobar gas plant. Label the following parts.

- (i) Slurry
- (ii) Gas outlet

39. Draw the diagram showing longitudinal section of the human brain. Label the following parts

- (i) Thinking centre
- (ii) The part that regulates body balance

V. Answer the following questions:

3 x 4 = 12

40. a) Explain the phenomenon of formation of rainbow in the sky.
b) Stars appear to twinkle but planets do not appear to twinkle why?

OR

- a) Explain Tyndall effect with an example.
b) Explain Presbyopia. How can this be corrected?

41 a) Write the molecular formula of the following and show that they form homologous series.

- i) Methanol ii) Ethanol iii) Propanol

b) Write the equation of the chemical reaction taking place when ethanol is heated with alkaline potassium permanganate and name the product.

42 a) Write the two differences between self pollination and cross pollination.

b) “The structure and function of placenta plays important role at the time of gestation period”. Explain.