# SUMMATIVE ASSESSMENT – II (2014-15) set code - 7PT98ER
SCIENCE Class – X   Time allowed: 3 hours Maximum Marks: 90

1. Name one hydrocarbon which undergoes substitution reaction.

2 . Mention the function of stamen.

3. Name any two wastes which can be recycled and reused.

4.Name the colour of spectrum which respectively have

(a) maximum wavelength, (b) minimum wavelength. Which one of the two deviates the most ?

5. What is meant by sustainable development ? Can the change in perception of the use of natural resources by the people help in it ?

6. Recycling is considered as a welcome practice to deal with the environmental problems. Justify this statement with two arguments.

7. (i) What is a homologous series ?

(ii) Why do we see a gradation in melting point of members of a homologous series as the molecular mass of members increases as shown in the graph ?

(iii) Each member of the same homologous series has same chemical property. Justify this statement.

8. (i) Name the organic acid present in vinegar. Write its chemical formula.

(ii) Write the balanced chemical equation for burning of : (i) Methane in air (ii) Ethanol in air

9. As we move across a period in the periodic table, what is the gradation in the following properties ?

(a) Atomic number (b) Atomic size (c) Electronegativity

10. Draw a part of the long form of periodic table showing a non-metal surrounded by non-metals from all four sides.

11 . In an organism the chromosome number is 26. This chromosome number is restored in the zygote. How does this occur ?
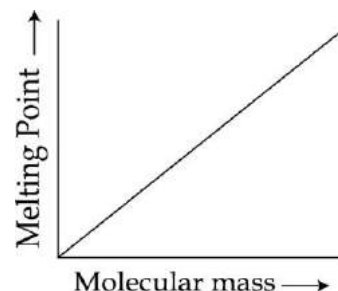
12.

(a) Which type of organs are shown in the figure above ?

(b) Which type of origin and structure do these organs have ?

13. (a) Name the method used by plants like sugarcane and roses for their reproduction. (b) How is this method better than other modes of asexual reproduction ? Give any two points.

14. 'The female germ-cells are made in the ovaries of the females'.

(a) What are the female germ-cells called as ? (b) How are the female germ-cells carried to the uterus ?

(c) What is the fertilized female germ-cell called ?

15. Genetic drift takes place between the two sub populations : (a) What will be the consequences ? (b) Explain divergent evolution.

16. Explain Power of Accommodation. Explain in brief the near and the far point of an eye and give their values.

17. Draw the ray diagram to show reflected ray by a convex mirror when the incident ray is :

 (a) parallel to the principle axis to the mirror (b) incident towards Centre of curvature of Convex mirror .

(c) incident at an angle <i at the pole of the Convex mirror.

18. You plan to organise a campaign on 'Harmful effects of Smoking on human health' in your neighbourhood areas and guide them.   (a) List any three reasons that you will give to convince the people about harmful effects of Smoking on human health ? (b) List any three values that are inculcated with such approach ?

19. Name the process and write the complete reaction involved in the following conversions : (i) Ethanol to ethene (ii) Ethanoic acid to ester (iii) Ester to ethanol

20. (a) When a pesticide is sprayed on a population of insects, all insects do not get killed but few of them survive. Give reason (b) When is a recessive trait capable of expressing itself ? Write its expression with respect to height of plant (genotype).

21. (a) Mention the type of method of reproduction as used by unicellular organisms. Define the method. (b) How can the above method be classified further ? (c) Differentiate between the process of reproduction as seen in Amoeba and Leishmania.

22. Compare the refraction of light through a rectangular glass slab and a triangular glass prism. Draw diagrams showing path of light ray in each case.

23. (a) An object is placed at the following distances from a convex lens of focal length 15 cm : (i) 35 cm (ii) 30 cm (iii) 20 cm (iv) 10 cm

(b) Which position of the object will produce -   (a) A magnified, real image (b) A magnified, virtual image (c) A diminished real image (d) Real and an image of same size as the object (c) An object is placed at a distance of 12 cm from this lens. Calculate the distance of the image from the lens and also show it with the help of a ray diagram (not to scale)

24. (a) Describe with the help of diagram an activity to show that white light is composed of seven colours. (b) With the help of labelled diagram show how different colours of spectrum can be recombined.

