

CHEMISTRY

BOOKS - TS EAMCET PREVIOUS YEAR PAPERS

TS EAMCET ENGINEERING ENTRANCE EXAM QUESTION PAPER (2018)

Chemistry

1. In a photoelectric effect experiment, the kinetic energy of an emitted electron is $1.986 \times 10^{-19} J$, when a radiation of frequency $1.0 \times 10^{15} s^{-1}$ hits the metal. What is the threshold frequency of the metal (in s^{-1})?(Planck's constant = $6.62 \times 10^{-34} Js$)

A. 7.0×10^{14}

B. 5.8886×10^{14}

C. 7.0×10^{-15}

D. 7.0×10^{15}

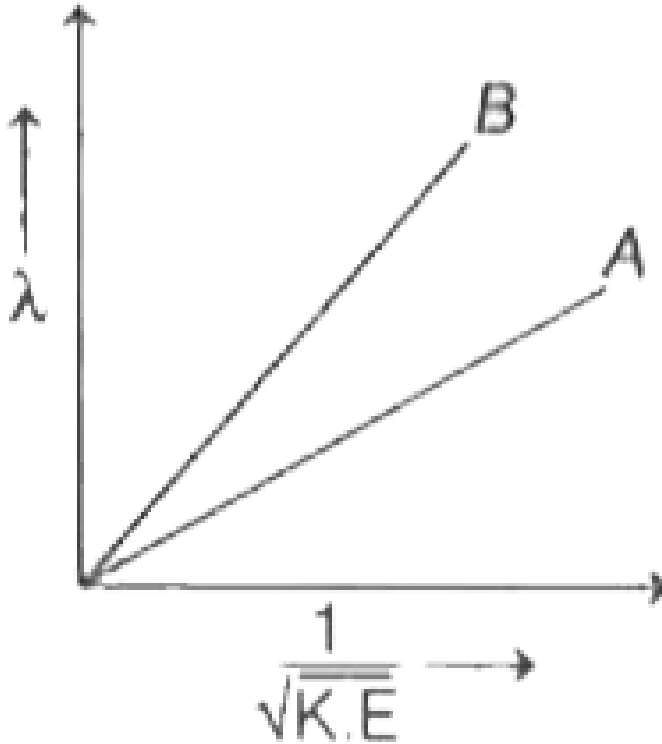
Answer: A



Watch Video Solution

2. The following plot represents the de-Broglie wavelength as a function of the kinetic energy (K.E.) of two particles A and B.

Identify the correct relation



A. $m_A = m_B$

B. $m_A < m_B$

C. $m_A > m_B$

D. $m_A = m_B = 0$

Answer: C

 [Watch Video Solution](#)

3. The correct option for the first ionisation enthalpy (in kJ mol^{-1}) of Li, Na, K and Cs respectively is

- A. 496, 520, 419, 374
- B. 374, 419, 496, 520
- C. 520, 496, 419, 374
- D. 374, 419, 520, 496 124.

Answer: C

 [Watch Video Solution](#)

4. Which of the following statements about BF_4^- and AlF_6^{3-} are correct?

(i) B and Al differ in their oxidation states.

(ii) B and Al differ in their covalency.

(iii) B obeys the octet rule.

(iv) B and Al are in diagonal relationship.

A. (i) , (ii)

B. (i), (iii), (iv)

C. (i) , (ii) , (iii)

D. (ii) ,(iii)

Answer: D



Watch Video Solution

5. Statement (A) CO_2 has no dipole moment, whereas SO_2 and H_2O have dipole moment.

Statement (B) $SnCl_2$ is ionic, whereas $SnCl_4$ is covalent.

Which of the following is correct?

A. Both (A) and (B) are not correct

B. is correct but (B) is not correct

C. Both (A) and (B) are correct

D. is not correct but (B) is correct

Answer: C



[Watch Video Solution](#)

6. Assertion (A) Xe atoms in XeF_2 are d^2sp^3 hybridised.

Reason (R) XeF_2 molecule does not follow octet rule.

Which of the following is correct?

