

PRACTICE PAPER

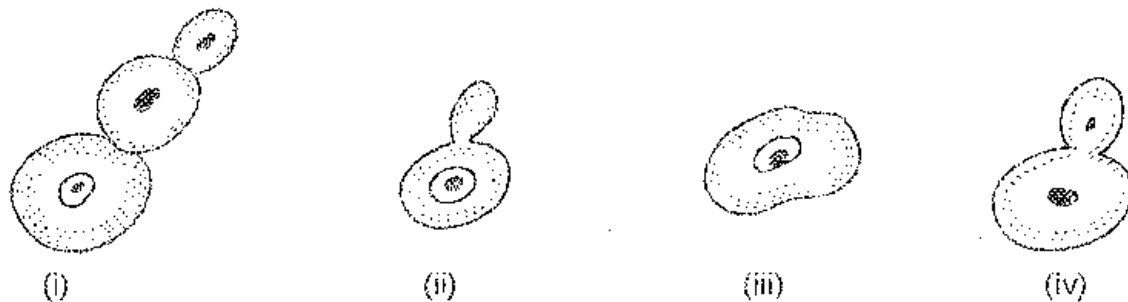
SCIENCE

CLASS – X

Section A

- When the stopper of a bottle containing a colourless liquid was removed, the bottle gave a smell like that of vinegar. The liquid in the bottle could be :
 - hydrochloric acid solution
 - sodium hydroxide solution
 - acetic acid solution
 - saturated sodium hydrogen carbonate solution.
- Sodium hydrogen carbonate solution is added to dilute ethanoic acid. It is observed that
 - a gas evolves
 - a solid settles at the bottom
 - the mixture becomes warm
 - the colour of the mixture becomes light yellow.
- Which of the following cannot distinguish ethanol from ethanoic acid ?
 - Blue litmus
 - Sodium hydroxide
 - Sodium hydrogen carbonate
 - Sodium metal.
- Acetic acid reacts with sodium hydrogen carbonate
 - in cold
 - at room temperature
 - upon heating
 - all are correct.
- Upon adding sodium hydrogen carbonate to acetic acid, you will immediately :
 - observe strong effervescence
 - hear hissing sound
 - observe formation of bubbles
 - all are correct.
- On adding a strip of red litmus paper to the reaction mixture during saponifications the red colour
 - becomes colourless
 - turns yellow
 - turns blue
 - turns green.
- A student has to do the experiment, on finding the focal length of a given concave mirror, by using a distant object. Out of the following 'set-ups' (A, B, C, D) available to her
 - a screen, a mirror holder and a scale
 - a mirror holder, a screen holder and a scale
 - a screen holder and a scale
 - a mirror holder and a screen holderthe 'set-up' that is likely to give her the best result, is the 'set-up' labelled as
 - A
 - B
 - C
 - D.

12. The following sequence shows the stages in budding in yeast but this sequence is not correct



Correct sequence would be

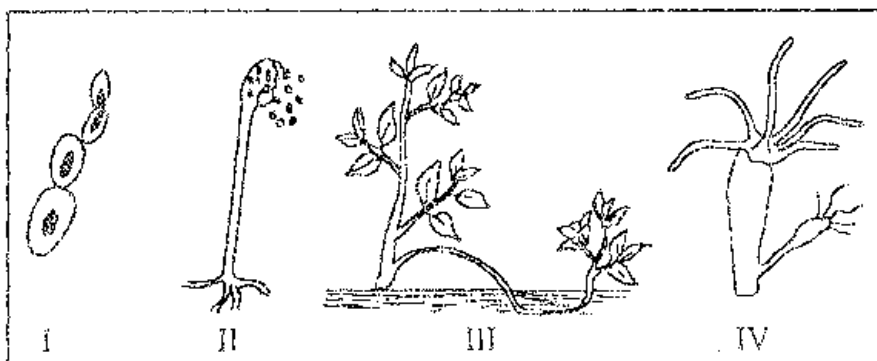
(a) (i), (ii), (iii), (iv)

(b) (iv), (iii), (ii), (i)

(c) (iii), (ii), (iv), (i)

(d) (i), (iii), (iv), (ii)

13. In figures given below two are showing process of budding. These are



(a) I and II

(b) I and IV

(c) I and III

(d) II and IV.

14.



Slide A

Slide B

(I) Binary fission in Amoeba

Daughter cells of Amoeba

(II) Budding in yeast

Buds of yeast

(III) Binary fission in Amoeba

Buds of yeast

(IV) Budding in yeast

Daughter cells in Amoeba.

