

CBT SCIENCE (JULY) 2024

CLASS – 10

Q1 What happens when a solution of an acid is mixed with a solution of a base in a test tube?

- (i) The temperature of the solution increases
- (ii) The temperature of the solution decreases
- (iii) The temperature of the solution remains the same
- (iv) Salt formation takes place

(A) (i) only

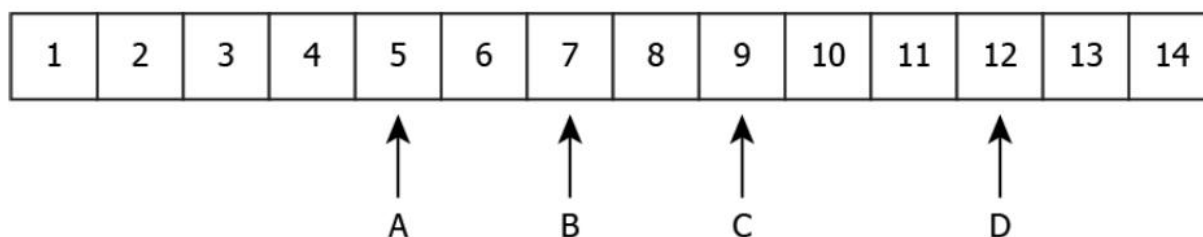
(B) (i) and (iii)

(C) (ii) and (iii)

(D) (i) and (iv)

Correct Answer: Option (D)

Q2 The image shows the pH values of four solutions on a pH scale.



Which solutions are alkaline in nature?

(A) A and B

(B) B and C

(C) C and D

(D) A and D

Correct Answer: Option (C)

Feedback: Solutions with pH = 1 to 7 is acidic, solution with pH = 7 is neutral and solution with pH = 8 to 14 is basic or alkaline.

Q3 In an Aqueous solution: Phenolphthalein solution colour is pink. On addition of an aqueous solution B to A, the pink colour disappears. Which of the following statement is true for solution A and B.

- (A) A is strongly basic and B is a weak base.
- (B) A is strongly acidic and B is a weak acid
- (C) A has pH greater than 7 and B has pH less than 7
- (D) A has pH less than 7 and B has pH greater than 7

Correct Answer: (C)

Feedback: Phenolphthalein is a acid-base indicator which turns dark pink in basic solution and remains colourless in acidic solution.

c



Identify the white sulphate salt

- (A) Common Salt
- (B) Plaster of Paris
- (C) Washing Soda
- (D) Baking Soda

Correct Answer: (B)

Feedback: Plaster of Paris is a white powder which can be moulded into any shape by adding some amount of water and turns into a hard mass (gypsum)

Q5 Salt X is commonly used in bakery products on heating, into another salt Y which itself is used for removal of hardness of water and a gas Z is evolved. The gas Z when passed through lime water, turns it milky. Identify X,Y and Z

- (A) Sodium Bicarbonate, Sodium Carbonate and Carbon Dioxide
- (B) Sodium Carbonate, Sodium Bicarbonate and Carbon Dioxide
- (C) Sodium Chloride, Sodium Hydroxide and Chlorine
- (D) None of these

Correct Answer: (A)

Feedback: Baking Powder (Sodium Bicarbonate) salt is used is commonly used in bakery products. On heating, it forms Sodium Carbonate and Carbon dioxide gas is evolved.

Q6 Assertion (A): Sky appears blue at daytime.

Reason (R): White light is composed of seven colours.

- (A) Both (A) and (R) is true and (R) is correct explanation of (A)
- (B) Both (A) and (R) are true and (R) is not the correct explanation of (R)
- (C) (A) is true and (R) is false
- (D) (A) is false and (R) is true

Correct Answer: (B)

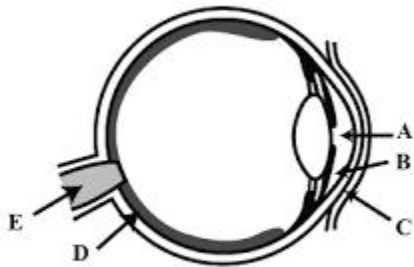
Q7 Assertion(A): The light of violet colour deviates the most and the light of red colour deviates the least while passing through a prism.

Reason (R): Violet colour has shortest wavelength and less speed and red colour has longest wavelength and more speed.

- (A) Both (A) and (R) is true and (R) is correct explanation of (A)
- (B) Both (A) and (R) are true and (R) is not the correct explanation of (R)
- (C) (A) is true and (R) is false
- (D) (A) is false and (R) is true

Correct Answer: (A)

Q8 Observe the image carefully and answer the questions that follows.



Which part of eye produces maximum refraction of light rays

- (A) A
- (B) B
- (C) C
- (D) D

Correct Answer: (C) Cornea

Q9 Identify the part of eye from the above figure on which image is formed.

(A) A

(B) B

(C) C

(D) D

Correct Answer: (D) Retina

Q10 What type of image is formed on the screen of eye.

(A) Virtual and Inverted

(B) Real and Inverted

(C) Virtual and Erect

(D) Real and Erect

Correct Answer: (B)

Feedback: The image formed at the retina of the human eye is real and inverted. It is due to the presence of a convex lens in the eye.