A. Both (A) and (B) are not correct

B. is correct but (B) is not correct

C. Both (A) and (B) are correct

D. is not correct but (B) is correct

Answer: D



[Watch Video Solution](#)

7. 12cm^3 of $\text{SO}_2(\text{g})$ diffused through a porous membrane in 1 minute. Under similar conditions 120cm^3 of another gas diffused in 5 minutes. The molar mass of the gas in g mol^{-1} is

A. 32

B. 18

C. 44

D. 16

Answer: D



[Watch Video Solution](#)

8. 1 mole of gas A and 1 mole of gas B at $27^{\circ}C$ were pumped into a 24.6 L. volume pre-evacuated isolated flask. The catalyst coated inside the flask catalyses the following reaction

$A(g) + B(g) \rightarrow 2D(g)$. The kinetic energy of D is 98.03 L atm.

Calculate the pressure realised at the end of the reaction.

A. 1.66 atm

B. 2.66 atm

C. 5.33 atm

D. 4.33 atm

Answer: B



Watch Video Solution

9. 28 g KOH is required to completely neutralise CO_2 produced on heating 60 g of impure $CaCO_3$. The percentage purity of $CaCO_3$ is approximately (molar masses of KOH and $CaCO_3$ are 56 and 100g mol^{-1} , respectively)

A. 41.6

B. 40

C. 20.8

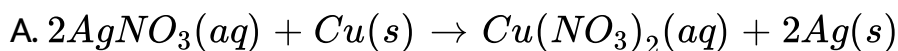
D. 83.3

Answer: A

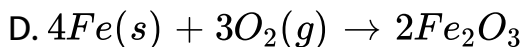
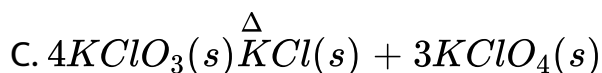
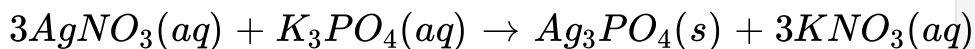


Watch Video Solution

10. Which one of following is a disproportionation reaction?



B.

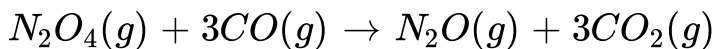


Answer: C



Watch Video Solution

11. The standard enthalpy of formation of $CO(g)$, $CO_2(g)$, $N_2O(g)$ and $N_2O_4(g)$ are respectively -10.393, 81 and -10 kJ mol⁻¹. Enthalpy change (in kJ) of the following reaction is



A. -1058

B. +1058

C. -957

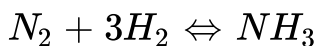
D. +957

Answer: A



Watch Video Solution

12. Consider the following reaction in a 1 L closed vessel.



If all the species: N_2 , H_2 and NH_3 are in 1 mol in the beginning of the reaction and equilibrium is attained after unreacted N_2 is 0.7 mol. What is the value of equilibrium constant?

A. 3600

B. 3657.14

C. 2657.14

D. 1828.57

Answer: B



Watch Video Solution

13. If the solubility product of $Ni(OH)_2$ is 4.0×10^{-15} the solubility (in mol L^{-1}) is

A. 5.0×10^{-5}

B. 4.0×10^{-5}

C. 2.0×10^{-5}

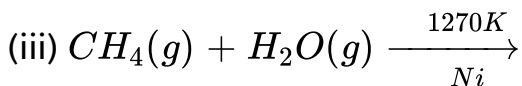
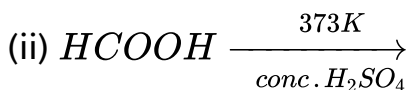
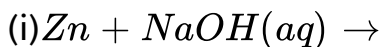
D. 1.0×10^{-5}

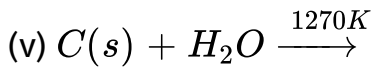
Answer: D



Watch Video Solution

14. Identify the reactions in which H_2 is liberated ?





A. (i), (iii), (iv), (v)

B. (i), (ii), (iii), (iv)

C. (ii), (iii), (iv), (v)

D. (i), (ii), (iii), (v)

Answer: A



Watch Video Solution

15. BeH_2 can be prepared by the reaction of

A. $BeXl_2$ with $LiAlH_4$

B. Be with H_2

C. Be with water

D. Be with liquid ammonia

Answer: A

 [Watch Video Solution](#)

16. $AlCl_3$ in water at $pH < 7$ forms

A. tetrahedral $Al(OH)_4^-$ ions

B. octahedral $Al(OH)_6^{3-}$ ions

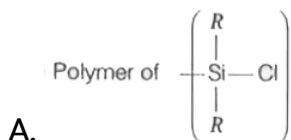
C. square planar $Al(OH)_4^-$ ions

D. octahedral $Al(OH_2)_6^{3+}$ ions

Answer: D

 [Watch Video Solution](#)

