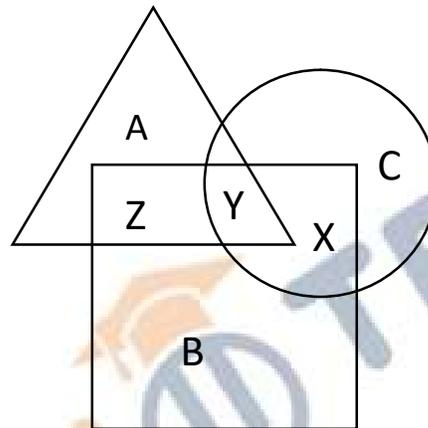


SAMPLE PAPER- 1

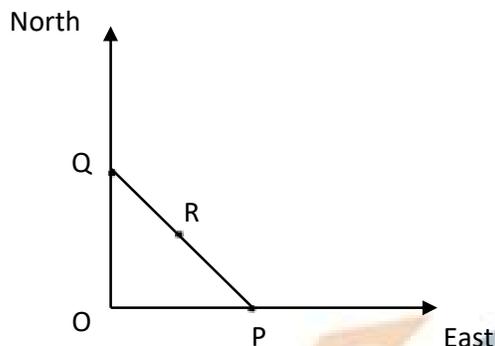
REASONING

1. In the given diagram, square represents doctors, triangles represent ladies and circle represents professors. Which letter represents ladies that are both doctors and professors?



- a. X
b. Y
c. Z
d. A
2. Choose the odd one out from the following
- a. 52, 142
b. 54, 126
c. 56, 168
d. 58, 184
3. How many 7s are immediately preceded by 9 and immediately followed by 6 in the given number series?
789765342897645922976476
- a. 4
b. 3
c. 7
d. 5

4. Identify the correct mirror reflection of the word UNIVERSITY
- UNIVERSITY
 - YTI2R3VINIU
 - UNIVERSITY
 - YTI2R3VINIU
5. In the given figure, p is 400km east of O and Q is 300km north of O. R is exactly in the middle of Q and P. Find the distance between P and R

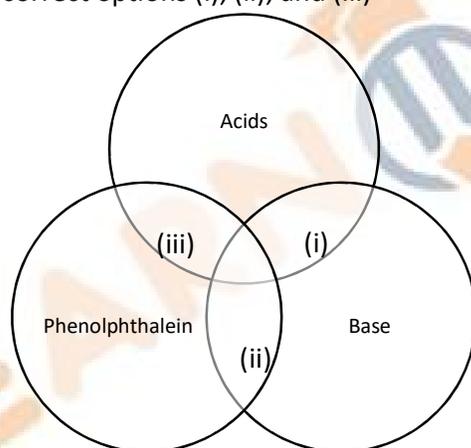


- 250kms
 - $250\sqrt{2}$ kms
 - 300kms
 - 400kms
6. Different uses of nitric acid are given below. Choose the incorrect statement.
- It is used in the preparation of aqua regia.
 - It is used in the preparation of detergents
 - It is used in the manufacturing of explosives such as TNT (trinitrotoluene)
 - It is used in the preparation of salts.
7. Study the statements given below carefully-
- Methyl orange indicator is yellow in acids.
 - Acids show acidic properties due to the hydronium ions.
 - Acids show acidic properties due to hydroxyl ions.
 - Acids liberate carbon dioxide gas when they react with metal bicarbonates

Which of the above statements are correct?

- (i), (ii)
- (i), (iii)
- (iii), (iv)
- (ii), (iv)

8. When baking soda is mixed with lemon juice, a gas X is formed which can be tested using Y. Identify X and Y
- X- carbon dioxide, Y- Magnesium Hydroxide
 - X- Carbon dioxide, Y- Calcium Hydroxide
 - X- Hydrogen, Y- Magnesium Hydroxide
 - X- Hydrogen, Y- Calcium Hydroxide
9. Statement 1- Formation of rust is a chemical change.
Statement 2- Removal of rust is a chemical change.
- Both the statements 1 and 2 are correct
 - Statement 1 is correct but 2 is wrong
 - Statement 1 is wrong but 2 correct
 - Both statements 1 and 2 are wrong
10. Identify the correct options (i), (ii), and (iii)



	(i)	(ii)	(iii)
a.	Colourless	Water	Pink
b.	Colourless	Pink	Water
c.	Water	Colourless	Pink
d.	Water	Pink	Colourless

11. Match column 1 with column 2 and select the correct option

Column 1	Column 2
A. Caustic soda	1. Softening hard water
B. Calcium hydroxide	2. Batteries
C. Sodium bi carbonate	3. Soap industry
D. Sulphuric acid	4. Baking soda

- a. A-3, B-1, C-4, D-2
- b. A-1, B-4, C-2, D-3
- c. A-3, B-4, C-2, D-1
- d. A-1, B-3, C-4, D-2

12. Stainless steel is a mixture of-

- a. Iron, nickel, and chromium
- b. Iron, nickel, and magnesium
- c. Iron, carbon, and nickel
- d. Iron, carbon, and magnesium

13. When acids react with base, it is called?

- a. Displacement reaction
- b. Double displacement reaction
- c. Neutralization reaction
- d. Double neutralization reaction

14. A farmer can add which of the following to treat his acidic soil and make it fit for the sowing

- a. Calcium hydroxide
- b. Sodium hydroxide
- c. Fertilizers
- d. Lots of water

15. Galvanization is a process of coating a metal over another to prevent the spoilage
In galvanisation, an object is coated with which of the following metal?

