SUMMATIVE ASSESSMENT   2
CLASS   10
SUBJECT   SCIENCE

1 Draw the structure of ethane molecule .   1
2 What happens when a ray of light is incident normally on a rectangular glass slab ?   1
3 Why is the depletion of ozone layer a cause of concern?   1
4 Why does the size of atoms progressively become smaller as we move from left to right in a period?   2
5 Mention two functions of human female ovary.   2
6 (a) What is meant by the Power of accommodation of human eye?   2
(b) How does the focal length of the eye lens changes when we shift looking form distant object to near by object?
7.why do we see stars twinkling where as planets do not?   2
8.A part of the periodic table has been shown below :
GROUP   I   II   XVI   XVII   XVIII

PERIOD1
             2   B   D   C
             3   E   3
 On the basis of above table answer the followings
(i)Which element will form cation?
(ii)Which element will have smallest atomic size?

9.(a) What is homologous series?
   (b)In an organic compound which part largely determine its physical and chemical properties ?   3
(c)Write a chemical equation to represent the reaction of ethanol with acidified solution of potassium dichromate?
10.(a) Which two compoundswill undergo addition reaction?   3
        C_2H_6, C_3H_8, C_3H_6 $C_2H_2$and CH_4
 (b)What is hydrogenation?State its industrial application?
11.How does the process of seed germination take place in plants? Describe in brief. 3
12.Answer the following(One difference between each)   3
(a)Differentiate between acquired and inherited traits.
(b)Asexual and sexual reproduction.
(c)Binary fission and multiple fission.   3
13.(a)Why Mendel selected garden pea plant for his experiments. List a reasons .
   (b)What are recessive and dominant genes?
14.What is pollination? List its two types .State any two agents which help in pollination3
15.What are the causes of following defects of vision and how can they be corrected:-3
    1. Cataract 2. presbyopia.
16 An object is placed perpendicular to principal axis of a convex lens of focal length 10cm. The distance of the object from the optical centre of the lens is 15cm.Calculate the position of the image formed. Mention the nature of the image formed.   3

17.(a) Define power of a lens and define its SI units.

(b) The image of an object formed by a convex lens is of the same size as the object.If the image is formed at a distance of 50 cm from the lens ,at what distance from the lens is the object placed ?Find the focal length and its power used.   3

18 How is the increase in demand of the fossil fuels affecting the environment adversely? Suggest two ways to minimize the problem.   3

19 The construction of large dams lead to social and environment problems. List three problems .   3

20 (a) State two advantages of vegetative propagation .Name two plants in which it is practiced.   5

(b) How does Hydra reproduce ? Explain with the help of labeled diagram.

21 Draw a neat diagram of human male reproductive system and label

Prostate gland,seminal vesicle and testis.State the function of testis .   5

22(a) State two differences between a real and virtual image.   5

(b) The magnification produced by a mirror is +1 .What does this indicate ?

©What is lateral displacement ?State two factors on which it depends.

23 Light enters from air to diamond having refractive index 2.42. Calculate the speed of light in diamond.   5

(b) Draw the ray diagrams to show formation of virtual images in concave mirror and convex mirror.

24 VALUE BASED QUESTION   5

In our society we often come across the abnormal behaviour of people using alcohol ALCOHOL is a very useful solvent and is also used in medicines. The people who use alcohol suffer from many diseases of liver and brain . The whole family of such people suffers.

(a) What are the harmful affects of alcohol ? How family life of drunkards suffer ?

(b) What initiatives would you take to make people aware of the harmful affects of alcohol? Write three points .

SECTION   B   18

25 On adding acetic acid to a solid X a colourless and odourless gas Y evolves which turns lime water milky. Identify X and Y .

a. X is NaOH and Y is CO_2

b. X is $NaHCO_3$ and Y is H_2

c. X is Na_2CO_3 and Y is CO_2

d. X is $NaHCO_3$ and Y is CO

26 What is the common name of ethanoic acid ?

a.Ethynic acid

b Acetic acid

c Carboxylic acid

d Formic acid

27   we put blue litmus paper in acetic acid it will become

a red

b orange

c green

d colourless

28   Wich one has lowest pH

a CH3COOH

b HCl

c CH3COONa

d NaCl

29 Some crystals of CuSO4 were dissolved in cold water.The colour of solution would be

aPale green

b Yellow

c Dark green

d blue

30 An atom has electronic configuration 2,8,7. To which of the elements would it be chemically similar

a (7)

b (9)

c P(15)

d Ar(18)