The correct identification has been made by the student :

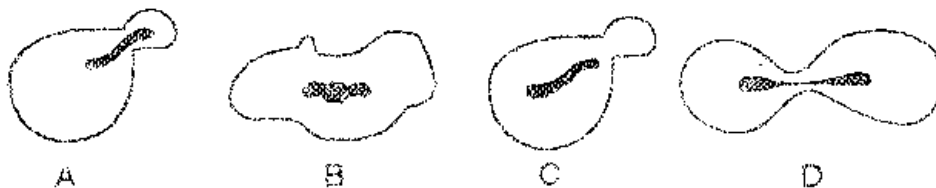
(a) I

(b) II

(c) III

(d) IV.

15. Following diagrams were drawn by four students after observing a slide of binary fission in Amoeba. The diagram correctly depicting a stage of binary fission in Amoeba is :



- (a) A (b) B
(c) C (d) D.

16. While performing an experiment with raisins, a student recorded the following data :

Mass of water taken in a beaker = 50 g

Mass of raisins before soaking = 20 g

Mass of raisins after soaking = 30 g

Mass of water left after experiment = 40 g

The percentage of water absorbed by raisins is :

- (a) $\frac{(50 - 40)\text{g}}{50\text{ g}} \times 100$ (b) $\frac{(50 - 40)\text{g}}{40\text{ g}} \times 100$
(c) $\frac{(30 - 20)\text{g}}{30\text{ g}} \times 100$ (d) $\frac{(30 - 20)\text{g}}{20\text{ g}} \times 100$.

17. While determining the percentage of water absorbed by raisins a student recorded the following observations :

Mass of water taken in the beaker = 60 g

Mass of raisins before soaking = 10 g

Mass of raisin after soaking = 16 g

Mass of water left in the beaker after experiment = 53 g

On the basis of these observations the percentage of water absorbed by the raisins is :

- (a) $\frac{(60 - 53)\text{g}}{53\text{ g}} \times 100$ (b) $\frac{(60 - 10)\text{g}}{60\text{ g}} \times 100$
(c) $\frac{(16 - 10)\text{g}}{10\text{ g}} \times 100$ (d) $\frac{(16 - 10)\text{g}}{16\text{ g}} \times 100$.

18. While performing an experiment with raisins, a student recorded the following data

Mass of water taken in the beaker = 50 g

Mass of raisins before soaking = 20 g

Mass of raisins after soaking = 30 g

Mass of water left in the beaker after soaking = 40 g

The percentage of water absorbed by the raisins is :

- (a) $\frac{(50 - 30)\text{g}}{50\text{ g}} \times 100$ (b) $\frac{(50 - 40)\text{g}}{50\text{ g}} \times 100$
(c) $\frac{(30 - 20)\text{g}}{30\text{ g}} \times 100$ (d) $\frac{(30 - 20)\text{g}}{20\text{ g}} \times 100$.

Section B

19. How will you show whether a given hydrocarbon is saturated or unsaturated ? 1
20. What is meant by power of accommodation of the eye ?
21. (a) In a food chain comprising frogs, insects, birds and grass, which one of the organisms is likely to have maximum concentration of harmful non biodegradable chemicals in its body ?
(b) State one advantage of using disposable paper cups over disposable plastic cups ?

22. In optics, what is communicated by the term virtual image ? 2
23. Differentiate 'ray of light' and 'beam of light'. 2
- Label the beams of light as converging or diverging. 2

