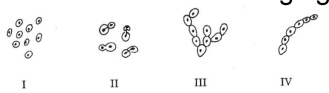
Test / Exam Name: Revision Test | Standard: 10th | Subject: Science

Instructions

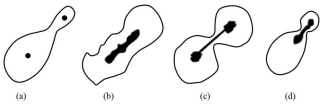
1. 1.how do organisms reproduce 2.carbon and its compounds 3.the human eye and the colourful world

Q1. In which of the following figures in budding ***not*** shown? **1 Mark**



A I **B** II **C** III **D** IV

Q2. After viewing different slides, a student draws following diagrams. Select the one which depicts binary fission in amoeba. **1 Mark**



A a **B** b **C** c **D** d

Q3. Which one of the following sets of materials can be used to prepare soap?

A Neem oil and calcium hydroxide.
B Castor oil and sodium hydroxide.
C Mineral oil and sodium hydroxide.
D Neem oil and magnesium hydroxide.

Q4. The image distance from the eye lens in the normal eye when we increase the distance of an object from the eye.

A Increases.
B Decreases.
C Remains unchanged.
D Depends on the size of the eyeball

Q5. The shape of yeast cell is:

A Only spherical.
B Only oval.
C Irregular.
D Both oval and spherical.

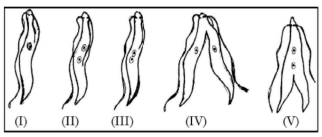
Q6. A student has to focus his compound microscope to observe a prepared slide showing different stages of binary fission in Amoeba. The steps he is likely to follow are listed below in a haphazard manner:

1. Adjust the diaphragm and the mirror of the microscope so that sufficient light may enter to illuminate the slide.
2. Fix the slide on the stage carefully.
3. Adjust the microscope to high power and focus.
4. Adjust the microscope to low power and focus.

The correct sequence of the above steps to observe the slide under the microscope is:

A I, II, IV, III **B** II, I, IV, III **C** II, IV, I, III **D** I, IV, II, III

Q7. Choose the correct order of the stages of binary fission in Leishmania. **1 Mark**



A I, II, III, IV, V **B** I, III, II, V, IV **C** I, III, V, II, IV **D** I, II, III, V, IV

Q8. A student was given two permanent slides, one. of binary fission in amoeba and other of budding in yeast. He was asked to identify anyone difference in the nucleus of the two. One such difference, he identified correctly was: **1 Mark**

A Presence of one nucleus in. amoeba, two in yeast cell and one in bud.
B Presence of two nuclei in centrally constricted amoeba, one in yeast cell and one in its bud.
C Presence of two distant nuclei in amoeba, one in yeast cell and two in bud.
D Presence a single nucleus each in amoeba, yeast of cell and its attached bud.

Q9. The students of a class were asked by the teacher to study the different parts of an embryo of an angiosperm. Given below are the essential steps for the experiment: **1 Mark**

1. Soak the seeds in plain water and keep them overnight.
2. Cut open the soaked seed and observe its different parts.
3. Take some healthy seeds in a petri-dish.
4. Drain the excess water, cover the seeds with a wet cotton cloth and leave them as it is for a day.

The correct sequence of these steps is.

A C, A, D, B **B** C, D, A, B **C** A, C, D, B **D** A, C, B, D

Q10. Study the following diagrams showing various stages of binary fission in Amoeba: **1 Mark**

The correct sequence of these diagrams should be:

A I, IV, III, II, V **B** I, III, IV, II, V **C** I, II, IV, III, V **D** I, II, III, IV, V

Q11. The lens system of human eye forms an image on a light sensitive screen, which is called as: **1 Mark**

A Cornea **B** Ciliary muscles **C** Optic nerves **D** Retina

Q12. Which of the following sets of materials can be used for conducting a saponification reaction for the preparation of soap?

A $Ca(OH)_2$ and neem oil. **B** NaOH and neem oil.
C NaOH and mineral oil. **D** $Ca(OH)_2$ and mineral oil.

Q13. When you study a slide showing different stages of budding in yeast, you observe the following stages:

1. The bud may get separated from the parent body and develop into a new individual.
2. The body of the bud develops and gives rise to another baby bud.
3. A bud comes out in any direction from the body of the parent cell.
4. Thus they may form a colony.

