

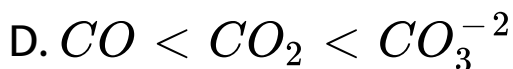
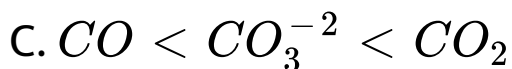
# CHEMISTRY

## BOOKS - NTA MOCK TESTS

### NTA TPC JEE MAIN TEST 50

#### Chemistry

1. What is the correct order of increasing C-O bond lengths of  $CO$ ,  $CO_3^{-2}$  and  $CO_2$ ?



**Answer: D**



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2. In correct order of metallic radii is



B.  $Ni < Cu < Zn$

C.  $Sc < Y < La$

D.  $Cr > Mn > Fe$

**Answer: D**



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**3.** In the froth floatation process, ZnS & PbS can be separated by using :

A. collectors

B. Depressant

C. Stabilisers

D. All of these

**Answer: B**



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**4. What is the false about  $H_2O_2$ ?**

A. Act both as oxidising and reducing agent

B. It is an antiseptic and germicide for working wounds, teeth and ears under the name perhydrool

C.  $H_2O_2$  can be distilled under reduce pressure.

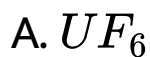
D. Two OH bonds of  $H_2O_2$  lie in the same plane

**Answer: D**



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5. Uranium can be obtained by the electrolysis of



**Answer: B**



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6. Calculate the number of stereoisomers possible for  $[M(AA)B_2C_2]$

A. 0.03

B. 0.04

C. 0.05

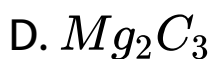
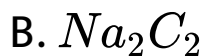
D. 0.06

**Answer: B**



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7. Which carbide produce methane when reacts with water?



**Answer: A**

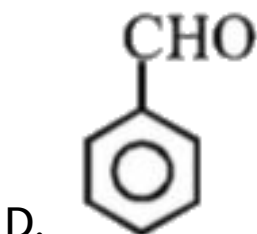
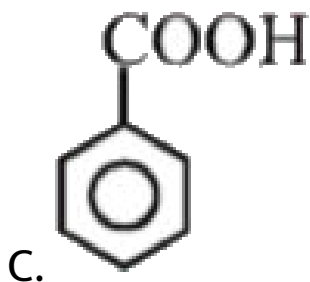
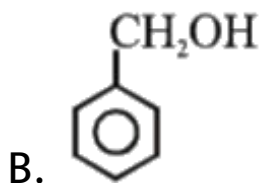
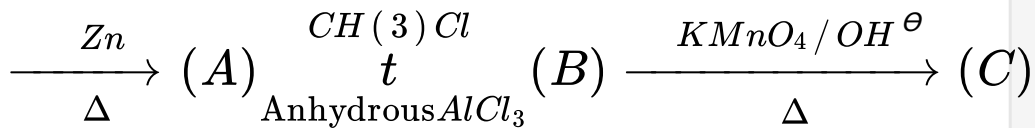


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8. The product (C) in the following reaction is

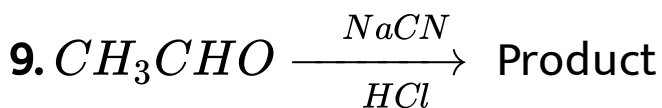
Phenol



**Answer: C**



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Identify the correct statement about the product of the above reaction.

- A. On acidic hydrolysis it forms an unsubstituted monocarboxylic acid.
- B. It contains an asymmetric carbon atom.

C. It is formed through nucleophilic substitution reaction

D. All carbon atoms of the product undergo  $sp^3$ - hybridization.

**Answer: B**



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**10.** Which of the following reactions of glucose can be explained only by its cyclic structure?

A. Glucose forms pentaacetate

B. Glucose reacts with hydroxylamine to form an oxime.

C. Pentaacetate of glucose does not react with hydroxylamine.

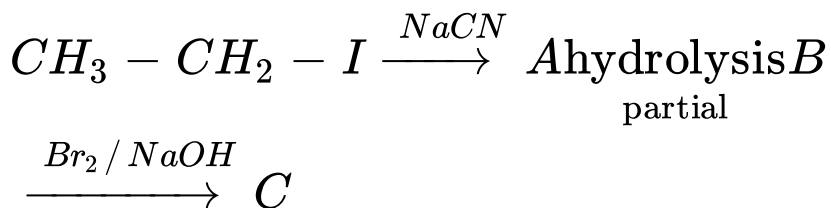
D. Glucose is oxidised by nitric acid to gluconic acid.

