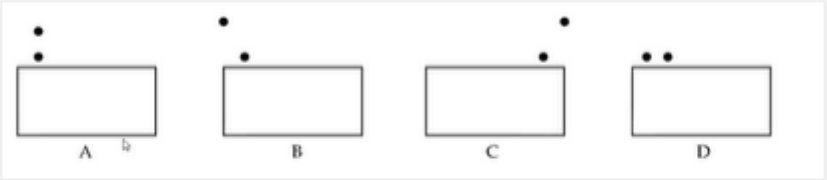
CBSE MULTIPLE CHOICE QUESTIONS CLASS-X (SCIENCE)

Q1: Four students A, B, C, D perform experiment on tracing the path of light ray through a glass slab. The position of the pins used to describe incident ray is shown on paper by four of them, respectively as:



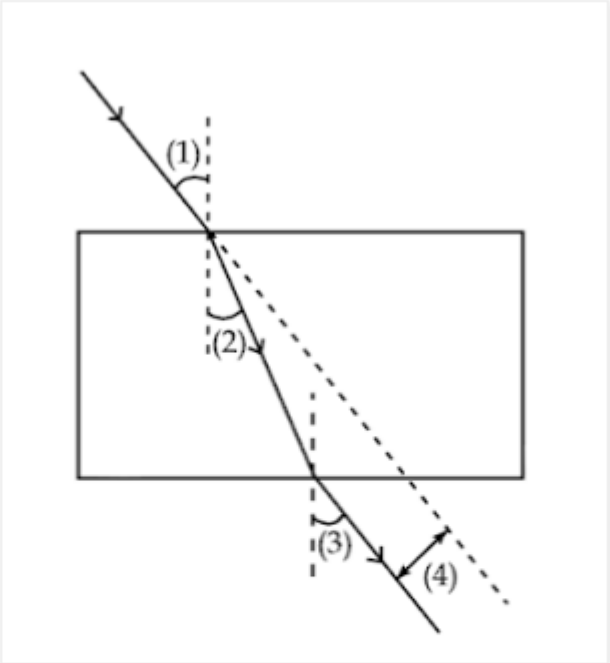
The correct result will be obtained by :
(a) A and D both
(b) B and D both
(c) B only
(d) B and C both

Answer: (d) B and C both

Q2: Teacher asked three students to write one precaution by each of them regarding the experiment on tracing the path of light ray through glass slab. First, second and third student wrote down following precautions, respectively
(1) While tracing emergent ray, we should see heads of pins.
(2) One eye should be kept closed, while tracing emergent ray
(3) Glass slab should have parallel edges.
The correct statements are of:
(a) 1 and 2
(b) 2 and 3
(c) 1 and 3
(d) All three

Answer: (b) 2 and 3 (Note: We should see the feet of the pins.)

Q3: A student is asked to label his diagram made as observation on tracing the path of light ray through glass slab as follows:



The correct sequence of labeling . i, e, r and lateral displacement respectively is,
(a) (1), (2), (3) and (4)
(b) (3), (4), (1) and (2)
(c) (1), (3), (2) and (4)
(d) (3), (2), (4) and (1)

Answer: (c) (1), (3), (2) and (4)

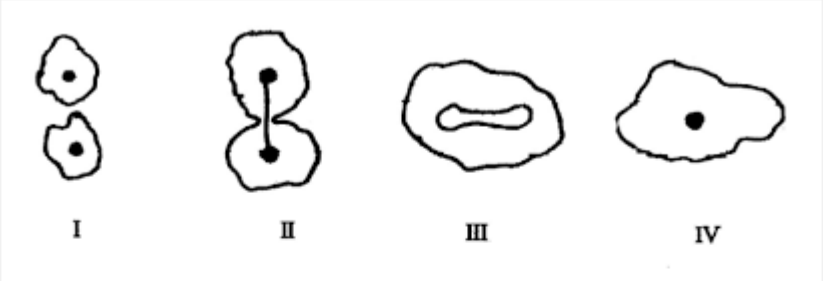
Q4: A student obtains an image of window by using a convex lens on a screen. He adjusts the position of screen to get sharpest and brightest image possible. To get focal length of lens he should measure the:
(a) distance between window and screen
(b) distance between convex lens and window
(c) distance between screen and convex lens
(d) distance between window and convex lens as well as distance between window and screen.