17. Which of the following is known as silicone ?



C. Polymer of SiO_2

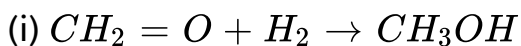
D. Polymer of $[\text{SiO}_4]^{4-}$

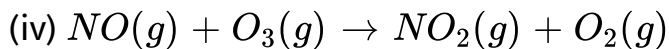
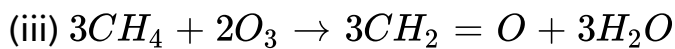
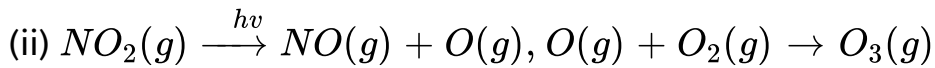
Answer: B



Watch Video Solution

18. Identify the reactions that occur in photochemical smog .





A. (ii) , (iii) , (iv)

B. (i) , (ii) , (iii)

C. (i) , (iii) , (iv)

D. (i), (iii) , (iv)

Answer: A



Watch Video Solution

19. IUPAC name of isoprene is

A. 1, 3-butadiene

B. 2, 3-dimethylbutadiene

C. 2-methyl-1, 3-butadiene

D. 1, 3-dimethylbutadiene

Answer: C

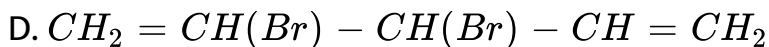
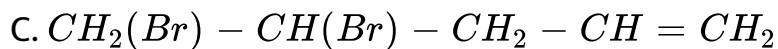
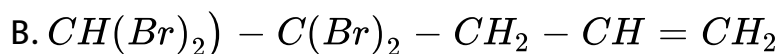
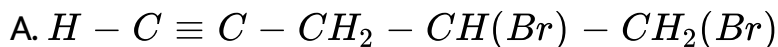
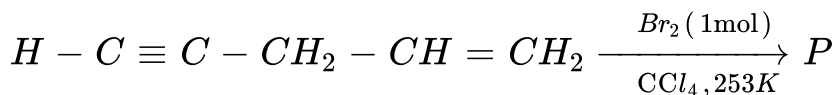
 [Watch Video Solution](#)

20. Identify the correct catalyst and reaction conditions for the controlled oxidation of methane to (i) methanol (X), (ii) methanal (1) and ethane to (iii) ethanoic acid (Z).



 [View Text Solution](#)

21. The major product (P) formed in the below reaction is



Answer: A



Watch Video Solution

22. Match the following

	List-I	List-II
A	$\uparrow \downarrow \uparrow \downarrow \uparrow \downarrow$	(i) Ferromagnetism
B	$\uparrow \uparrow \uparrow \uparrow \uparrow \uparrow$	(ii) Antiferromagnetism
C	$\uparrow \uparrow \downarrow \uparrow \uparrow \downarrow$	(iii) Ferrimagnetism

The correct answer is

- A. $A \rightarrow (i) B \rightarrow (iii) C \rightarrow (ii)$
- B. $A \rightarrow (iii), B \rightarrow (i) C \rightarrow (ii)$
- C. $A \rightarrow (ii) B \rightarrow (i) C \rightarrow (iii)$
- D. $A \rightarrow (i) B \rightarrow (ii) C \rightarrow (iii)$

Answer: C



Watch Video Solution

23. How many grams of glucose must be added to 0.5 liter of a solution so that its osmotic pressure is same as that of a solution of 9.2 g of glucose dissolved in a liter?

A. 1.15

B. 9.22

C. 2.31

D. 4.6

Answer: D



Watch Video Solution

24. Molarity of a 50 mL H_2SO_4 solution is 10.0 M. If the density of the solution is 1.4 g/cc, calculate its molality

A. 7.14

B. 8

C. 10

D. 0.5

Answer:



Watch Video Solution

25. Limiting molar conductivity of Mg^{2+} and Cl^{-} ions in water is 106.0 and $76.3 Scm^2 mol^{-1}$. The limiting molar conductivity of magnesium chloride (in $Scm^2 mol^{-1}$) in water is

A. 182.3

B. 258.6

C. 288.3

D. 364.6

Answer: B



Watch Video Solution

26. A particular reaction has a rate constant $1.15 \times 10^{-3} \text{ s}^{-1}$.

How long does it take for 6 g of the reactant of reduce to 3 g?

