

Final Exam
Academic Year 1440-1441 Hijri- First Semester

Exam Information معلومات الامتحان		
Course name	Organic Chemistry (I)	
Course Code	CHEM 240	
Exam Date		
Exam Time	01: 00 PM	
Exam Duration	2 hours	ساعتان
Classroom No.	1ب46 - 1أ71 - 1أ78 - 1أ79 مبنى 5	
Instructor Name	أ.د. حمد اللحيدان / د. هاني الهمشري / د. عاصم بركات	
	اسم المقرر	رمز المقرر
	تاريخ الامتحان	وقت الامتحان
	مدة الامتحان	رقم قاعة الاختبار
	اسم استاذ المقرر	

Student Information معلومات الطالب		
Student's Name		
ID number		
Section No.		
Serial Number		
	اسم الطالب	الرقم الجامعي
	رقم الشعبة	الرقم التسلسلي
	تعليمات عامة:	

General Instructions:

- Your Exam consists of **8** PAGES (except this paper)
- Keep your mobile and smart watch out of the classroom.

- عدد صفحات الامتحان **8** صفحة. (باستثناء هذه الورقة)
- يجب إبقاء الهواتف والساعات الذكية خارج قاعة الامتحان.

هذا الجزء خاص بأستاذ المادة

This section is ONLY for instructor

#	Course Learning Outcomes (CLOs)	Related Question (s)	Points	Final Score
1	Knowledge	15-1		
2	Skills	25-16		
3	competences	40-26		
4				
5				
6				
7				
8				

King Saud University

College of Science- Chemistry Department

Final Exam CHEM 240 (1st 1440/1441)



Time allowed (2.0 hours)

Organic Chemistry I- (Chemistry program, College of Science, KSU).

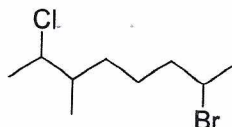
Name: _____

ID: _____

Kindly insert your final answer in the following table:

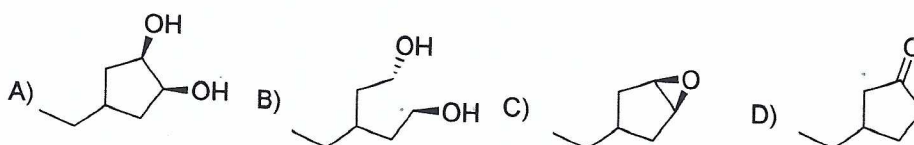
Question No	Answer	Question No	Answer
1		21	
2		22	
3		23	
4		24	
5		25	
6		26	
7		27	
8		28	
9		29	
10		30	
11		31	
12		32	
13		33	
14		34	
15		35	
16		36	
17		37	
18		38	
19		39	
20		40	

1. The (IUPAC) name of the following compound is :

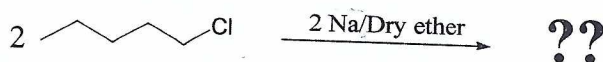


- A. 2-Bromo-7-chloro-6-methyloctane
- B. 2-Bromo-5-chloro-2-ethyloctane
- C. 7-Bromo-4-chloro-3-methyloctane
- D. 6-Bromo-3-chloro-2-ethylheptane

2. The product of the following reaction gives

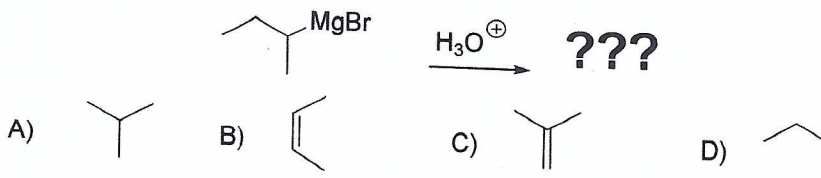


3. The product for the following reaction is:

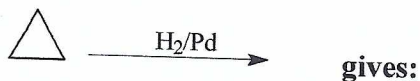


- A. Nonane
- B. Octane
- C. Decane
- D. Hepatne

4. The reagent needed for the following transformation is



5. The reaction of



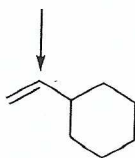
- A. CH_3CH_3
- B. $\text{CH}_3\text{CH}_2\text{CH}_3$
- C.
- D. $\text{CH}_3 - \overset{\text{Pd}}{\underset{|}{\text{CH}}} - \text{CH}_3$