SECTION – B

25. In a saponification reaction, along with soap following substance is also formed :

(a) Glucose (b) Glycol (c) Glycerol (d) Gelatine

26. The last step during preparation of soap is to pour the mixture of oil and sodium hydroxide in aqueous solution of sodium chloride. This helps to :

(a) precipitate the soap (b) neutralize the soap (c) enhance the foaming capacity of soap (d) make the soap soft

27. Name of the salt from the following which makes the water hard is :

(a) calcium hydrogen carbonate (b) potassium chloride (c) sodium carbonate (d) sodium bicarbonate
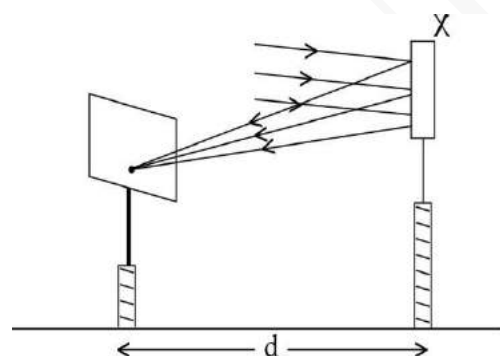
28. A student performs an experiment to find the focal length of a convex lens. The ray diagram for the experiment is illustrated as :
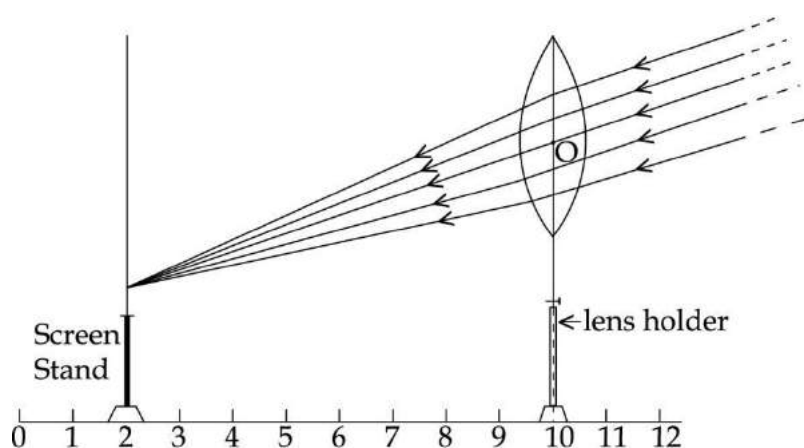
The image formed on the white screen is :
(a) real and enlarged
(b) real and diminished
(c) Virtual and diminished
(d) Virtual and enlarged

29 . In the following diagram a method of determining focal length of a device 'X' is shown :

From this diagram it may be concluded that the :
(a) device 'X' is a plane mirror and distance 'd' is its focal length.
(b) device 'X' is a convex mirror and distance 'd' is its focal length.
(c) device 'X' is a concave mirror and distance 'd' is its focal length.
(d) device 'X' is a concave mirror and distance 'd' is its radius of curvature.

30. The lateral displacement of an incident ray passing through of a rectangular glass slab for a given angle of incidence is :

(a) directly proportional to the thickness of glass slab (b) inversely proportional to the thickness of glass slab

(c) directly proportional to product of length and thickness of glass slab

(d) independent of the thickness of glass slab

31. While doing the experiment of tracing the path of ray of light through a triangular glass prism a student takes precautions :

(A) position of prism should be fixed while doing experiment.

(B) angle of incidence should not be less than 30^0

(C) two pins taken as object should be placed on incident ray at proper distance from each other.

(D) locate the position of image keeping both eyes open.

One of the precautions is not appropriate. It is : (a) (A)   (b) (B)   (c) (C)   (d) (D)

32. Study of the tendril of a pea plant and spines of burberry shows that these structures are :

(a) analogous (b) vestigial (c) homologous (d) retrogressive

33 . A student labelled a part A in a dicotyledonous seed as the part of embryonic axis below the level of cotyledon. The correct naming for A is :   (a) Embryo   (b) Epicotyl   (c) Hypocotyle   (d) Plumule

34. Write the steps of procedure to study the action of acetic acid on solid sodium hydrogen carbonate in the laboratory along with the testing of gas liberated. 2

35. A student observed the slide of binary fission of Amoeba under a microscope. What should be the observations reported by him? 2

36. In the given an object has been placed at F1. After refraction through convex lens the image of the object will be formed. Write its nature, position and relative size of the image formed in this case. 2