Answer: (c) distance between screen and convex len.

Q5: A student determines the focal length of a device 'X' by focusing the image of a distant object on a screen placed on the same side as the object. The device 'X' is:
(a) Concave lens
(b) Convex lens
(c) Concave mirror
(d) Convex mirror

Answer: (c) Concave mirror

Q6: Four stages of binary fission in amoeba are shown below. The stage at which nuclear fission and cytokineses are observed is, stage

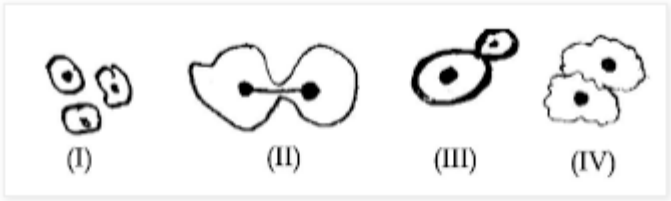


(a) I
(b) II
(c) III
(d) IV

Answer: (b) II (Note: Appearance of cleavage furrow indicates cytokinesis).

Q7: To determine the percentage of water absorbed by the raisins, before final weighing of 1 the raisins after being kept dipped in water for about two hours, extra water from the soaked raisins is removed by
(a) dry cotton
(b) filter paper
(c) hot air blower
(d) silken cloth

Answer: (b) filter paper



Q8:Out of the four slides I, II, III, and IV whose details are shown below, which one would you focus under the microscope for observing budding in yeast ?

(a) I
(b) II
(c) III
(d) IV

Answer: (c) III

Q9: The process represented in diagram below is the :
(a) formation of spores in Amoeba.
(b) formation of bud taking place in Amoeba.
(c) identical gametes being formed in Amoeba.
(d) formation of daughter cells in Amoeba.

Answer: (d) formation of daughter cells in Amoeba.

Q10: Raisins absorb water by
(a) Exosmosis
(b) Endosmosis
(c) Plasmolysis
(d) Diffusion

Answer: (b) Endosmosis

Q11:. Which of these is not a type of reproduction?
(a) Fragmentation
(b) Vegetative propagation
(c) Budding
(d) Regeneration change

Answer: (d) Regeneration change

Q12: A student soaked 10 g of raisins in 50 mL of distilled water in two beakers A and B each. She maintained beaker A at 25^{o} C and beaker B at 50^{o}C. After an hour, the percentage of water absorbed will be
(a) the same in both A and B.
(b) more in A than in B.
(c) more in B than in A.
(d) exactly twice as much in B as in A.

Answer: (c) more in B than in A. (Note: more absorption will take place in warmer water.)

Q13: A student was given two slides, one of the budding in yeast and the other of binary fission in amoeba. He was asked to identify any one difference in the nucleus of the two . He observed both the slides and identified correctly ...
(a) presence of two distinct nuclei in amoeba, one in yeast cell and two in the bud.
(b) presence of one nucleus in amoeba, two in yeast and one in its bud.
(c) presence of single nucleus each in amoeba and yeast cell and none in the attached bud.
(d) presence of two nuclei in the centrally constricted amoeba, one in yeast cell and one in its bud.

Answer: (d) presence of two nuclei in the centrally constricted amoeba, one in yeast cell and one in its bud.