31 Inevolutionary terms we have more in common with

a chimpanzee

b a Chinese school boy

c spider

d bacterium

32 In binary fission the parent cell divides by the process :

a cytoplasm and nucleus divides at the same time

b nucleus divides first than cytoplasm

c cytoplasm divides first than cytoplasm

d cytoplasm and nucleus do not divide

33 Organs of different groups of animals having same origin and structure but performs different functions are called

a primitive organs

b analogus organs

c vestigial organs

d homologous organs

34 Yeast cells reproduce by

a binary fission

b budding

c spore formation

d both a and b

35 An student put five raisins each in two beakers A and B. Beaker A contains 50 ml of distilled water and beaker B has 50 ml of saturated sugar solution. After sometime the student observed that:

a raisins in beaker A were more swollen than B

b raisins in B were more swollen than A

c raisins were equally swollen in A and B

d raisins in beaker did not swell up   at all

36 Which of the following dicot seed consists of thin flat cotyledons
a castor seed
b bean seeds
c gram
d pea
37 No matter how far an object from the spherical mirror, the image of the object appears erect. The mirror is
a concave
b convex
c either concave or convex
d none of these
38 When a ray of light , on passing from one medium to another, changes its path is called
a regular reflection
b refraction
c scattering
d dispersion
39 A convex lens forms an image which is inverted, real and not diminished to a point.The object in such a situation is:
 a between infinity and 2F
 b between F and 2F
 c at 2F
 d at F
  40 When a ray of light travels from air to glass and strikes perpendicularly, then it
a bends toward normal
b bends away from normal
 c passes unbent
d returns back into air
 41 Which of the following material can not be used to make a lens
 a water
 b glass
 c plastic
 d clay
 42 When a ray passes through prism,
  a it goes undeviated
  b it remains parallel to the base
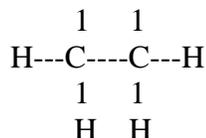 c it bends towards the base
 d none of these

BLUE PRINT	90 marks
1 Chemical substances	23
2 World of living	30
3Natural phenomena	29
4Natural Resources	08

MARKING SCHEME
1

H   H

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              1    1
        H---C----C---H
              1    1
              H    H
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2 A ray of light will not bend and will go straight.

3 More UV radiation will reach the surface of earth.

4 (a) Atomic number of an element is a fundamental property .

b Na is most metallic .

5 Sexual reproduction leads to variations which are necessary for evolution.

6a It is the ability of eye lens to adjust its focal length.

b Focal length is reduced .

7 Stars twinkle due to refraction of light.

8a B

b C

c B

9 a Having same functional group but different chain length

B Functional group

c C_2H_5OH ---$K_2Cr_2O_7$------------CH_3COOH

10 C_3H_6 and C_2H_2

 b Addition of hydrogen to unsaturated hydrocarbons. Used in making vegetable ghee from vegetable oil.

11 Refer to page no 135 of NCERT text book of science>

12 acquired traits develop to cope up with changing environment but inherited traits pass to generations .

B In asexual there is no zygote formation but it happens in sexual type.

C In binary organism splits into two but in multiple it splits into many.

13 these can be self pollinated.

 B Recessive genes are not able to express but dominating genes express.

14 Definition of pollination cross and self pollination, wind ,animals are two factors.

15Refer to NCERT book pg 190.

16 lens formula v=30cm

17 a reciprocal of focal length.

b f=50/2

   =25cm

P=1/f

 =4 D

18global warming, exploitation of environment.Conserve forests and use renewable sources.

19displacement of tribals,economic problems, loss of biodiversity.

20 Refer to pg 131 of NCERT book.

21Refer to pg no 137 fig 8.10

22 a Real image is inverted and can be obtained on screen but virtual is erect and can not be obtained on screen.

b Size of image=size of object. Virtual and erect image

.c the lateral shift in the path of light ,it depends upon thickness of glass slab.

23 Speed of light in diamond=speed of light in air

Refractive index of diamond

24 Conduct awareness programme in society, educate people and students.
b Alochol if used by people in excessive amount can cause harmful chronic diseases .
The whole family suffers as the economic and social status of such people suffers.
25 c
26 b
27 a
28b
29d
30 b
31 a
32 b
33d
34b
35a
36a
37b
38b
39 a
40c
41d
42c