

CHEMISTRY

QUESTION SET – 5

- An ideal gas equation is arranged as $\frac{X}{M} = \frac{p}{RT}$
Where M is the molecular mass and X represents
 - velocity of the gas
 - density of the gas
 - volume of the gas
 - mass of the gas
- The internal energy change when a system goes from state A to B is 40 kJ/mol. If the system goes from A to B by a reversible path and returns to state A by an irreversible path, what would be the net change in internal energy?
 - 40 kJ
 - > 40 kJ
 - < 40 kJ
 - zero
- Green house effect is caused by
 - green plants
 - Infrared rays
 - UV rays
 - X-rays
- Which one is different from others
 - Galvanic cell
 - Electrolytic cell
 - Voltaic cell
 - Daniell cell
- The Invertase enzyme converts cane sugar into
 - glucose
 - fructose
 - glucose+fructose
 - None of these
- Which of the following statements are not true?
 - Buna-S is a copolymer of butadiene and styrene
 - Natural rubber is a cis 1,4-polymer of isoprene
 - in vulcanization the formation of Sulphur bridges between different chains make rubber harder and stronger
 - Natural Rubber has the trans-configuration at every double bond.
- A radioactive element has a half life period of 140 days. How much of it will remain after 1120 days.
 - 1/32
 - 1/250
 - 1/512
 - 1/128
- The specific reaction rate constant for a first order reaction is $1 \times 10^{-3} \text{ sec}^{-1}$. If the initial conc. of reactant is 1 mole per litre, the rate is
 - $10^{-4} \text{ M sec}^{-1}$
 - $10^{-3} \text{ M sec}^{-1}$
 - $10^{-2} \text{ M sec}^{-1}$
 - $10^{-1} \text{ M sec}^{-1}$
- The pH of 10^{-8} M NaOH solution is

- (a) 8 (b) 6
(c) 6.98 (d) 7.02

10. Lunar caustic is

- (a) NaOH (b) KOH
(c) $\text{Ba}(\text{OH})_2$ (C) AgNO_3

11. What is the oxidation state of iron in $\text{K}_3[\text{Fe}(\text{CN})_6]$?

- (a) +2 (b) +3
(c) +4 (d) -3

12. A solution is prepared by adding 2 g of a substance A to 18 g of water. Calculate the mass percent of the solute.

- a. 8% b. 9%
c. 10% d. 11%

13. Example of an Acidic buffer is

- a) mixture of HCl & CH_3COONa
b) mixture of CH_3COOH & CH_3COONa
c) mixture of NH_4OH & NH_4Cl
d) mixture of NaOH & NaCl

14. The compound with a formula $\text{H}_2\text{NCH}_2\text{COOH}$ behave as

- (a) Strong acid
(b) Strong base
(c) Amphoteric substance
(d) Strong reducing agent

15. The mixture of formic acid and acetic acid vapours are passed over heated manganous oxide at

575 K. The main product is

- (a) Ethyl ethanoate
(b) Methyl formate
(c) Acetone
(d) Acetaldehyde

16. Reimer-Tiemann reaction involves a

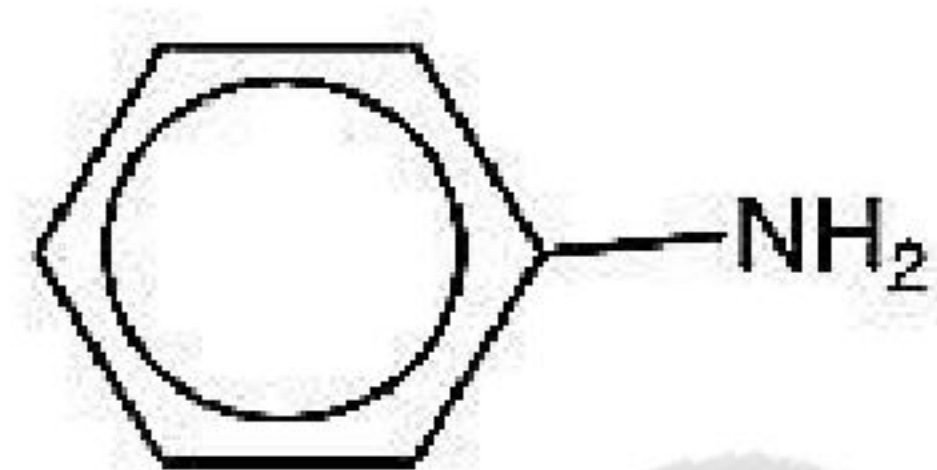
- (a) Carbonium ion intermediates
- (b) Carbene intermediate
- (c) Carbanion intermediate
- (d) Free radical intermediate

17. 0.5 g of a metal on oxidation gave 0.79g of its oxide. The equivalent weight of the metal is