**Answer: C**

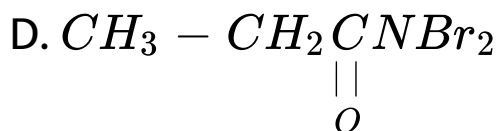
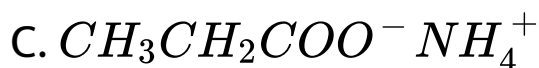
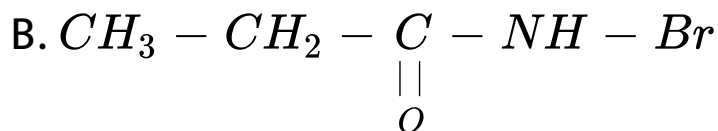


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11. Given following sequence of reaction:



The major product C is

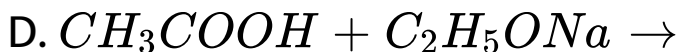
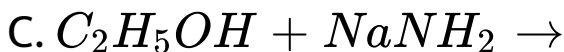
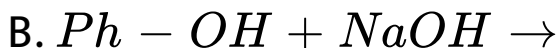
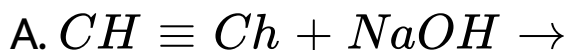


**Answer: A**



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12. Which of the following acid base reaction is not feasible?

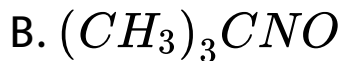
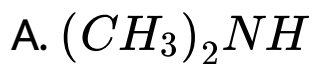


**Answer: A**



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13. Among the following which compound exhibits tautomerism?

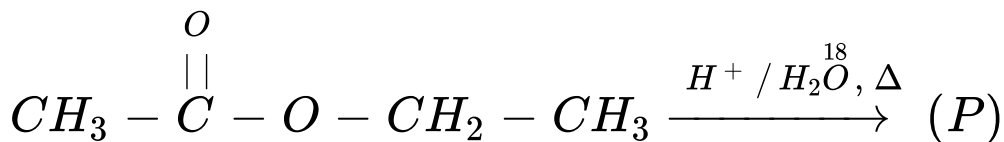


**Answer: D**



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14.



P should be



D. None of these

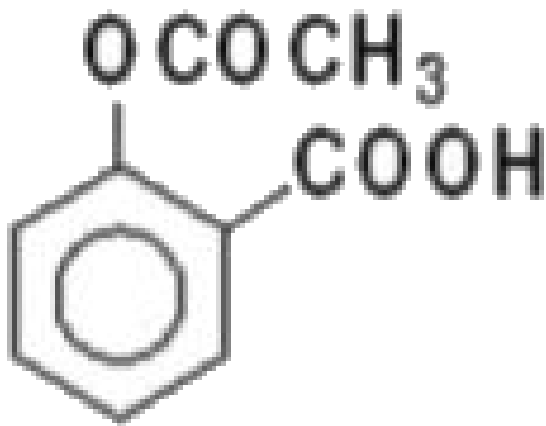
**Answer: A**



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15. Consider the compound given below what will be the main use of this compound?



A. Antiseptic

B. Antibiotic

C. Analgesic

D. Pesticide

**Answer: C**



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**16.** Quantity of electricity required to reduced 0.1 mole of  $Cr_2O_7^{-2}$  to  $Cr^{+3}$  completely is

A. 9650C

B. 96500C

C. 57900C

D. 54900C

**Answer: C**



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**17.** To neutralize completely 20 mL of 0.1 M aqueous solution of phosphorus ( $H_3PO_3$ ) acid the volume of 0.1 M aqueous KOH solution required is

A. 60mL

B. 20mL

C. 40moL

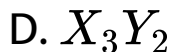
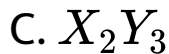
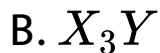
D. 10mL

**Answer: C**



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**18.** Formula fo the compound in which the element Y forms CCP lattice and atoms of X occupy  $\frac{1}{3}$  rd of THV



**Answer: C**



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**19.** A piston filled with 0.04 mol of an ideal gas expands reversibly from 50.0 mL to 375 mL at a constant temperature of  $37.0^\circ C$ . As it does so

it absorbs 208 J of heat. The values of  $q$  and  $w$  for the process will be ( $R=8.314\text{J/molK}$ ) in  $7.5=2.01$ )

