

CHM112 CBT CA QUESTIONS (2019/20)

1. A solution has a specific rotation of +66. What can be said about it
 - A) It is a mixture of R and S isomers
 - B) It is an R and dextroratory
 - C) It is S and dextroratory
 - D) It is dextroratory but the configuration? can't be determined
2. Ethylene is an
 - A) Alkyne
 - B) Alkane
 - C) Alkene
 - D) Ethyne
3. Structure of 4,4,5-trihydroxyl octane
4. Another name for C_6H_5OCl
5. The reaction of hydrogen chloride and pent-1-ene gives
 - A) 1 chloropentane
 - B) 2 chloropentane
 - C) Chloropentane
6. Reaction of propene with HOCl gives
 - A) 1-Chloropropan-2-ol
 - B) 2-Chloropropan-1-ol
7. Reaction of hex-2-ene and HCl gives:
 - A) 2-chlorohexane
 - B) 3-chlorohexane
 - C) 2,3-dichlorohexane
8. Which if the following contains a ketone group and an alkanolic group
 - A) Butyric acid
 - B) Propionic acid
 - C) Acetic acid
 - D) Formic acid
9. The unstable product of the ozonolysis of alkene is
10. Hexa-1,3,5-triene is what
 - A) Benzene
 - B) Methylbenzene
 - C) phenol
11. Which of the following is correct?
 - A) Geometric isomerism is conformational
 - B) Geometric isomerism is constitutional
 - C) Cis and trans isomers are configurational
12. Which is not a chiral molecule
 - A. 4-bromoheptane
 - B. 3-bromoheptane
13. $CH_3C(CH_3)_2CHOHCH_3$ is what?
14. Which is a chiral molecule

- A. Bromomethane
B. Chlorofloromethane
C. Chlorofloromethanol
15. $\text{CHCCH}(\text{CH}_3)\text{CH}_2\text{CHCH}_2$
A. 4-methylhex-5-yn-1-ene
B. 3-methylhex-5-ene-2-yne
C. 4-methylhex-1-en-5-yne
16. Number of electrons or pi bond in toluene, phenol and nitrobenzene
A. 2,2,2
B. 2,4,6
C. 6,6,8
17. Ozonolysis of 2-methylhept-3-ene
A. Butanal and propanal
B. 2 methyl propanal and butanal
18. Nicotine has how many asymmetric centers
A. One
B. Two
C. Three
19. CH_3^- has what hybridization
A. sp^3
B. sp^2
C. sp
D. s
20. C_6H_5 is
A. phenyl
B. Toluene
C. benzene
21. How many hydrogen is required to saturate 2 triple bonds 2 double bonds 1 cyclic structure
A. 12
B. 14
C. 8
22. Molecular formula for benzoyl chloride
23. If an alkane was added to an alkene to give a larger molecule, what is the process called?
24. What's the IUPAC for $\text{CH}_3\text{CH}_2\text{COOC}_6\text{H}_5$
A. Phenylpropanoate
B. Benzylpropanoate
25. The process of dehydrogenating Alkane to form Alkyne is
A. Oxidation
B. Substitution
26. In a reaction where a molecule donates electron to a hydrocarbon, the reaction is called?
A. Electrophilic addition
B. Nucleophilic addition
C. Electrophilic substitution

- D. Nucleophilic substitution
27. Neutrophils are known as
- A. Lewis acid
 - B. Lewis base
28. Which of the following is non-aromatic heterocyclic
- A) Furfural
 - B) Furan
 - C) Thiophene
 - D) 2,3-dihydrofuran
29. Find the molecular formula for alkanes
30. All hydrocarbons undergo
- A. Elimination
 - B. substitution
 - C. Combustion
 - D. Addition
31. what is the phenomenon that describes the actual sequence of bond breaking and forming during the course of a chemical rxn
- A. reaction pathway
 - B. reaction mechanism
32. Hydrogenation of alkenes is also known as
- A. Elimination
 - B. Substitution
 - C. Addition
33. which of the following rxns involves the production of 3,4-dichloroheptane from hept-3-ene
34. The addition of halogen water to alkenes gives
35. The catalyst used during the formation of 1-cyanobutene from butyne
36. a simple sugar $C_xH_yO_8$ is attached to what functional group
- A. -OH and -CHO
 - B. OH and CHO
 - C. ... And COOH
37. heterolytic fission gives
38. 6-bromo-4-ethyl-2-heptanol is a
- A. primary alcohol
 - B. secondary Alcohol
 - C. Tertiary Alcohol
39. Which of these represent the formula for stereo isomer
- A. n into power of 2
 - B. 2 into power of n
 - C. $2n$ into power of 2
 - D. $2n$ into power of n
40. In Cahn- Prelog- Ingold nomenclature of enantiomers, which of the following will be assigned the lowest priority?
- A. $-CH_2OH$
 - B. $-CHO$

- C. $-\text{CH}=\text{SH}$
 D. $-\text{COCH}_3$
41. A question on a compound having 5 assymetrical centres, what is the number of isomers
 42. Which of the following is the relationship between configuration and optical rotation?
 A. There is no relationship between them
 B. All dextrorotatory compounds have R configuration
 C. All dextrorotatory compounds usually have R configuration except few
43. The functional group of ether is
 A. ROR'
 B. RCOOR'
 C. RCOOH

ANSWERS

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|---------------------|----------------------------|---------------------------------|------------------------------|--------|
| 1. D | 11. C | 21.A | 31. B | 41. 32 |
| 2. C | 12. B | 22. CHECK Q4 | 32. C | 42. A |
| 3.----- | 13. 3,3-dimethyl-2-butanol | 23. Alkylation | 33. Halogenation | 43. A |
| 4. Benzoyl Chloride | 14. C | 24. A | 34. Haloalkanol | |
| 5. B | 15. C | 25. A | 35. $\text{Ba}(\text{CN})_2$ | |
| 6. B | 16. C | 26. C | 36. B | |
| 7. B | 17. B | 27. B | 37. Electro/nucleophiles | |
| 8. D | 18 A | 28. D | 38. B | |
| 9. Ozonide | 19. A | 29. $\text{C}_n\text{H}_{2n+2}$ | 39. A | |
| 10. A | 20. A | 30. B | 40. A | |