Q14: When ethanoic acid is added to a solution of substance X, a colourless and odourless gas Y is liberated. The gas Y turns lime water milky. The substance X is.
(a) Sodium carbonate
(b) Sodium hydroxide
(c) Sodium acetate
(d) Lime water
Answer: (a) Sodium Carbonate ($2CH_3COOH + Na_2CO_3$ ------> $2NaCH_3COO + CO_2 + H_2O$)

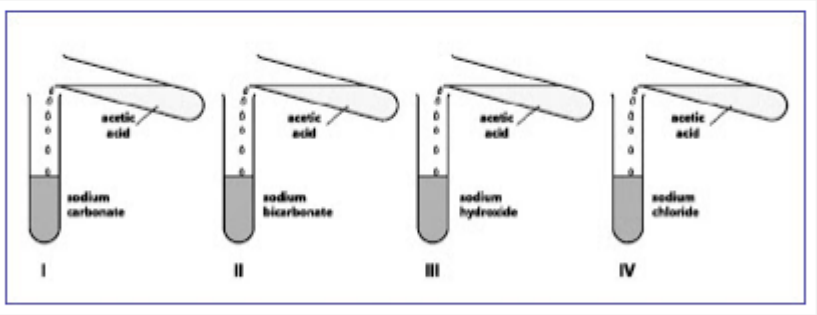
Q15: The water absorbed by raisins is calculated as
(a) Weight of wet raisins-weight of dry raisins.
(b) Weight of dry raisins-weight of wet raisins.
(c) Weight of water in petridish - (minus) weight of wet raisin.
(d) Weight of dry raisins + weight of wet raisins.

Answer: (a) Weight of wet raisins-weight of dry raisins.

Q16: Raisins selected for the experiment should
(a) Be shrunk raisins
(b) Be swollen raisins
(c) Be without stalks
(d) Have intact stalks

Answer: (d) have intact stalks

Q17: A student added acetic acid to test tubes I, II, III and IV and then introduced a burning candle near the mouth of each test tube.



(a) I and II
(b) II and III
(c) III and IV
(d) I and IV

Answer: (a) I and II

Q18: Three students measured the focal length of a convex lens using parallel rays from a distant object. All of them measured the distance between the lens and the inverted image on the screen.

- Student A saw a sharp image on the screen and labelled the distance as f1.
- Student B saw a slightly larger blurred image on the screen and labelled the distance as f2.
- Student C saw a slightly smaller blurred image on the screen and labelled the distance as f3.

The relation between the three measurements would most likely be:
(a) f1 = f2 = f3
(b) f1 < f2 and f3
(c) f3 < f1 < f2
(d) f1 < f2 and f1= f3

Answer: (c) f3 < f1 < f2

Q19: 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 in the beaker left after experiment = 40 g
The % of water absorbed by the raisin is
(a) 10 %.
(b) 20 %.
(c) 45 %.
(d) 50 %.

Answer: (d) 50%
Let w1 = weight of raisins before experiment
Let w2 = weight of raisins after experiment
Percentage of water absorbed = (w2 - w1)/w1 * 100 = (30-20)/20 * 100 = 0.5 * 100 = 50%

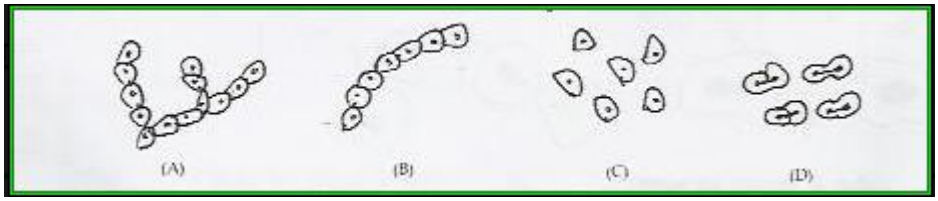
Q 20: The percentage of water absorbed by raisins is
(a) equal to weight to dry resins
(b) directly proportional to weight of dry raisins.
(c) inversely proportional to weight of dry raisins
(d) none of the above

Answer: (b) directly proportional to weight of dry raisins.

Q21: Which one of the following have vinegar like smell
(a) Acetic acid
(b) Hydrochloric acid
(c) Lime water
(d) Sodium hydroxide

Answer: (a) Acetic acid

Q22: Which of the following does not show budding?