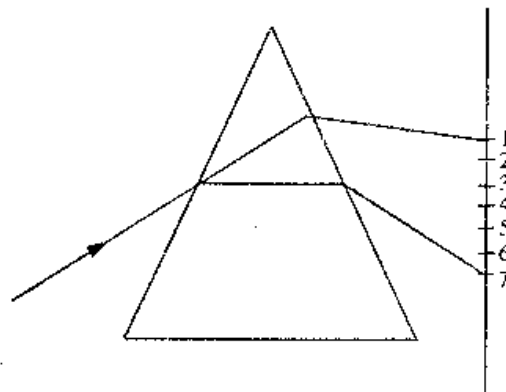


24. (a) Give reason : Regeneration is not the same as Reproduction.
(b) State the mode of a sexual reproduction in Plasmodium.
25. Write four uses of ethanoic acid. 2
26. A compound 'X' has the molecular formula C_3H_6O with structural formula CH_3CH_2CHO . Give its IUPAC name. Can another compound have the same molecular formula ? Give the structure and IUPAC name of that compound also. 3
27. Give the names of the following :
- (i) An aldehyde derived from ethane
(ii) Ketone derived from butane
(iii) The compound obtained by the oxidation of ethanol by chromic anhydride. 3
28. Write the names and molecular formula of two organic compounds having functional group suffixed as '-oic acids'. With the help of a balanced equation, explain what happens when any of them reacts with sodium hydroxides.
29. A 5 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 20 cm. The distance of the object from the lens is 30 cm. Find the (i) position, (ii) nature and (iii) size of the image formed. 3
30. The radius of curvature of convex mirror used on a moving automobile is 2.0 m. A truck is coming behind it at a constant distance of 3.5 m. Calculate (i) the position, and (ii) the size of image relative to the size of the truck. What will be the nature of the image ? 3
31. Explain with the help of a diagram, why a pencil partly immersed in water appears to be bent at the water surface ? 5
32. State in brief the role of the prostate gland and seminal vesicles in the male reproductive system ?
33. (a) State two disadvantages of converting forests into monocultures.
(b) Give any two advantages of water stored under ground.
34. (a) In a monohybrid cross between tall pea plants denoted by TT and short pea plants denoted by tt, Preeti obtained only tall plants denoted by Tt in the F₁ generation. However in F₂ generation she obtained both tall and short plants. Using the above information explain the law of dominance.
(b) What is genetic drift ?
35. (a) How many eggs are produced every month by either of the ovaries in a human female ? Where does fertilization take place in the female reproductive system ?
(b) What happens in case the eggs released by the ovary is not fertilized ?
36. (a) State any two factors that could lead to the rise of a new species.
(b) How do analogous organs provide evidence in favour of evolution ?
37. (a) How can development of efficient engines ensuring complete combustion of fossil fuel be useful to us ?
(b) Name the four elements that constitute fossil fuels.

38. (a) Draw a neat diagram of longitudinal section of an ovule to show fertilization of pollen on stigma and label the following parts :
- Pollen Tube
 - Stigma
 - Ovary
 - Female germ cell
- (b) Give any two advantages of vegetative propagation.

OR

- (a) Draw a neat diagram of Female Reproductive System and label on it the following parts.
- Oviduct
 - Cervix
 - Vagina
 - Uterus
- (b) State any two functions of human ovary.
39. A couple goes to doctor for adopting contraceptive methods. What can be the possible reasons for adopting such measures.
40. A beam of white light falling on a glass prism gets split up into seven colours marked 1 to 7 as shown in the diagram. A student makes the following statement about the spectrum observed on the screen.
- (a) The colours at positions marked 3 and 5 are similar to the colour of the sky and the core of a hard boiled egg respectively.
- Is the above statement made by the student correct or incorrect ? Justify.
- (b) Which two positions correspond closely to the colour of
- a solution of potassium permanganate ?
 - 'danger' or stop signal lights ?



OR

- Give sign conventions for spherical mirror. Calculate the focal length of a concave mirror whose radius of curvature is 40 cm. Give one use of convex mirror. 5
41. Suresh is a late riser. His father gets up in the morning at about 5 O clock daily and directed Suresh to get up early everyday and join him for prayer and walk. Suresh got up early and offered prayer to Sun alongwith his father. He was surprised to see Sun flatter and reddish. He felt full of energy after walk and decided to get up early everyday. His father being happy, promised to take him to a beach during holidays.

Answer the following questions using above information :

- Why does Sun look different in the morning ?
- Why did he feel more energetic after morning walk ?
- What are the values behind the directions of Suresh's father to get up early in the morning ?
- Why does Sun remain visible even after sunset on a beach ?

42. Part of the Periodic Table given below shows the position of six elements. All these are present in air either as elements or as compounds.

										2
3	4				5 C	6 N	7 O	8	9 Ne	10
										Ar
										36 Kr

Some of the boxes in the Periodic Table given above contain a number.

- What is this number called ?
- What number should go in the box with argon (Ar) ?
- Give two pieces of information about the structure of an atom of argon which can be deduced from this number.

5

OR

From the part of the periodic table given, answer the following questions.

1 Lithium	2	13	14 Carbon	15	16 Oxygen	17 L	18 Neon
X			S		P	Q	
Y						R	
Z						T	

- Which is the most reactive metal ?
- Name the family of L, Q, R, T.
- Name one element of group 2 and 15,
- Name one member of group 18 other than neon.
- Give the name of the element S placed below carbon in group 14.

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