SUMMATIVE ASSESSMENT – II (2016-17)   0X1Y3ON
## SCIENCE   Class – X

SECTION - A   SUMMATIVE ASSESSMENT – II (2016-17) SCIENCE Class – X {OX1Y3ON}

1. Write molecular formula of alcohol which can be derived from butane.

2 .Why are testes located outside the abdominal cavity ?

3. Why are coal and petroleum called earth resources ?

4.With the help of ray diagram show that angle of incidence is equal to the angle of reflection when a ray is incident on the concave mirror.

5.Suggest at least four measures for controlling carbon dioxide levels in the environment.

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

7.Methyl propanoa te, $C_2H_5COOCH_3$ is an ester. Draw its structural formula and mention the name and formula of the acid and the alcohol that could be used to make it.

8 . As we move down a group in the periodic table how does the following change : (a) Atomic size (d) Valency (c) Electro negativity.

9 .Write the structural formula and IUPAC name of the following:

(i) A carboxylic acid with four carbon atoms   (ii) An alkyne with three carbon atoms

(iii) An alcohol having one carbon atom

10.The electronic configuration of 4 elements A, B, C and D is as given under

A - 2, 1 ; B - 2, 2 ; C- 2, 8, 2 ; D - 2

(a) Which amongst them belong to the same group ?

(b) Write the group number. Which amongst them belong to the same period ?

(c) Write the period number. Which element amongst them is inert ? Name it.

11. There are a number of ways by which the genes enter a population. Explain briefly the three ways.

12. Identify from the diagram -the type of reproduction used and the organism showing it.
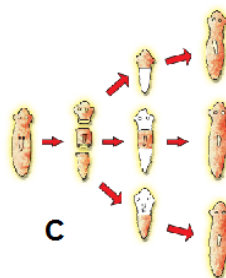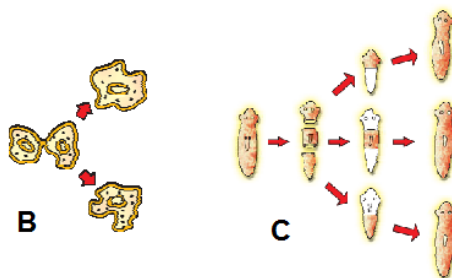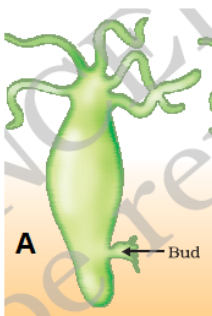
13. (a) What function is performed by human arms, forelimbs of dog and

forelimbs of whales

(b) Which type of organs are these?

(c) Why do we call them so?

14. Label the parts A, B and C and write their functions.
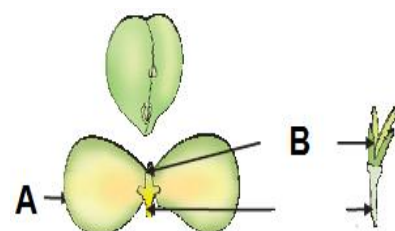
15. The statistic probability of getting a male or female child is 50%. Explain.

16 . Explain how does an eye lens change its focal length. How does it help in seeing near and distant objects?

17. 4.5 cm needle is placed 12 cm away from a convex mirror of focal length 15 cm. Find the location of image and magnification. Describe what happens to the image as the needle is moved farther from the mirror.

18. Newspapers report about the alarming increase in pesticide levels in packed food items. Some of the states have even banned these products. (a) What are the sources of pesticides in these packed food items. (b) As a student what steps would you take to create awareness in people about the pesticide level in packed food items. (c) What values are portrayed here?

19.(a) Name the element which has (a) The electronic configuration. 2, 8, 1.

 (b) A total of two shells, with 4 electrons in the valence shell.

(c) A total of three shells, with 3 electrons in the valence shell.

(d) One shell which is completely filled with electrons.

(e) Twice as many electrons in the second shell as in the first shell.

20. State the law of independent assortment. Explain this law with the help of a dihybrid cross between round and yellow coloured seeded pea plant and wrinkled and green coloured seeded variety.

21. Define the following processes:

 (a) Fertilization (b) Vegetative propagation (c) Menstruation (d) Regeneration (e) Binary fission

22.(a) Explain with the help of a labelled diagram how can a combination of two prisms be used so that an incident white light emerge out of second prism as white light. (b) Name the scientist who first performed this activity. (c) Explain the term spectrum in brief.

23. (a) Write relation between u, v, f for lenses and for mirrors where u, v, f are object distance, image distance and focal length respectively.