6. The following compounds are considered as:



- A. The same compounds
- B. Optical isomers
- C. Structural isomers
- D. Geometric isomers

7. The type of hybridization of the indicated carbon in the following structure is

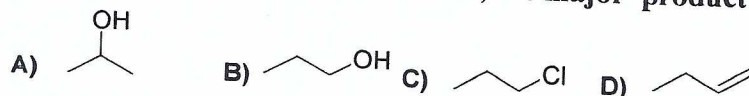


- A) sp
- B) sp^3d
- C) sp^2
- D) sp^3

8. The most unstable ring in the following cycloalkane is:



9. When 1-propene reacted with H_2O , the major product will be:

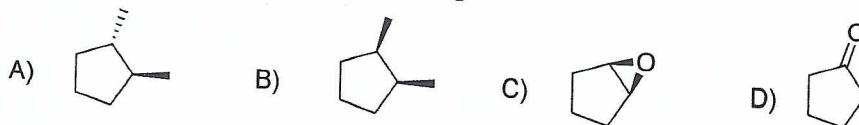


10. How many σ bonds are in the cyclopentane?

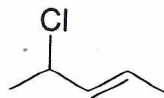


- A. 5
- B. 10
- C. 13
- D. 15

11. *cis* 1,2-Dimethylcyclopentane compound is



12. The IUPAC name of the following structure is



- A. *cis*-4-Chloro-2-pentene
- B. *trans*-2-Chloro-3-pentene
- C. *cis*-2-Chloro-3-pentene
- D. *trans*-4-Chloro-2-pentene

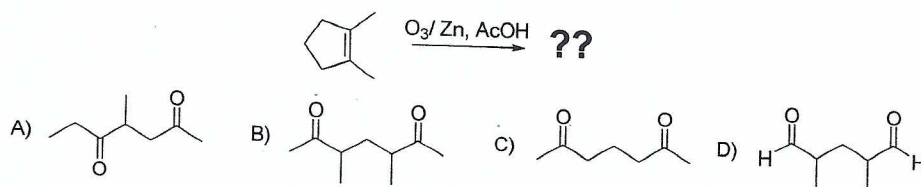
13. Bromine reacts with an alkene in water to give a:

- A. Bromohydrin
- B. gem dibromide
- C. vic dibromide
- D. Monobromide

14. Saytzeff's rule states the is formed most readily

- | | |
|------------------------------|-----------------------------|
| (A) Least substituted alkene | (B) Most substituted alkene |
| (C) Least substituted alkane | (D) Most substituted alkane |

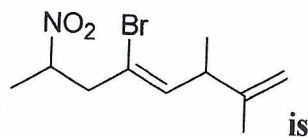
15. The product of the following reaction is



16. E/Z nomenclature refers to

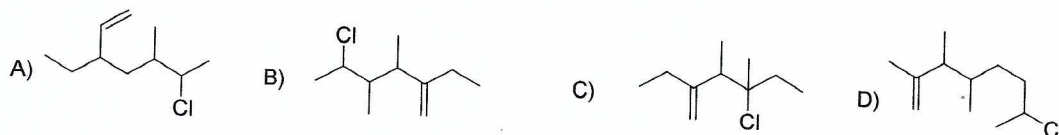
- A. Giving common names to compounds
- B. Geometrical isomers
- C. Optical activity
- D. Conformation of aromatic compounds.