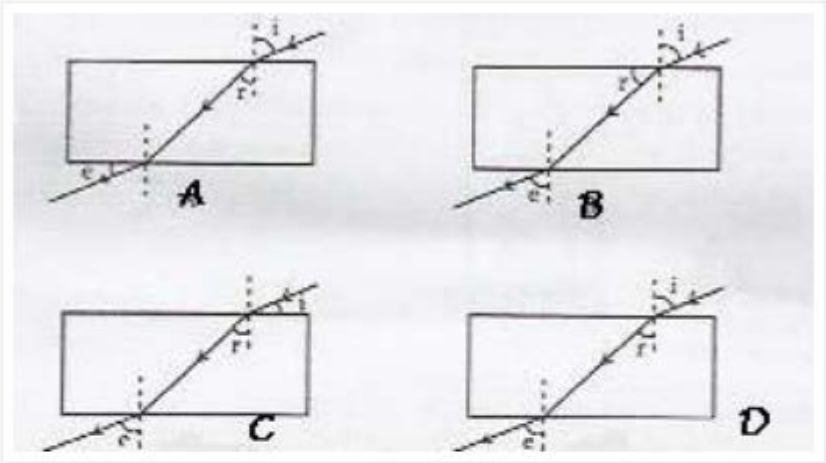
Answer: (c)

Q23: In the figures below which show the process of budding?

(a) I and II
(b) I and III
(c) I and IV
(d) II and IV

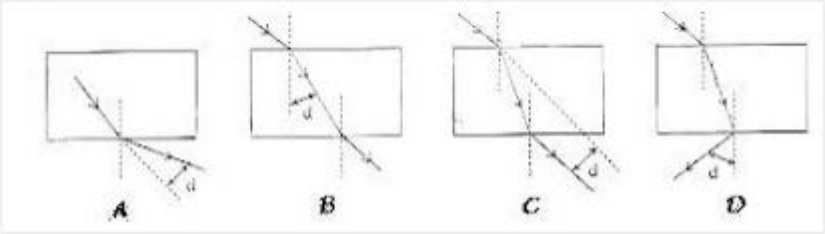
Answer: (c) I and IV

Q24: In which of the following diagram depict the correct representation of angle of incidence (i), angle of refraction (r) and angle of emergence (e),



Answer: D

Q25: In the following diagrams, which shows the correct marking of lateral displacement?



Answer: (c)

Q26: Four students took observations in tracing the path of light through glass slab for the given angle of incidence. They measured angles of refraction and emergence from their observations given in table below. Select the student who performed the experiment in correct manner:

		∠i	∠r	∠e
Student A	(i)	40°	47°	29°
	(ii)	50°	58°	30°
Student B				
	(i)	60°	35°	80°
	(ii)	30°	19°	0°
Student C	(i)	30°	35°	0°
	(ii)	45°	45°	45°
Student D	(i)	40°	25°	41°
	(ii)	50°	31°	51°

(A) Student A
(B) Student B
(C) Student C
(D) Student D

Answer: (D) Student D. (In refraction, ∠ i = ∠r)

Q27: When sodium hydrogen carbonate powder is added to acetic acid, a gas evolves. Which one of the following statements is not true for this gas ?
(a) It turns lime water milky.
(b) It extinguishes a burning splinter.
(c) It turns red litmus blue.
(d) It is a colourless and odourless gas.

Answer: (c) turns red litmus blue is incorrect. (**Note**: CO_2 gas is evolved which forms weak acid in aq. solution.)

Q28: Which of the following solutions is of blue colour:
(a) Solution of copper sulphate
(b) Solution of ferrous sulphate
(c) Solution of Zinc sulphate
(d) Solution of aluminium sulphate

Answer: (a) Solution of copper sulphate

Q29: In budding
(a) outgrowth develops earlier than nuclear division
(b) Nucleus divides earlier than the formation of out growth
(c) Division of nucleus and development of out growth occur simultaneously
(d) There is no fixed sequence of division of nucleus and development of out growth.

Answer: (b) Bud is generally formed once nuclear division is done.

Q30: During budding in yeast, the parent cell divides by the process:
(a) Cytoplasm and nucleus divides at same time.
(b) The nucleus first divides then cytoplasm.
(c) The cytoplasm first divide then nucleus.
(d) The cytoplasm and nucleus don't divide.

Answer: (b) In binary fission, Karyokinesis (nuclear division) is followed by cytokinesis (cytoplasm division)