(b) The magnification produced by a concave mirror is m = + 4 . Write the information about the image given by this statement.

(c) Draw a ray diagram for the following and show the formation of the images in case of concave mirror when the object is placed : (i) Between the pole and focus point (ii) at the centre of curvature

24.(a) What is meant by scattering of light ? State the relationship between the wavelength of light and the size of the particle causing scattering.

(b) State the reason for the following observations recorded on the surface of moon:

(i) Sky appears dark. (ii) Rainbow is never formed. (c) Why the sun appears white at noon ?

SECTION - B

25. The preparation of soap is known as : (a) Esterification (b) Condensation (c) Saponification (d) Oxidation

26.While performing saponification process in the laboratory, Rubina recalled that her teacher told in class that saponification is an exothermic reaction. She can confirm this by observing :

(a) Brisk effervescence   (b) Evolution of heat

(c) Formation of bubbles   (d) Absorption of heat

27. Priya took two test tubes containing rain water and marked them I, II. She dissolved sodium chloride in test tube I and calcium chloride in test tube II. Which of the following options hold good for the above mentioned conditions ?

(a) Water in test tube I will be soft while in test tube II hard   (b) Water in test tubes I and II both will be hard

(c) Water in test tubes I and II both will be soft   (d) Water in test tube I will he hard while in test tube II soft

28. Two convex lenses A and B have same aperture with thickness 1 cm and 1.5 cm respectively. Then

(a) $f_A = f_B$ (b) $f_A > f_B$ (c) $f_A < f_B$ (d) $f_A = \frac{3}{2} f_B$

29. In the following setup, the focal length of the concave mirror is 3 cm. The mark on the scale on which the screen be placed to obtain a sharp image would be :
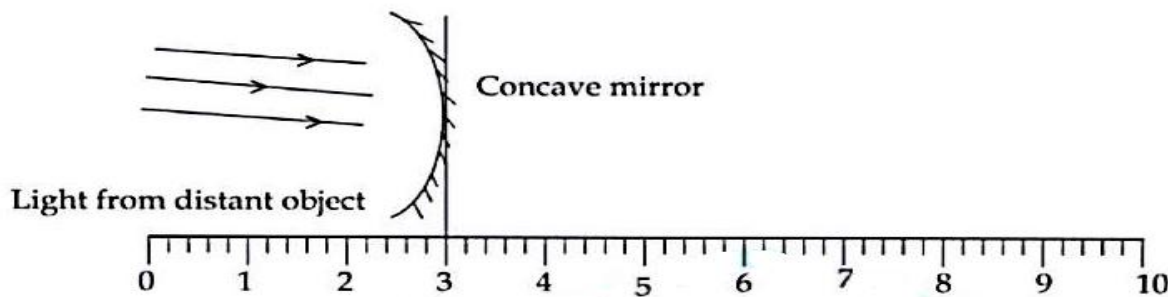
(a) at 0 cm   (b) at 6 cm   (c) at 8 cm   (d) at 1 cm.

30. Two students A and B are performing glass slab experiment. Student A uses a glass slab of thickness 5 cm and student B uses a glass slab of thickness 3 cm. Both take $<i = 30°$.

Which of the following results is incorrect for their experiment ?

(a) Both will get same $<r$ (b) Both will get emergent ray parallel to incident ray

(c) Both will get $<i = <e$ (d) Both will get same lateral displacement

31. The number of triangular surfaces of a prism with which you do experiment of tracing the path of light ray through a glass prism is : (a) only one.   (b) only two   (c) only three   (d) only four

32. Identify the plants which are similar in structure but functionally dissimilar: (i) Passiflora (ii) Pea (iii) Bougainvillea

(a) (I), (ii)   (b) (ii),(iii)   (c) (i), (iii)   (d) (i), (ii), (iii)

33. The condition needed by most seeds to break dormancy is :

(a) exposure to heat   (b) exposure to moisture   (c) exposure to cold   (d) sowing in soil

34. On adding acetic acid to solid sodium bicarbonate in a test tube, a student observes the evolution of a gas 'X'.

What is the colour and odour of this gas ? Write two different ways that the students have adopted to identify the gas.

35. Compare the Asexual reproduction in Amoeba and Yeast in respect of (a) type of divisions and (b) Number of cells produced in division.

36. In the ray diagram AB is an object placed in front of a convex lens $L_1 L_2$. F_1 and F_2 are its foci. $F_1 O F_2$ is principal axis.

Complete the ray diagram to locate the position of image formed after refraction through it. Also compare the size of the object and the image.