($\log 2 = 0.301$)

A. 301s

B. 603 s

C. 840 s

D. 15 s

Answer: B



Watch Video Solution

27. If the value of $\frac{1}{n}$ is equal to 1 in Freundlich adsorption isotherm, then $\frac{x}{m} = (x = \text{mass of adsorbate, } m = \text{mass of the adsorbent, } p = \text{pressure of the gas})$

A. $\frac{K}{p}$

B. Kp

C. K

D. 0

Answer: B



Watch Video Solution

28. What is the slag formed during the extraction of iron ?

A. MgO

B. $FeSiO_3$

C. $CaSiO_3$

D. $MgSiO_3$

Answer: C

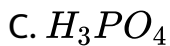


Watch Video Solution

29. What is the chemical formula of hypophosphorus acid?

A. H_3PO_3

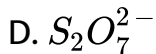
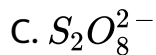
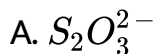
B. H_3PO_2



Answer: B

 [Watch Video Solution](#)

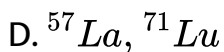
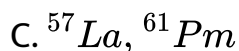
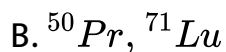
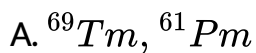
30. Which of the following ions possesses S - O - S bond ?



Answer: D

 [Watch Video Solution](#)

31. Which of the elements possess only one electron in 5d-orbital?



Answer: D



Watch Video Solution

32. The electronic configuration of Cr in $\text{Cr}(\text{CO})_6$ as calculated using crystal field theory is

A. $t_{2g}^4 e_g^0$

B. $t_{2g}^3 e_g^1$

C. $t_{2g}^6 e_g^0$

D. $t_{2g}^4 e_g^2$

Answer: C



Watch Video Solution

33. Match the following

List-I	List-II
A Natural rubber	(i) β -glucose
B Cellulose	(ii) Isoprene
C Nylon-6	(iii) Tetrafluoroethylene
D Teflon	(iv) Caprolactam
	(v) Hexamethylenediamine, adipic acid

The correct answer is

A. $A \rightarrow (i)B \rightarrow (i)C \rightarrow (iv)D \rightarrow (iii)$

B. $A \rightarrow (ii)B \rightarrow (iv)C \rightarrow (i)D \rightarrow (iii)$

C. $A \rightarrow (iv)B \rightarrow (i)C \rightarrow (ii)D \rightarrow (iii)$

D. $A \rightarrow (ii)B \rightarrow (iii)C \rightarrow (iv)D \rightarrow (v)$

Answer: A



Watch Video Solution

34. Identify the non-reducing sugar from the following

A. Maltose

B. Sucrose

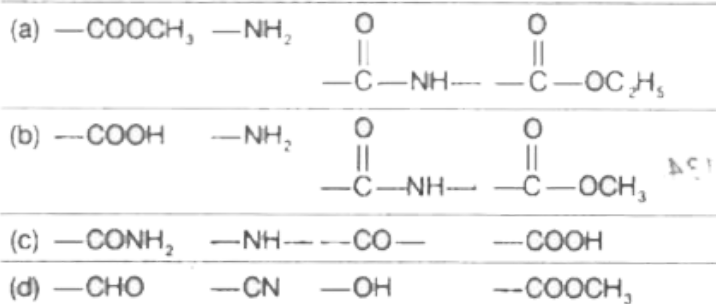
C. Lactose

D. Glucose

Answer: B

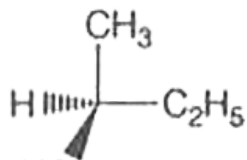
 Watch Video Solution

35. Identify the correct set of functional groups present in aspartame, an artificial sweetener.

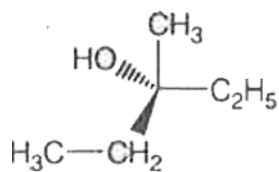


 Watch Video Solution

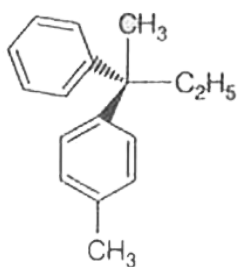
36. Which of the following molecules is not chiral ?



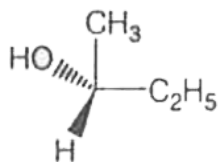
A. HO



B.



