



# CHEMISTRY

## BOOKS - HT Olympiad Previous Year Paper

### NSO QUESTION PAPER 2019-20 SET A

Science

1. Ishan took two rods X and Y and wrapped each of them in a piece of paper. These rods

were then heated as shown in the given figure.

It was found that the paper around the rod Y does not burn, whereas the one around the rod X catches fire. It is because



A. Candle, in case of rod Y, is nearer to the paper

B. Rod X being a bad conductor of heat, takes away all the heat

C. Rod Y being a good conductor of heat, conducts away the heat given to the

paper

D. None of these.

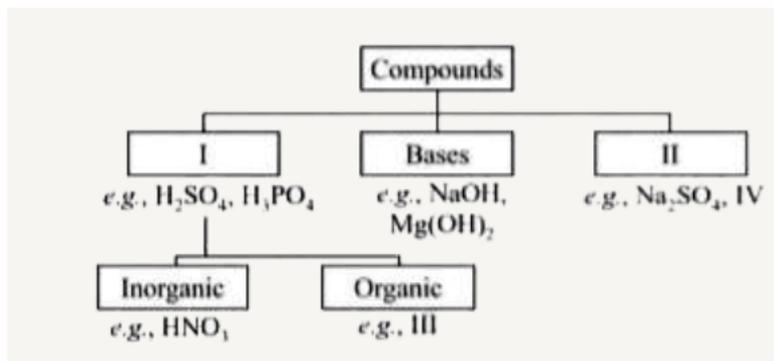
**Answer: C**



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2. Study the given flow chart carefully and select the option which best represents I, II, III

and IV.



A. I-Salts, II-Acids, III-Citric acid, IV-Limestone

B. I-Alkalies, II-Washing soda, III-Zinc sulphate, IV-Iron oxide

C. I-Acidic salts, II-Salts, III-Hydrochloric acid, IV-Copper sulphate

D. I-Acids, II-Salts, III-Malic acid, IV-Baking  
soda

**Answer: D**



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**3.** Rupali classified a few changes occurring around us as shown in the table.

S. No.	Change	Chemical	Physical	Reversible
1.	Grinding of wheat	✓	✗	✗
2.	Bursting of crackers	✓	✗	✗
3.	Formation of clouds	✗	✓	✓
4.	Germination of seeds	✓	✗	✓
5.	Drying of wet clothes	✗	✓	✗

Which of her observations are incorrect?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 4 and 5 only
- D. 1, 2, 3, 4 and 5

**Answer: C**



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4. Which of the following statements are correct?

I. The sour taste of tamarind is due to tartaric acid which is an organic acid.

II. Fermented milk and curd contain lactic acid.

III. Acids are generally stored in glass bottles.

IV. Acidic solutions conduct electricity

A. I, II and III only

B. I and IV only

C. II and IV only

D. I, II, III and IV

**Answer: D**



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5. Match column I with column II and select the correct option from the given codes.

	<b>Column I (Mixture)</b>	<b>Column II (Separation technique)</b>
P.	Rice grains and husk	(i) Evaporation
Q.	Common salt in water	(ii) Filtration
R.	Sawdust in water	(iii) Separating funnel
S.	Mustard oil in water	(iv) Sieving
		(v) Winnowing

A. P-(iv), Q-(i), R-(iii), S-(v)

B. P-(ii), Q-(iii), R-(V), S-(i)

C. P-(v), Q-(iii), R-(iv), S-(i)

D. P-(v), Q-(i), R-(ii), S-(iii)

**Answer: D**



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6. Identify P, Q, R and S from the given information.

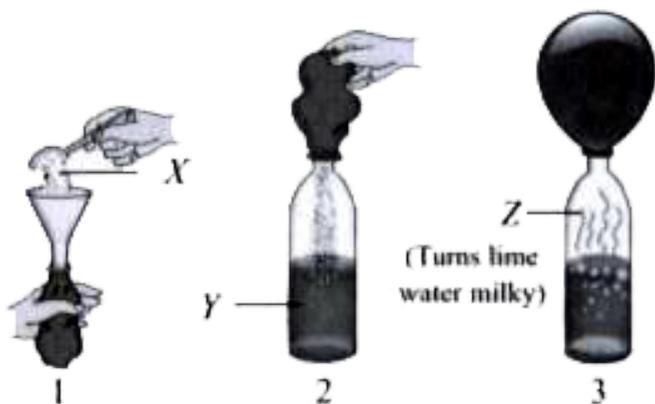
P: Substance formed on mixing magnesium oxide with water  
Q: Brown deposit on iron nail kept in copper sulphate solution  
R: Product formed when carbon dioxide is passed through lime water.  
S: Molecule formed on absorption of ultraviolet radiations by ozone

