Philadelphia University
Faculty Of Science
Department Of Biotechnology and Genetic Engineering
Second semester 2015-2016
Organic Chemistry 0212243
FIRST EXAM

Time: 60 min. **Date:7/8/2016**

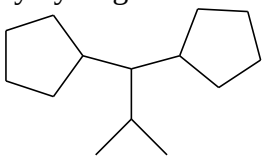
Name :…… **Student No.:** ……..……

Question 1 : Circle the correct answer in each of the following :

1. The hybridization of Nitrogen in H—C≡N—O
   a) sp^3 b) sp^2 c) sp d) sp^3d

2. The number of pi bond (π bond) in the above compound:
   a) 1 b) 3 c) 2 d) zero

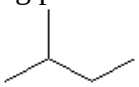
3. The number of tertiary hydrogen 3^0 in the following compound

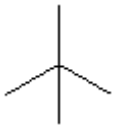


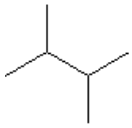
   a) 2 b) 3 c) 4 d) 5

4. The alkane with the lowest boiling point is

a) 

b) 

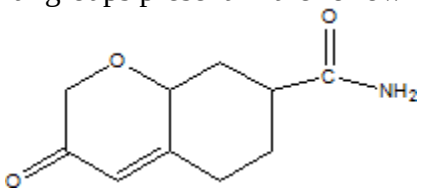
c) 

d) 

5. The correct IUPAC name among the following is :

   a) 1,3-dimethylcyclohexane b) 2-ethylpentane
   c) 2-mehylcyclopentane d) 1-chloro-2-bromobuane

6. The functional groups present in the following compound are :

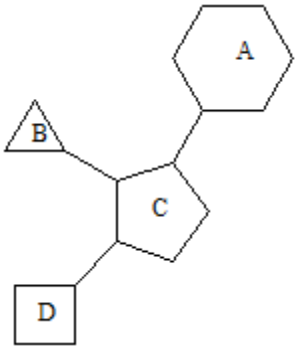


   a) Ketone, alkene, amine, ester b) Amide, ester, ether, alkene
   c) Acid, ester, ketone, alkene d) Amide, ketone, ether, alkene

7. What shape does the methyl cation, CH_3^+, have

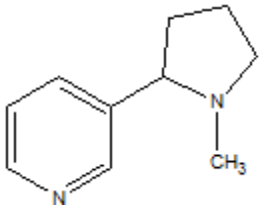
a) Tetrahedral b) Trigonal planar c) Bent d) Linear

8. In the structure below, the rings can be arranged according to angle strain as following :



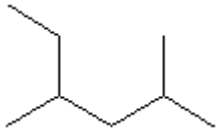
a) A >B >C >D b) D >B >C >A
c) B =D >C >A d) B >D >C>A

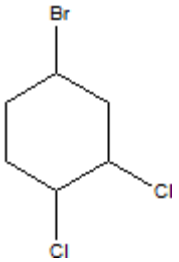
9. The formula of nicotine is :



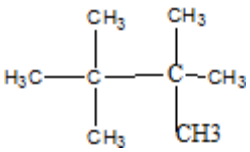
a) $C_9H_{11}N_2$ b) $C_{10}H_{14}N_2$ c) $C_{12}H_{14}N_2$ d) $C_{10}H_{16}N_2$

Question 2 : Give The IUPAC name of each of the following :

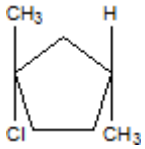
1.  …….

2. 

……..

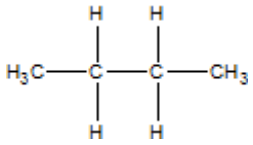
3. 

……...

4. 

……

Question 3: view the following structure through C2 ——C3 bond, draw Newman projection of :



- The most stable conformation , its name

- The least stable conformation , its name

Question 4 : Draw the structure for each of the following :

1. 5-Isopropyl-methyloctane

2. The alkane C_5H_{12} hat has the highest boiling point among all the structural isomer

3. Two structural(constitutional) isomer of $C_3H_6Br_2$

4. Structure for the compound C_4H_6 which contains <u>two sp^3</u> hybridized and <u>two sp</u> hybridized carbon atoms.

5. A skeletal formula for $(CH_3)_3CCH(OH)CH(Br)CH_3$