Tenth Class Physical science Model Paper

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PHYSICAL SCIENCE

10th Class Special
ఫిజికల్ సైన్స్

(Max.Marks:50)　　[Time:2.45 Hrs.]

Instructions:
i. Answer all questions in a separate answer booklet.
ii. The question paper contains 4 sections and 33 questions.
iii. There is a internal choice in section IV
iv. Write answers neatly and legibly.

SECTION-I

Note:
i. Answer all the questions in one word or sentence.
ii. Each question carries ½ mark

　　　　　　　　　　12 × ½ = 6m

1. What is the angle of refraction at critical angle?
2. The power of lens is +2.5D then find its focal length.
3. Elements belongs to the 3rd period are arranged left to right is Na, Mg, Al, Si, P, S, Cl which element among these has highest ionization energy.
　a) Na　　　　　　　b) P
　c) S　　　　　　　d) Cl
4. How many σ and π bond are present in Nitrogen molecule.
5. The resultant resistance of parallel combination of 100Ω, 1Ω.
6. Choose the suitable answer of section B with A

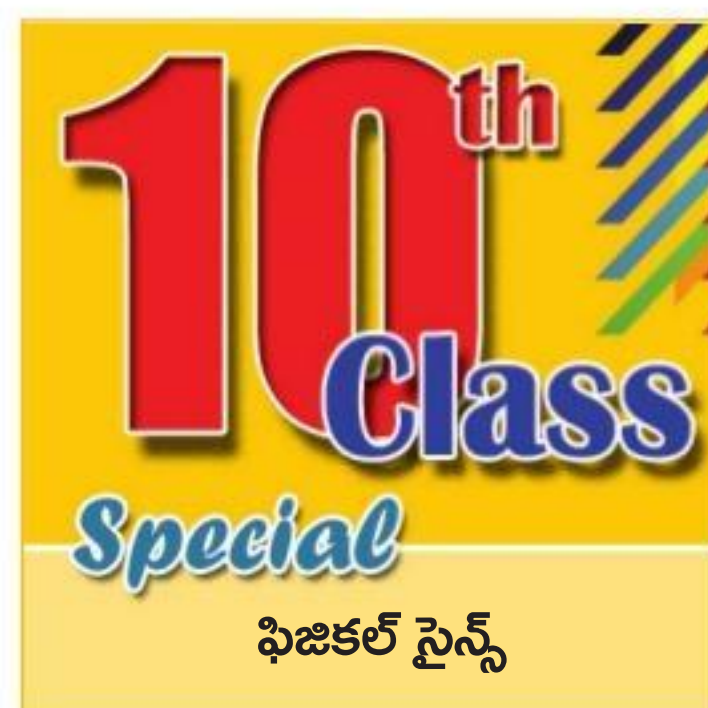| Section-A	Section-B
Material Medium	Refractive index.
i. Water	A) 1.47
ii. Turpentine oil	B) 1.0003
	C) 1.47

7. The device used for producing electric current is called a
　a) Generator
　b) Galvanometer
　c) Ammeter
　d) Motor
8. Refraction means when light propagates from one medium to another medium can
　1) change in the Speed
　2) change in the Direction
　a) 1, 2 true
　b) 1, 2 false
　c) 1 true, 2 false
　d) 1 false, 2 true
9. The specific heat of four metals are given below.

Metal	Specific heat J/Kg-K
Lead	130
Zink	391
Iron	483
Aluminium	882

　Q. Two metals plates made of Zinc, Iron of same mass are heated on the same flame. In which substance the temperature raise quickly.

10. Observe the table given below and answer the following questions.

Solution	A	B	C	D
p^H	2	9	12	7

　Q. Which solution is the most acidic and which is most basic
11. State two ways to prevent the rusting of iron.
12. Draw the structure of 2-methyl propane

SECTION-II

Note:
i) Answer all the questions.
ii) Each question carries 1 mark.

　　　　　　　　　　8 × 1 = 8

13. Convert 32°C into Kelvin scale
14. How can we express the relative refraction index n$_{21}$.
15. In defects of vision how do we correct presbyopia.
16. An element '12' is of second group of the periodic table write the formula of its oxide.
17. What is the shape of water and Ammonia molecules?
18. Why alkanes do not undergo addition reactions?
19. Define Lenz's Law.
20. Write the formula of cinnabar and galena.

SECTION-III

Note:
i. Answer all questions
ii. Each question carries 2 marks

　　　　　　　　　　8 × 2= 16 m

21. What are the favorable conditions for the formation of cation.
22. Rain drop is also act as lens comment and guess the answer.
23. Write down the electronic configuration of chromium and copper? Why exemptions are occur in their electronic configuration?
24. List out the material required to observe laboratory activity showing the reaction of metals with acid.
25. Why sun appear white during in the noon.
26. A copper wire of length 2m. and area of cross section 1.7×10^{-6} m^2 has resistance of 2×10^{-2} calculate the resistivity of wire.
27. Write the importance of convex lens in daily life.
28. HCl dissolved in water but not in kerosene explain.

SECTION-IV

Note:
i. Answer all questions
ii. Each question carries 4 marks
iii. There is a internal choice for each question?

　　　　　　　　　　5 × 4 = 20 m

29. a) Explain the procedure of finding specific heat of solid experimentally.

　　　　　　　(or)

　b) Explain the working of electronic motor with a neat diagram.

30. a) Describe how washing soda is obtained from sodium chloride write the equation of the reaction involved. Write any two uses of washing soda.

　　　　　　　(or)

　b) What are the postulates and defects of atomic model based on hydrogen atom spectrum?

31. a) Write the experimental method and apparatus required in finding out the image formation using convex lens? (Draw a table for observation)

　　　　　　　(or)

　b) State Ohm's Law? Suggest an experiment to verify it and explain the procedure.

32. a) The atomic number of elements A, B, C, D and E are given below.

Element	A	B	C	D	E
Atomic No.	7	10	12	4	19

　From the above table answer the following questions.
　i) Which two elements are chemically similar?
　ii) Which is an inert gas?
　iii) Which element belongs to 3rd period of periodic table?
　iv) Which element among there is a nonmetal?

　　　　　　　(or)

　b) A carbon compound A (Formula C$_2$H$_6$O) is extensively used as a solution in preparing medicines. When this compound is heated along with KMnO$_4$ it gets oxidized and finally a carbon compound B is formed compound B turns blue litmus to red.
　i) Write the chemical name and formula of compound A.
　ii) Write the chemical name and formula of compound B.
　iii) Write the nature of compound B.
　iv) Write the chemical equation indicating the intermediate product.

33. a) Draw the ray diagram for image formation by convex lens, keeping the object at given below positions. Draw a table to show the nature of the image.
　i) at the center of curvature (at C)
　ii) between the centre of curvature and focal point (between C-F)
　iii) at the focal point (at F)
　iv) between focal point and optic centre (between F-P)

　　　　　　　(or)

　b) Draw the diagram showing of blast furnace and label it parts.