	<i>P</i>	<i>Q</i>	<i>R</i>	<i>S</i>
A.	MgCl <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	NO <sub>2</sub>
B.	Mg(OH) <sub>2</sub>	Cu	CaCO <sub>3</sub>	O <sub>2</sub>
C.	MgSO <sub>4</sub>	Cu <sub>2</sub> O	Ca(OH) <sub>2</sub>	O <sub>2</sub>
D.	Mg(OH) <sub>2</sub>	Cu	CaCO <sub>3</sub>	N <sub>2</sub>



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7. Observe the given figure carefully and identify X, Y and Z by selecting an appropriate option.



A. X- Baking soda, Y- Sulphuric acid, Z-

Oxygen

B. X- Sugar, Y- Ammonium hydroxide, Z- Nitrogen

C. X- Baking soda, Y- Acetic acid, Z- Carbon dioxide

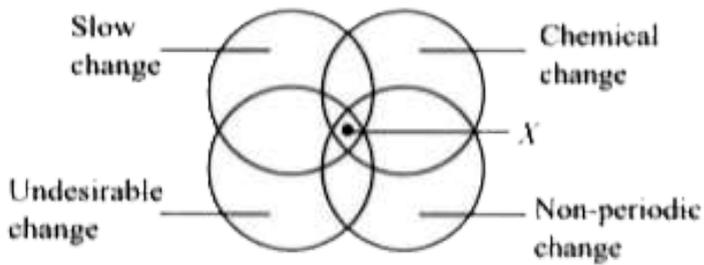
D. X- Zinc, Y- Hydrochloric acid, Z- Carbon dioxide

**Answer: C**



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8. Study the given Venn diagram.



Centre point X represents

- A. Spoilage of food
- B. Burning of paper
- C. Photosynthesis
- D. Ripening of guava.

**Answer: A**



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9. An empty glass with a piece of cotton wool stuck into its bottom was lowered in an upside down position into a trough of water. In the experiment, the cotton wool did not get wet even when glass was fully submerged in water.

The experiment demonstrates that



A. Air has mass

B. Air occupies space

C. Air cannot be compressed

D. Both B and C.

**Answer: B**



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**10.** In the textile industry, the given tool was used earlier to produce \_\_\_ from \_\_\_



A. Fibre, Yarn

B. Yarn, Fibre

C. Fabric, Yarn

D. Yarn, Fabric

**Answer: B**



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**11.** Read the given passage.

The cotton plant is grown in \_\_\_(i) soil and \_\_\_(ii) climate. Its fibres are then separated

from the seeds by the process of \_\_\_\_ (iii). The fibres are then made into yarn by the process of \_\_\_\_ (iv). The yarn is \_\_\_\_ (v) in beautiful colours and then \_\_\_\_ (vi) to get cotton fabric.

Which of the following options correctly fills any two blanks in the given passage?

- A. (ii)-Cold, (vi)-Weaved
- B. (v)-Spinned, (iv)-Knitting
- C. (i)-Black, (iii)-Ginning
- D. (i)-Clayey, (v)-Spinned

**Answer: C**



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## Achievers Section

1. Rajat, a class 7 student studied the nature of a few common substances with the help of acid-base indicators. His observations are summarised in the given table with a few blank spaces.

Solution	Indicators		
	Methyl orange	Phenolphthalein	China rose
(i)	Orange	Colourless	Pink
Household ammonia cleaner	Yellow	Pink	(ii)
(iii)	Red	Colourless	(iv)
(v)	Yellow	Pink	Green

Study the table carefully and fill in the blanks by selecting an appropriate option.

A. (i)-Apple juice, (ii)-Red, (iii)-Lemon juice, (iv)-Yellow, (v)-Sugar solution

B. (i)-Sugar solution, (ii)-Yellow, (iii)-Salt solution, (iv)-Pink, (v)-Lime water

C. (i)-Common salt, (ii)-Green, (iii)-Spinach  
juice, (iv)-Magenta, (v)-Caustic soda

D. (i)-Lime juice, (ii)-Green, (iii) Sugar  
solution, (iv)-Yellow, (v)-Aerated drink

**Answer: C**



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