جامعة الملك سعود - كلية العلوم – قسم الكيمياء
الفصل الصيفي 1438 هـ (2017 م)
الاختبار الفصلي الأول البديل في مقرر 145 كيم (25-11-1438 هـ)
الزمن: 90 دقيقة
أسم الطالب: رقم الطالب:
أستاذ المقرر أ. د. /

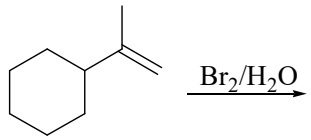
نموذج الأجابة:

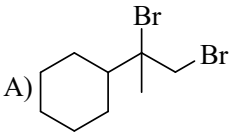
ملاحظة هامة: تصحيح الامتحان سيكون بناء على الإجابة المكتوبة في الجدول أسفل (حرف الإجابة الصحيحة) ولن ينظر الى بقية الأوراق والتي تعتبر مسودة.

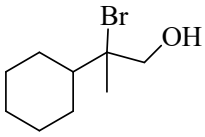
رقم السؤال	الإجابة	رقم السؤال	الإجابة
1	C	16	C
2	D	17	C
3	C	18	B
4	A	19	A
5	B	20	D
6	D	21	C
7	A	22	A
8	C	23	B
9	D	24	D
10	B	25	A
11	A	26	C
12	C	27	A
13	B	28	D
14	D	29	B
15	A	30	A

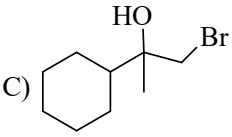
Choose the correct answer for each of the following Questions

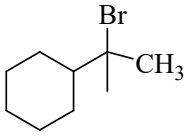
1. **The product of the reaction shown below is ……**



A) 

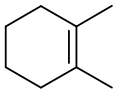
B) 

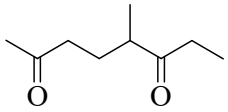
C) 

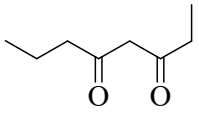
D) 

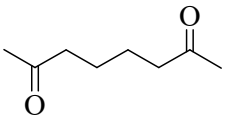
2. **The number of structural isomers for the molecular formula C_5H_{12} is …….**

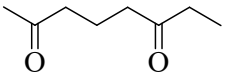
A) 1 B) 2 C) 4 D) 3

3. **Ozonoloysis of**  **yields ……**

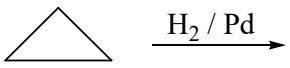
A) 

B) 

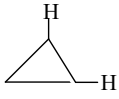
C) 

D) 

4. **The product of the following reaction is ……**

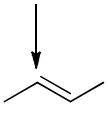


A) $CH_3CH_2CH_3$ B) CH_3CH_3

C) 

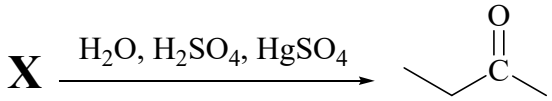
D) pd
|
CH_3 -CH-CH_3

5. **The type of hybridization of the selected carbon in the following structure is …**



A) sp^3d B) sp^2 C) sp^3 D) sp

6. The compound <u>X</u> in the following reaction is .....



A) Butane B) Butene C) 2-Chlorobutene D) ButYne

7. The carbon bearing a negative charge is called …….

A) carbanion B) Free radical C) carbocation D) cation

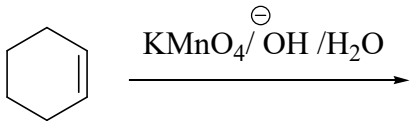
8. At room temperature, alkenes from C_5 to C_{17} are …….

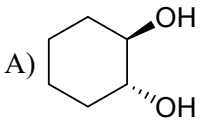
A) gases B) solids C) liquids D) semisolids

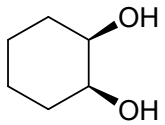
9. The compound with the highest boiling point is ……

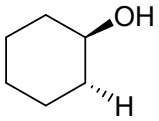
A) *n*-Pentane B) 2,2-Dimethylbutane
C) 2-Methylpentane D) *n*-Hexane

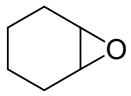
10. The product of the following reaction is ……



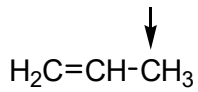
A) 

B) 

C) 

D) 

11. The geometry of the selected carbon is …….



A) Tetrahedral B) Trigonal planar C) Bent D) Linear

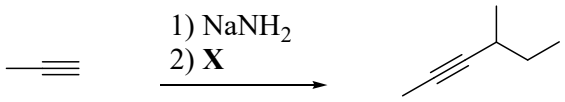
12. The number of bonds in 1-pentyne are ……

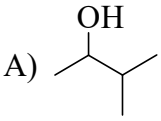
A) Twelve σ and four π bonds **B)** Twelve σ and three π bonds
C) Twelve σ and two π bonds **D)** Twelve σ and one π bonds

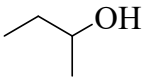
13. Acetylene is the common name for?

