

Questions with Answer Keys

MathonGo

Q1: 16 March (Shift 1) - Single Correct

Match List-I with List-II :

List-I

List-II

Industrial process

Application

(a) Haber's process

(i) HNO_3 synthesis

(b) Ostwald's process

(ii) Aluminium extraction

(c) Contact process

(iii) NH_3 synthesis

(d) Hall-Heroult process

(iv) H_2SO_4 synthesis

Choose the correct answer from the options given below :

(1) (a) – (ii), (b) – (iii), (c) – (iv), (d) – (i)

(2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

(3) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)

(4) (a) – (iv), (b) – (i), (c) – (ii), (d) – (iii)

Q2: 16 March (Shift 1) - Single Correct

Match List-I with List-II :

List-I

List-II

Name of oxo acid

Oxidation state of 'P'

(a) Hypophosphorous acid

(i) +5

(b) Orthophosphoric acid

(ii) +4

(c) Hypophosphoric acid

(iii) +3

(d) Orthophosphorous acid

(iv) +2

(v) +1

Choose the correct answer from the options given below:

(1) (a) – (v), (b) – (i), (c) – (ii), (d) – (iii)

(2) (a) – (iv), (b) – (i), (c) – (ii), (d) – (iii)

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(3) (a)-(iv), (b)-(v), (c)-(ii), (d)-(iii)

(4) (a) – (v), (b) – (iv), (c) – (ii), (d) – (iii)

Q3: 16 March (Shift 1) - Single Correct

A group 15 element, which is a metal and forms a hydride with strongest reducing power among group 15 hydrides. The element is :

(1) Sb

(2) P

(3) As

(4) Bi

Q4: 16 March (Shift 2) - Single Correct

Fex_2 and Fey_3 are known when x and y are:

(1) $x = F, Cl, Br, I$ and $y = F, Cl, Br$

(2) $x = F, Cl, Br$ and $y = F, Cl, Br, I$

(3) $x = Cl, Br, I$ and $y = F, Cl, Br, I$

(4) $x = F, Cl, Br, I$ and $y = F, Cl, Br, I$

Q5: 17 March (Shift 1) - Numerical

The reaction of white phosphorus on boiling with alkali in inert atmosphere resulted in the formation of product 'A'. The reaction 1 mol of 'A' with excess of $AgNO_3$ in aqueous medium gives _____ mol(s) of Ag.

(Round off to the Nearest Integer).

Q6: 17 March (Shift 2) - Single Correct

The set that represents the pair of neutral oxides of nitrogen is:

(1) NO and N_2O

(2) N_2O and N_2O_3

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(3) N_2O and NO_2 (4) NO and NO_2

Q7: 18 March (Shift 1) - Single Correct

Match List-I with List-II

List-I (process)

List-II (catalyst)

(a) Deacron's process

(i) ZSM-5

(b) Contact process

(ii) CuCl_2

(c) Cracking of hydrocarbons

(iii) Particles 'Ni'

(d) Hydrogenation of vegetable oils

(iv) V_2O_5

Choose the most appropriate answer from the options given below -

(1) a – ii, b – iv, c – i, d – iii

(2) a – i, b – iii, c – ii, d – iv

(3) a – iii, b – i, c – iv, d – ii

(4) a – iv, b – ii, c – i, d – iii

Q8: 18 March (Shift 1) - Single Correct

The number of ionisable hydrogens present in the product obtained from a reaction of

phosphorus trichloride and phosphonic acid is:

(1) 3

(2) 0

(3) 2

(4) 1

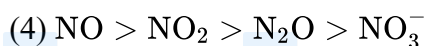
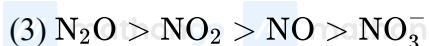
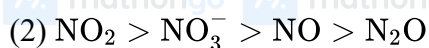
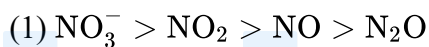
Q9: 18 March (Shift 2) - Single Correct

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The oxidation states of nitrogen in NO, NO₂,

N₂O and NO₃⁻ are in the order of :

**Q10: 18 March (Shift 2) - Numerical**

A xenon compound 'A' upon partial hydrolysis gives XeO₂ F₂. The number of lone pair of electrons present in compound A is _____ (Round off to the Nearest integer)