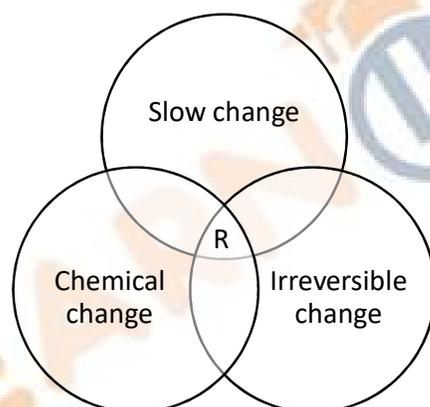
- a. Zinc
- b. Iron
- c. Tin
- d. Copper

16. Fill in the blanks by selecting the appropriate option

'When (i) solution is added to china rose indicator, the indicator turns magenta, (ii) solution turns the indicator green, whereas (iii) solution does not change the colour of the indicator.

	(i)	(ii)	(iii)
a.	Lime water	Salt solution	Vinegar
b.	Vinegar	Salt solution	Lime water
c.	Common Salt solution	Lime water	Vinegar
d.	Vinegar	Lime water	Common Salt solution

17.



In the above Venn diagram, R represents

- a. Boiling water
- b. Boiling of eggs
- c. Burning leaves
- d. Bursting balloons

18. Seema got her house whitewashed using milk of lime (calcium hydroxide). She observed that her walls did not have a shine and discussed it with the painter. He made the following assertion and gave a reason. Choose the correct option about the painter's claim.

Assertion (A)- The walls will have a shine only after a couple of days

Reason (R)- Calcium hydroxide will form calcium oxide which will give shiny finish to the walls .

- a. A and R both are correct, and R is the correct explanation of A
- b. A and R both are correct, but R is not the correct explanation of A
- c. A is correct but R is wrong
- d. A is wrong but R is correct

19. Anu heats sugar in a container.

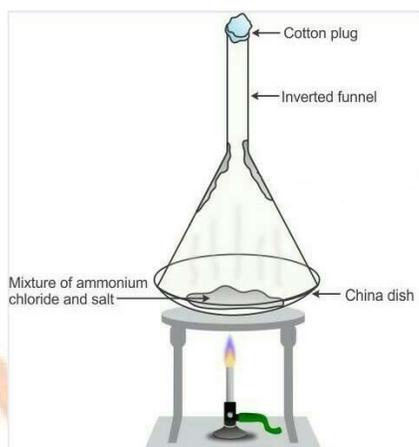
Step 1- the heated sugar liquifies

Step 2- the liquid sugar turns black

Select the correct option

- a. Step 1 and 2 both are physical and reversible changes
- b. Step 1 and 2 both are chemical and irreversible changes
- c. Step 1 is a physical and an irreversible change and step 2 is a chemical and reversible change
- d. Step 1 is a physical and reversible change and step 2 is a chemical and an irreversible change.

20.



Rahul conducted an experiment and made the above diagram. He said that the experiment is done to study sublimation of ammonium chloride. Four of his friends gave the following four statements. Only one of them is correct. Identify the correct one.

- a. The above figure describes a chemical change
- b. The above figure describes a physical change
- c. Ammonium chloride will not sublime, so no change will take place.
- d. The above figure describes a physical change or a chemical change, depending upon reaction conditions.

ANSWERS

1. b The letter common to all the three geometrical figure is Y
2. c The sum of the digits in both the numbers in each pair is equal to each other, except option C. Example- $5+2 = 1+4+2 = 7$
3. b $78(976)53428(976)45922(976)476$
4. b YTI2R3EVIINU UNIVERSITY
5. a $(OQ)^2 + (OP)^2 = (QP)^2$
6. b
7. d
8. b Baking soda is NaHCO_3 which produces CO_2 with the citric acid of the lemon juice. This CO_2 turns the lime water milky due to the formation of insoluble CaCO_3
9. a
Phenolphthalein is pink in base and colorless in acid. Acid and base produce water.
10. d
11. c Stainless steel is an alloy of Iron, carbon, and other metals like Nickel, Chromium, Manganese.
12. c
13. a
14. a Galvanization is the process of coating Zn over Fe to prevent it from rusting.
15. D. The solution of China rose is an indicator which turns magenta in acidic medium, green in basic medium and does not change color in the neutral salt solution
16. b
17. c. After a couple of days the Calcium hydroxide reacts with the atmospheric carbon dioxide to form calcium carbonate which gives a shiny appearance to the walls.
18. d. In in Step 2 the burn's to form carbon black.

19. d Ammonium chloride on heating breaks down into ammonia and hydrogen chloride. Fumes which combine again to form ammonium chloride on cooling.

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