17. The IUPAC name for the following compound

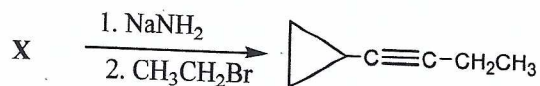


- A) 3-Bromo-6,7-dimethyl-2-nitro-4,7-octadiene
 B) 2,3-Dimethyl-5-bromo-7-nitro-1,4-dioctene
 C) 5-Bromo-2,3-dimethyl-7-nitro-1,4-octadiene
 D) 5-Bromo-2,3-dimethyl-7-nitro-1,4-dioctene

18. The structure of 5-chloro-2-ethyl-3,4-dimethyl-1-hexene is



19. The unknown compound X is

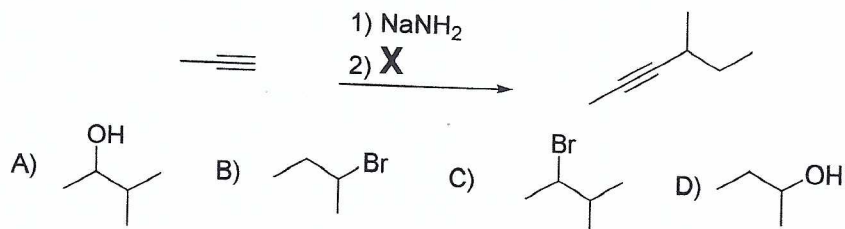


- A) B) C) D)

20. The compound with the highest boiling point is

- A) *n*-Hexane
 B) 3-Methylpentane
 C) 2,2-Dimethylpentane
 D) 2-Methylbutane

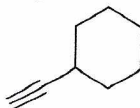
21. The reagent X needed for the following transformation is



22. Addition of excess Br_2 to alkyne gives

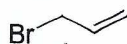
- A) Tribromo alkane
 B) Dibromo alkene
 C) Tetrabromo alkane
 D) Tetrabromo alkene

23. The number of bonds in cyclohexylacetylene are:



- A) Twenty σ and one π bonds
- B) Twelve σ and four π bonds
- C) Twenty σ and two π bonds
- D) Twelve σ and two π bonds

24. The correct common name of the following compound is:



- A) Vinyl bromide
- B) Ethyl bromide
- C) Bromoethene
- D) Allyl bromide

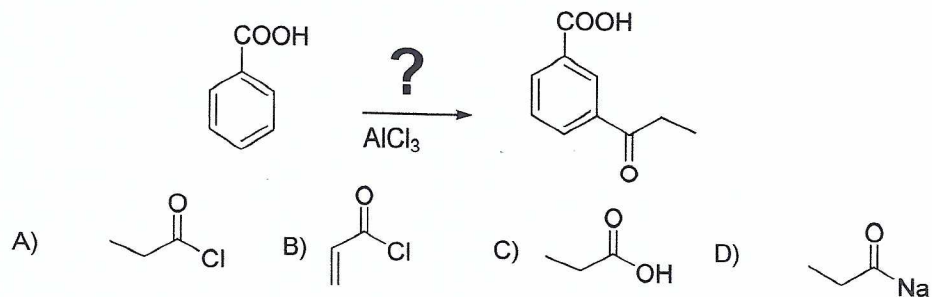
25. Methylacetylene is the common name for

- A) Propane
- B) Propanol
- C) Propene
- D) Propyne

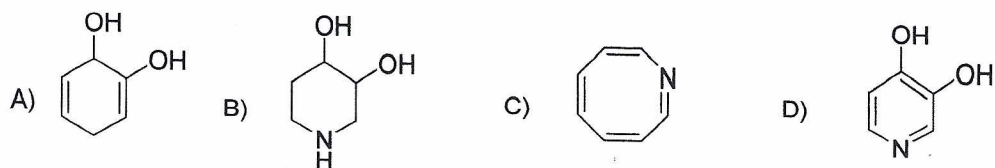
26. The carbon bearing a negative charge is called

- A) Carbonium ion
- B) Free radical
- C) Carbanion
- D) Carbocation

27. Which of the following reagents can be used for the following transformation?



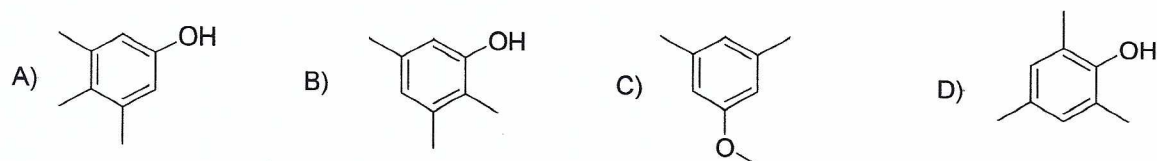
28. Which of the following compounds has an aromatic character?