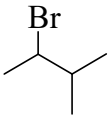
A) Propene B) Ethyne C) Ethene D) Ethane

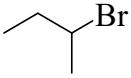
14. The reagent X needed for the following transformation is _____



A) 

B) 

C) 

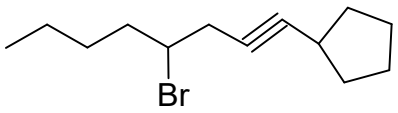
D) 

15. The product of the following reaction is ……

A) *trans*-2-Butene B) *cis*-2-Butene C) *trans*-2-pentene D) Butane

16. The <u>incorrect answer</u> about the compound $H_3C\text{-}CH{=}CH\text{-}CH_3$ **is …….**

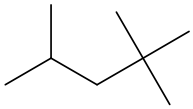
A) It can exist as *trans* or *cis* form
B) Its name is 2-butene
C) Addition of water to this compound gives two structural isomers
D) Its hydrogenation gives Butane

17. The IUPAC name of 

is …….

A) 1-Cyclopentyl-4-bromo-1-octyne
B) 8-Cyclopentyl-5-bromo-8-octyne
C) 4-Bromo-1-cyclopentyl-1-octyne
D) 4-Bromo-1-pentyl-1-octyne

18. What is the IUPAC name for the following compound?



A) 1,3-Pentamethylpropane
B) 2,2,4-Trimethylpentane
C) 2,4,4-Trimethylpentane
D) 1,1,1,3-tetramethylbutane

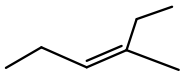
19. The following name is incorrect

A) 2-ethylpropane
B) 2,2-dimethylpentane
C) 2-methylhexane
D) *n*-pentane

20. Select the correct formula of 2-methyl pentane?

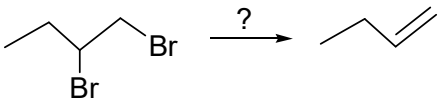
A) C_5H_{12} B) C_5H_{16} C) C_6H_{12} D) C_6H_{14}

21. Which of the following is the correct IUPAC name of the following compound?



A) *E*-2-Ethyl-2-pentene
B) *Z* -2-Ethyl-2-pentene
C) *Z*-3-Methyl-3-hexene
D) *E*-3-Methyl-3-hexene

22. What is the reagent needed for the following transformation?



A) Zn/AcOH B) H_3O^+ C) KOH/Alcohol/Heat D) H^+/Heat

23. Which one of the following is a nucleophile?

A) $AlCl_3$ B) $CN^{\ominus}$ C) $H_3O^{\oplus}$ D) BF_3

24. Which of the following molecules has an ionic bond?

A) NH_3 B) H_2 C) CH_4 D) NaCl

25. The monochlorinated ethane can be obtained under the following experimental conditions is ……

A) $H_3C-CH_3 + Cl_2 \xrightarrow{\text{UV light}}$ B) H_3C-CH_3(excess) $+ Cl_2 \xrightarrow{\text{UV light}}$

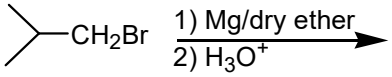
C) $H_3C-CH_3 + Cl_2 \xrightarrow{\text{Dark, R.T.}}$ D) $H_3C-CH_3 + Cl_2$ (excess) $\xrightarrow{\text{UV light}}$

26. When carbon is bonded to two other carbon atoms, it is called a …….

A) Primary carbon
B) Tertiary carbon
C) Secondary carbon
D) Quaternary carbon

27. The IUPAC name for Vinyl chloride is ……

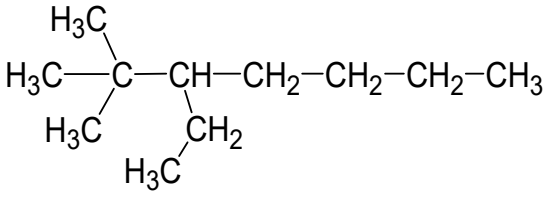
A) Chloroethene
B) Chloroethane
C) Chlorobenzene
D) Chloroethyne

28. The product of the following reaction 

is ……

A) Pentane. B) Propane. C) *n*-Butane D) Isobutane.

29. The IUPAC name for the following formula is ……



A) 5-Ethyl-6,6-dimethylheptane B) 3-Ethyl-2,2-dimethylheptane
C) 2,2-Dimethyl-3-ethylheptane D) 6,6-Dimethyl-5-ethylheptane

30. Sodium reacts with alkyl halides in dry ether to form alkanes, the reaction is known as ……

A) Wurtz synthesis B) Grignard reagent
C) nucleophilic substitution D) none