

NEW STANDARD ACADEMY

18-11-2024

CLASS : 10TH

Marks: 80

Time: 3 HRS

PHYSICS

1. What would have been the colour of sky if the earth had no atmosphere? Give reason for your answer.
2. Why do different colour get separated when white light passes through prism? How can we recombine the components of white light after a prism has separated them? Explain with the help of figure.
3. A convex lens made of glass forms a sharp image on the screen for a particular position of an object with respect to the lens. A human eye lens is also a convex lens but it can form sharp images on the retina of eye for different positions of the objects. Explain why?
4. When we enter a dim-lit room from a bright light, We are not able to see the object in the room for some time. Explain why?
5. What is meant by scattering of light?
6. Name the component of white light that deviates (i) the least and (ii) the most while passing through a glass prism.
7. Draw ray diagram showing myopic eye.
8. A person having a myopic eye used the concave lens of focal length 50 cm what is the power of the lens.
9. In an equilateral prism, $i = 30^\circ$ and deviation is 37° . What are the angle marked as A, e and f?
10. A myopic person having far point 80 cm used spectacles of power- 1.0 D. How far can he see clearly?

CHEMISTRY

11. In electron dot structure, the valence shell electrons are represented by crosses or dots.
(a) The atomic number of chlorine is 17. Write its electronic configuration

- (b) Draw the electron dot structure of chlorine molecule.
12. Catenation is the ability of an atom to form bonds with other atoms of the same element. It is exhibited by both carbon and silicon. Compare the ability of catenation of the two elements. Give reasons.
13. What are hydrocarbons? Give examples
14. Give the structural differences between saturated and unsaturated hydrocarbons with two examples each.
15. What is a functional group? Give examples of four different functional groups.
16. What would be the electron dot structure of carbon dioxide which has the formula CO_2 ?
17. What would be the electron dot structure of a molecule of sulphur which is made up of eight atoms of sulphur?
18. What are the two properties of carbon which lead to the huge number of carbon compounds we see around us?
19. What will be the formula and electron dot structure of cyclopentane?
20. What are allotropes and explain this carbon allotropes short term

BIOLOGY

21. Draw & Labelled the diagram of ovule.
22. What is the fate of the ovules and the ovary in a flower after fertilization?
23. Define double fertilization? Why is it called double fertilization?
24. What is placenta? Write any two major functions of placenta.
25. Suggest three contraceptive methods to control the size of human population which is essential for the health and prosperity of the country. State the basic principle involved in each.

26. List any four reasons for adopting contraceptive methods.
27. What does HIV stand for? Is AIDS an infectious disease? List any four modes of spreading AIDS.
28. List three difference between self pollination and cross pollination.
29. State any two changes seen in boys at the time for puberty.
30. The testes are located outside the abdomen in human males, give reasons.

MATHS

31. The angle of elevation of the top of a tower from a point on the ground which is 30 away from the foot of tower is 30° . Find the height of the tower.
32. A girl 1.5m tall is standing at some distance from a 30m high tower. The angle of elevation from her eye to top of the tower increase from 30° to 60° as she walks towards the tower
33. Two pillars are standing on either side of a 80 m wide road. Height of one pillar is 20 more than the height of the pillar. From a point on the road between the pillars the angle of elevation of the higher pillar is 60° , whereas that of the other pillar is 30° . Find the position of the point between the pillars and the height of each pillar.
34. The length of the shadow of a tower from a point on the plane ground is $\sqrt{3}$ times the height of the tower. Find the angle of elevation of the sun.
35. A kite is flying at a height of 60 metres from the level ground attached to a string inclined at 60° to the horizontal. Find the length of the string.
36. The mean of the following frequency distribution is 62.8. Find the missing frequency x

Class	0-20	20-40	40-60	60-80	80-100	100-120
Frequency	5	8	x	12	7	8

37. 250 apples of a box were weighted and the distribution of masses of the apples is given in the following table:

Class	0-20	20-40	40-60	60-80	80-100	100-120
Frequency	5	8	x	12	7	8

38. Find the mode of the following data:

Mass(in grams)	10-20	20-30	30-40	40-50	50-60
Number of apples	15	10	12	17	4

39. Find the mean of the following distribution:

Mass(in grams)	5-5	5-7	7-9	9-11	11-13
Number of apples	5	10	10	7	8

40. Find the mean of the following frequency distribution:

Mass(in grams)	25-30	30-35	35-40	40-45	45-50	50-55	55-60
Number of apples	14	22	16	6	5	3	4