Question 1

If a monocyclic alkane hydrocarbon contains n carbon atoms, how many hydrogen atoms must it also contain?
• n - 2
• n
• 2n
• n + 2
• 2n + 2
Answer: https://biology-forums.com/index.php?topic=1897427

Question 2

The hydrogen atom abstraction step in the free radical bromination of methane is endothermic. Use the Hammond Postulate to speculate on the extent of bond formation and bond cleavage in the transition state.
Answer: https://biology-forums.com/index.php?topic=1897586

Question 3

Provide the name of the major organic product that results when cyclopentanol is subjected to the following sequence of reactions: 1. NaH; 2. CH3CH2Br.
Answer: https://biology-forums.com/index.php?topic=1898515

Question 4

Draw the alkene product which results when 1-bromopentane is heated in acetone containing NaOH. Give a detailed, step-by-step mechanism for the production of this compound.
Answer: https://biology-forums.com/index.php?topic=1897991

Question 5

Which of the following stretches tends to be the least intense?
• C=O
• C=C
• C-H
• O-H (carboxylic acid)
• O-H (alcohol)
Answer: https://biology-forums.com/index.php?topic=1899219

Question 6

What type of intermediate is present in the SN2 reaction of cyanide with bromoethane?
• carbene
• free radical
• carbanion
• carbocation
• This reaction has no intermediate.
Answer: https://biology-forums.com/index.php?topic=1897785

Question 7

Describe how soaps function as cleaning agents.
Answer: https://biology-forums.com/index.php?topic=1900165

Question 8

Provide a detailed, stepwise mechanism for the reaction of acetyl chloride (CH3COCl) and 2 equivalents of PhMgCl.
Answer: https://biology-forums.com/index.php?topic=1898386

Question 9

Which of the following reactive intermediate species maintains sp3 hybridization?
• methyl carbanion
• dibromocarbene
• tertiary carbocation
• secondary alkyl radical
• both B and C
Answer: https://biology-forums.com/index.php?topic=1897592

Question 10

Draw the Lewis structure for boric acid, B(OH)3, including all non-bonding lone pairs.
Answer: https://biology-forums.com/index.php?topic=1897165

Question 11

Which compound generates positive peaks for the carbonyl in both its DEPT-90 and DEPT-135 spectra?
• H2CO
• CH3CH2CONH2
• CH3CH2COCH3
• CH3CO2CH2CH3
• CH3CH2CHO
Answer: https://biology-forums.com/index.php?topic=1899365

Question 12

Absorption of what type of electromagnetic radiation results in transitions among allowed vibrational motions?
• ultraviolet light
• microwaves
• infrared light
• radio waves
• X-rays
Answer: https://biology-forums.com/index.php?topic=1899211

Question 13

Provide a series of steps through which 2-methylbutane is converted into 2-methylbut-1-ene.

Answer: https://biology-forums.com/index.php?topic=1897997

Question 14

Name the aldol produced when butanal is treated with NaOH.
Answer: https://biology-forums.com/index.php?topic=1899144

Question 15

Use the following three structures to answer the two questions below.

The relationship between I and III is: _____.
• enantiomers
• constitutional isomers
• same compound
• diastereomers
Answer: https://biology-forums.com/index.php?topic=1897712

Question 16

Provide a series of synthetic steps by which p-methylanisole can be prepared from p-cresol.
Answer: https://biology-forums.com/index.php?topic=1898616

Question 17

Which of the following terms best describes the pair of compounds shown: enantiomers, diastereomers, or the same compound?

Answer: https://biology-forums.com/index.php?topic=1897706

Question 18

What is the major organic product that results when 3-heptyne is hydrogenated in the presence of Lindlar's catalyst?
• 2-heptyne
• (Z)-2-heptene
• (Z)-3-heptene
• (E)-3-heptene
• heptane
Answer: https://biology-forums.com/index.php?topic=1898256

Question 19

In the addition of an electrophile to acetophenone, which of the following best describes the expected mode of reaction?
• All positions (o, m, and p) are equally activated to attack by the electrophile.
• The o,p-positions are most activated to attack by the electrophile.
• The m-positions are most activated to attack by the electrophile.
• The m-positions are most deactivated to attack by the electrophile.
• The o,p-positions are most deactivated to attack by the electrophile.
Answer: https://biology-forums.com/index.php?topic=1898555