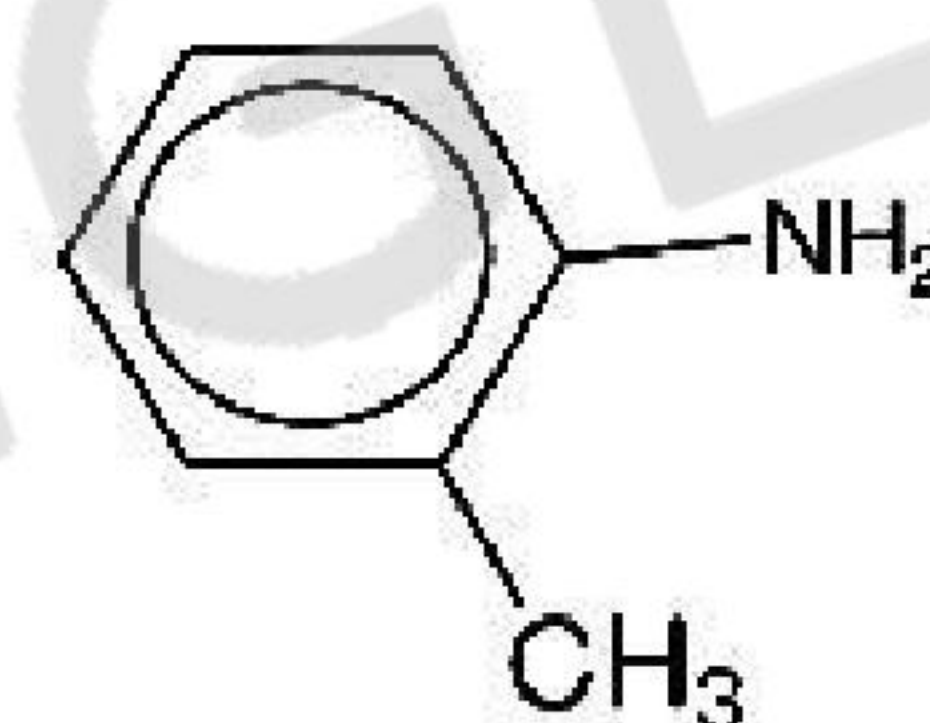
- (a) 10
- (b) 14
- (c) 20
- (d) 40

18. Which of the following is the strongest base?

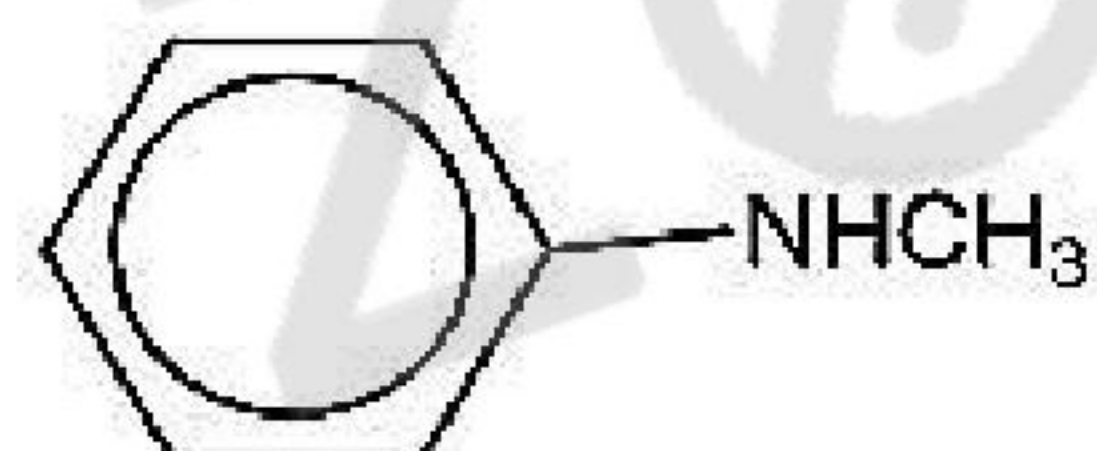
(a)



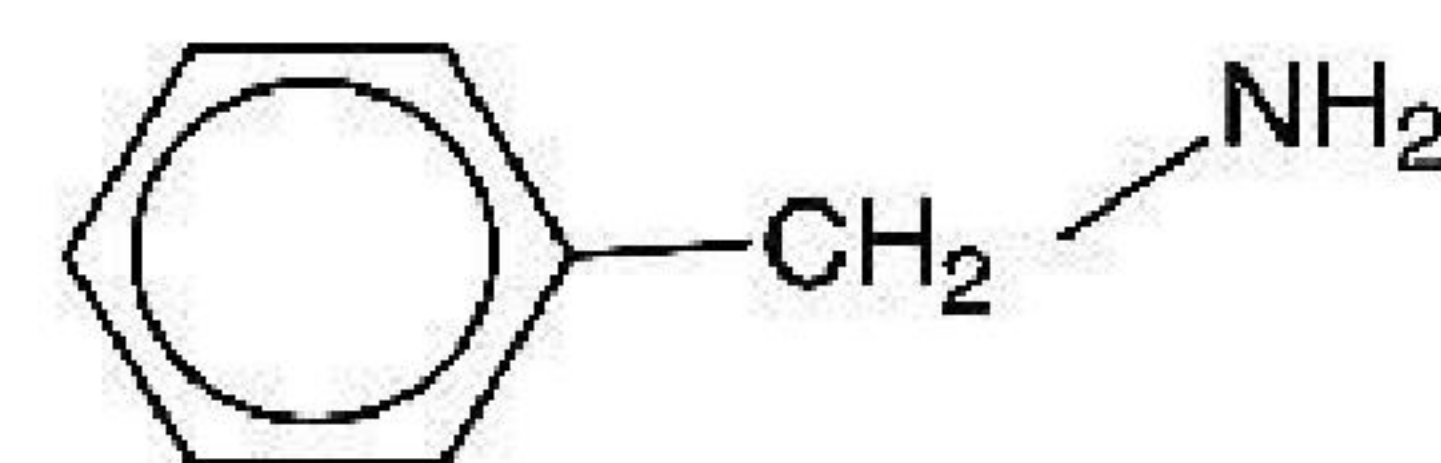
(c)



(b)



(d)



19. Stainless steel contains

- (a) Fe & C
- (b) Cu & Zn
- (c) Fe, C & Cr
- (d) Cu, Sn & Cr

20. The shape of 'p' orbital is

- (a) Spherical
- (b) dumbbell
- (c) Double dumbbell
- (d) None of these