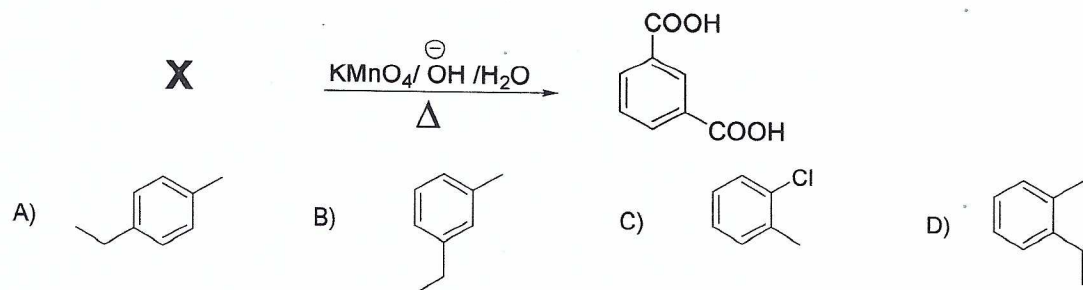
29. Which of the following aromatic compounds contains 7 carbon atoms?

- A) *o*-Xylene B) 1,2-Dichlorobenzene C) Toluene D) Ethylbenzene

30. Which of the following is 2,3,5-trimethylphenol?



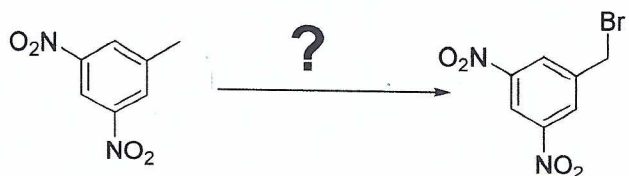
31. The reactant **X** is



32. Which of the following compounds can undergo electrophilic aromatic substitution reaction?

- A) Ethene B) Benzene C) Ethanamine D) Ethane

33. The reagent needed for the following transformation is

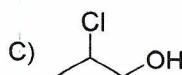
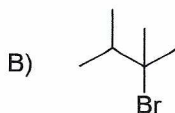
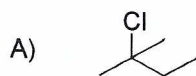


- A) $\text{Br}_2 + \text{FeBr}_3$ B) HNO_3 and H_2SO_4 C) KMnO_4 and heat D) Br_2 and heat or light

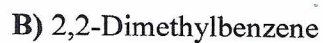
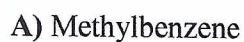
34. Which of the following molecules has an ionic bond?



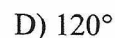
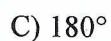
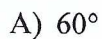
35. Which of the following compounds can exist as enantiomers?



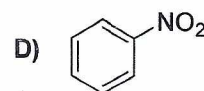
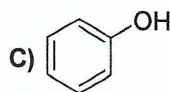
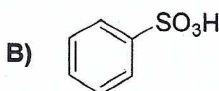
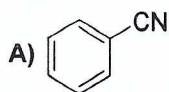
36. One of the following name is incorrect



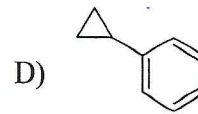
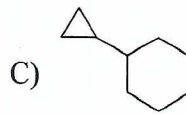
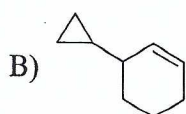
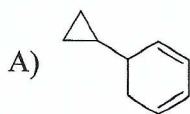
37. The bond angle in ethene is



38. Which of the following substituted benzenes have o,p-directing group?



39. The structure of phenyl cyclopropane is



40. Which of the following is chiral compound?