The proper sequence of the above stages is:

A II, I, III, IV **B** II, III, I, IV **C** III, II, I, IV **D** III, I, II, IV

Q14. A student while observing an embryo of a pea seed in the laboratory listed various parts of the embryo as given below: Testa, Tegmen, Radicle, Plumule, Micropyle, Cotyledon.
On examining the list the teacher remarked that only three parts are correct. Select three correct parts from the above list:

A Testa, Radicle, Cotyledon. **B** Tegmen, Radicle, Micropyle.
C Cotyledon, Plumule, Testa. **D** Radicle, Cotyledon, Plumule.

Q15. A student has to observe a permanent slide of binary fission in amoeba. Find the correct sequence of steps given below for focussing the object under a microscope.

1. Place the slide on the stage, look through the eye-piece and adjust the mirror to get proper illumination.
2. Focus the Slide Share using fine adjustment screw.
3. Look through the eye-piece and raise the objective lens using coarse adjustment screw tin the object is focussed.
4. Look through the eye-piece and move the slide till the object is visible.

A d, c, b, a **B** a, b,d, c **C** a, d, c, b **D** a, c, d, b

Q16. From the following diagrams, select the correct ones showing stages of binary fission in Amoeba: **1 Mark**

A I, II, III **B** IV, II, III **C** V, II, III **D** IV, I, III

Q17. Identify the figures showing the process of budding in yeast. **1 Mark**

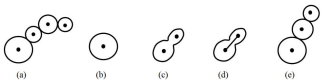
A I, II and III **B** II, III and IV **C** I, II and IV **D** III, IV and I

Q18. For two statements are given — One labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: **1 Mark**

Assertion (A): The rate of breathing in aquatic organisms is much faster than in terrestrial organisms.
Reason (R): The amount of oxygen dissolved in water is very high as compared to the amount of oxygen in air.

A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
B Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
C Assertion (A) is true, but Reason (R) is false.
D Assertion (A) is false, but Reason (R) is true.

Q19. A student after viewing a prepared slide illustrates the budding in yeast in the following order which is not correct: **1 Mark**



The correct order shouldbe:

A b, c, d, e, a **B** b, e, d, c, a **C** b, d, e, c, a **D** b, d, c, e, a

Q20. Hard water is not available for an experiment. Some salts are given below:

1. Sodium chloride.
2. Sodium sulphate.
3. Calcium chloride.
4. Calcium sulphate.
5. Potassium chloride.
6. Magnesium sulphate.

Select from the following a group of these salts, each member of which may be dissolved in water to make it hard.

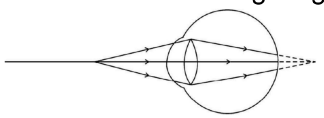
A I, II, V. **B** I, III, V. **C** III, IV, VI. **D** II, IV, VI.

Q21. Write the molecular formula of ethene and draw its electron dot structure.

Q22. Give reasons:

1. Placenta is extremely essential for foetal development.
2. Uterine lining becomes thick and spongy after fertilisation.

Q23. Observe the following diagram showing an image formation in an eye:



1. Identify the defect of vision shown in the figure.
2. List its two causes and suggest a suitable corrective lens to overcome this defect.

Q24. Draw two structural isomers of butane. **2 Marks**

Q25. **2 Marks**

1. Write the molecular formula of the following carbon compounds:
   1. Methane
   2. Propane
2. Carbon compounds have low melting and boiling points. Why?

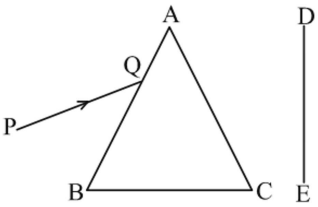
Q26. **3 Marks**

1. What provides nutrition to human sperms? State the genetic constitution of a sperm.
2. Mention the chromosome pair present in zygote which determines the sex of (i) a female child, and (ii) a male child.