C.



D.

Answer: B



Watch Video Solution

37. The major product obtained in the reaction of bromobenzene with Mg in dry ether followed by the reaction with benzonitrile and hydrolysis is

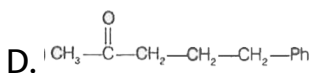
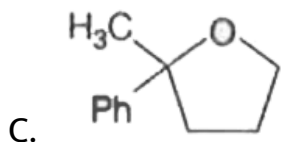
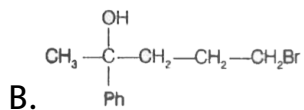
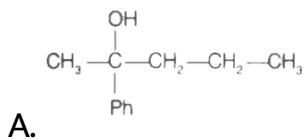
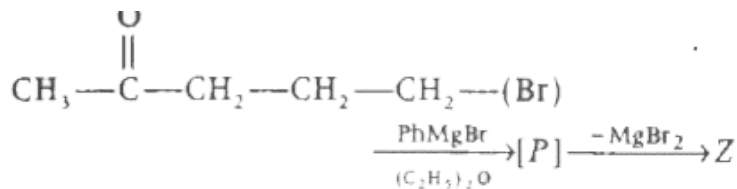
- A. acetophenone
- B. benzophenone
- C. phenyl benzoate
- D. benzoic acid

Answer: B



Watch Video Solution

38. The major product (Z) of the following chemical reaction is

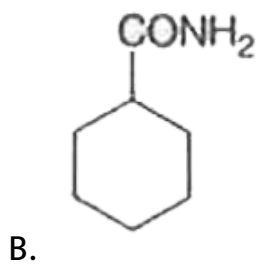
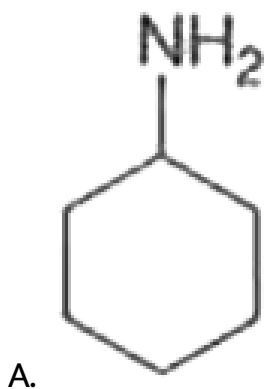
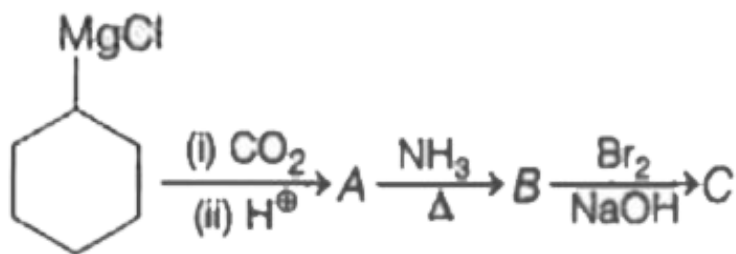


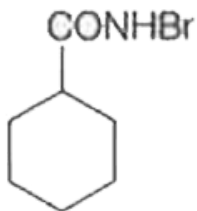
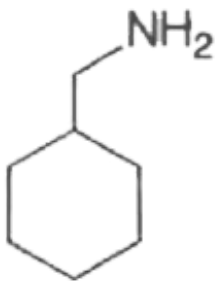
Answer: C



Watch Video Solution

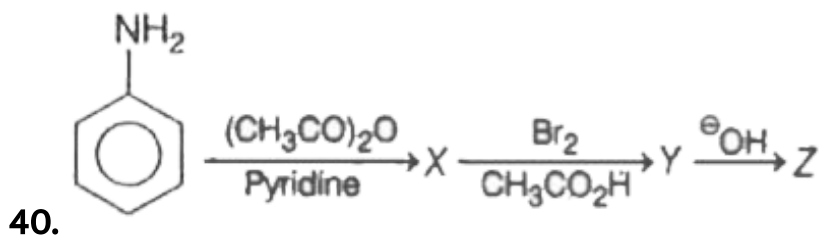
39. In the below given synthetic sequence , the product "C" is



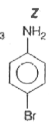
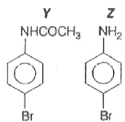


Answer: A

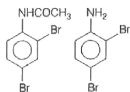
 Watch Video Solution



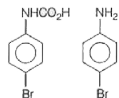
What are structure of , X , Y and Z in the above given reaction sequence ?



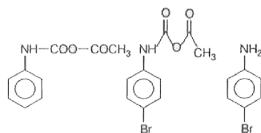
A.



B.



C.



D.

Answer: A



Watch Video Solution