A.  $q = -208\text{J}, w = -208\text{J}$

B.  $q = -208\text{J}, w = +208\text{J}$

C.  $q = +208\text{J}, w = +208\text{J}$

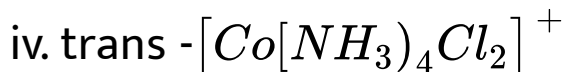
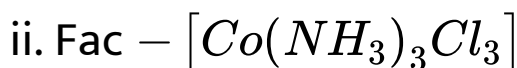
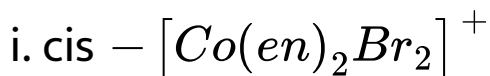
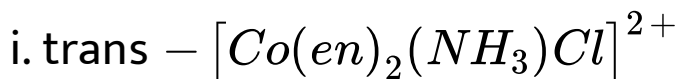
D.  $q = +208\text{J}, w = -208\text{J}$

**Answer: D**



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20. identify the optically inactive compounds among following



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21. Identify correct number of statements

(i) Chloro hydrate shows intramolecular H -

bond.

(ii) Uni negative anion of caro's acid shows intramoleular H- bond

(iii) Order of bond angle  $Cl_2O > F_2O$

(iv) Order of bond angle  $F_2 < H_2O$

(v) Order of bond angle As

$AsI_3 > AsBr_3 > AsCl_3$

(vi)  $BF_3, CH_4, PCl_5, SF_6, IF_7, XeF_4$

all are Non polar

(vii) p-nitophenol has les boiling point as compared to o-nitrohenol

(viii) In trisilyl amine  $(SiH_3)_3N$ , the Si-N bond



length is lesser than expected value

(ix) The Be atom in  $BeCl_2(s)$  is  $sp^3$  hybridised.



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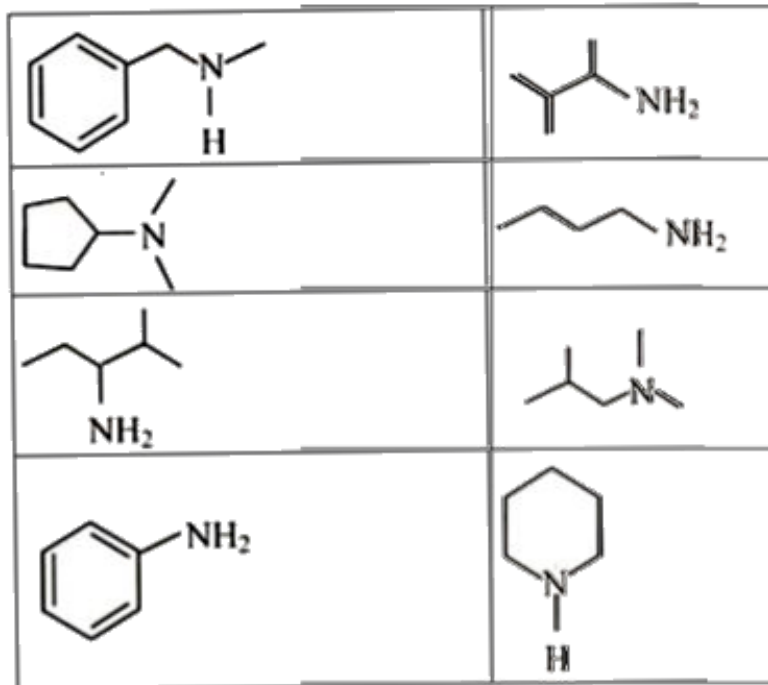
22. The number of 3c-2e bond and 2c-2e bond present in  $Be_2(CH_3)_4$  are x and y respectively.

Give your answer as (x+y)



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23. Among the given compounds how many will give positive carbylamine test?



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24. Identify the number of different possible products obtained in the following reaction.



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25. For a spontaneous chemical reaction the value of  $\Delta G^\circ$  must be negative and the value

of  $K_{eq}$  must be greater than --

$$\text{Given } \Delta G^\circ = -RT \ln K_{eq}$$



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26. The osmotic pressure (atm) of 2.22 % (w/v)  $CaCl_2$  solution at  $27^\circ C$  is ( $R=0.08L\text{-atm/k-mol}$ )



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27. When reaction takes place between aluminium nitride and water than compound P

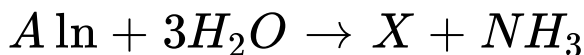
and ammonia gas evolved.

What is the molecular mass (in amu) of product P in the following reaction?

(At.

Wt:

$Al = 27u, O = 16u, H = 1u, N = 14u$ )



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**28.** Pressure of a mixture of  $16gO_2$  and  $6g$  of He in a one litre closed vessel at  $27^\circ C$  will be .....atm.



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29. If  $X^{10-}$  ion has 15 protons, then the number of electrons present in  $X^{3+}$  ion will be



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