Q27. What is placenta? Describe its two major functions. **3 Marks**

Q28. Why should there be equitable distribution of resources? List three forces that would be working against an equitable distribution of our resources. **3 Marks**

Q29. A as narrow beam, PQ of white light is passing through a glass prism ABC shown in the diagram. **3 Marks**

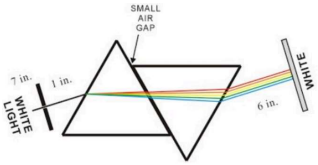


Draw a ray diagram to show the emergent beam as it falls on the screen DE. Also write the phenomenon involved and its cause. Using the second law of refraction state which colour of light must have the highest value of refractive index amongst seven visible colours of light.

Q30. Write the structural formula of ethanol. What happens when it is heated with excess of conc. H_2SO_4 at 443 K? Write the chemical equation for the reaction stating the role of conc. H_2SO_4 in this reaction. **3 Marks**

Q31. Which compounds are called (i) alkanes, (ii) alkenes and (iii) alkynes? C_4H_{10} belongs to which of these? Draw two structural isomers of this compound. **3 Marks**

Q32. **4 Marks**



A thin prism P_1 with angle 4° and made from glass of refractive index 1.54 is combined with another prism P_2 made from glass of refractive index 1.92 to produce dispersion without deviation. Answer the below questions by reading the above information.

1. What is the angle of prism P_2.
1. 7.3°
2. 2.3°
3. 9.3°
2. What is the angle of deviation for a prism?
1. $\triangle = (n - 1) \times A$
2. $\triangle = (n - 2) \times A$
3. $\triangle = (n - 1) \times 2A$
3. What happens when two prisms are combined?
1. Produce dispersion with deviation
2. Produce dispersion without deviation
4. What is the refractive index of first prism?
1. 2.54
2. 1.54
3. 1.92
5. What is the refractive index of second prism?
1. 2.54
2. 1.54
3. 1.92

Q33. **4 Marks**

Diamond is a well known allotrope of carbon. The hardness and high dispersion of light of diamond make it useful for both industrial applications and jewelry. Diamond is the hardest known natural mineral. This makes it an excellent abrasive and makes it hold polish and luster extremely well.

1. The compact and rigid _____ -dimensional arrangement of carbon atoms in diamond gives it a high density.
1. 2
2. 3
3. 1
4. 5

2. Each carbon atom in the diamond crystal is linked to _____ other carbon atoms by covalent bond.
1. 6
2. 3
3. 2
4. 4
3. Diamonds can be synthesised by subjecting pure carbon to.
1. Very high Pressure
2. Very high temperature
3. Both (1) and(2)
4. Low Temperature
4. State true or false: The synthetic diamonds are small and distinguishable from natural diamonds.
1. True
2. False
5. State true or false: Diamond conduct electricity due to unavailability of free electrons.
1. True
2. False

Q34. All the reproductive methods of living organisms are broadly categorized into two types:
1. Asexual reproduction
2. Sexual reproduction

Asexual reproduction involves the participation of a single parent without the formation of gametes, fertilisation and transfer of genetic material. This method is a common means of rapidly increasing offsprings under favourable conditions.
1. Name the type of fission that occurs in Leishmania and Plasmodium.
2. Write one advantage of sexual mode of reproduction over asexual reproduction.
3. Give reasons why:
1. Colonies of yeast fail to multiply in water but multiply in sugar solution.
2. Rhizopus individuals do not grow on a dry slice of bread.

OR

3. Name the filamentous structures a student could identify when he collected water from a pond that appeared dark green. How do these organisms multiply? Explain.

Q35.
1. A person cannot read newspaper placed nearer than 50 cm from his eyes. Name the defect of vision he is suffering from. Draw a ray diagram to illustrate this defect. List its two possible causes. Draw a ray diagram to show how this defect may be corrected using a lens of appropriate focal length.
2. We see advertisements for eye donation on television or in newspapers. Write the importance of such advertisements.

Q36.
1. What happens when the egg is not fertilised?
2. How is sperm genetically different from a human egg / ova?
3. List any three contraceptive methods practised for family planning. Mention how these methods work.

Q37. Why are certain compounds called hydrocarbons? Write the general formula for homologous series of alkanes, alkenes and alkynes and also draw the structure of the first member of each series. Write the name of the reaction that converts alkenes into alkanes and also write a chemical equation to show the necessary conditions for the reaction to occur. **5 Marks**