1. Name the following structures: (10 marks)

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10.
2. Draw the following structures: (10 marks)
   1) 1,2-dimethylcyclopropane
   2) hept-3-yn e
   3) 7,9-dichloro-8-ethyl-3,5-dimethyl-6-propyldec-3-ene
   4) 3-bromo-3-chloro-2-fluoro-2-iodopentane
   5) N,N-dimethylmethanamine
   6) 3-methylpentanamide
   7) ethyl 3-chlorohexanoate
   8) N-butyl hexan-1-amine
   9) propanal
   10) 4-hydroxypentanoic acid

3. Draw/write the following formulas for 2-methylpropan-1-ol: (3 marks)
<table>
<thead>
<tr>
<th>skeletal</th>
<th>structural (kekulé)</th>
<th>molecular</th>
</tr>
</thead>
</table>

4. Draw (skeletal) and name 5 of the structural isomers of $C_7H_{16}$. (10 marks)
5. Complete the multiple choice. (10 marks)
1. In the figure above, what class does the organic compound belong to?
   a. alcohols  
   b. esters  
   c. carboxylic acids  
   d. ketones

2. Which organic compound is a chlorofluorocarbon, known to attack ozone in the upper atmosphere?
   a. dichlorodifluoromethane  
   b. tetrafluoroethylene polymer  
   c. tetrachloromethane  
   d. polyvinylchloride

3. Which of the following is the ketone found in some nail-polish removers?
   a. butan-2-one  
   b. propan-2-one  
   c. hexan-2-one  
   d. Rust-eze™

4. Which compounds give fruits and flowers their characteristic flavors and odours?
   a. ketones  
   b. ethers  
   c. esters  
   d. aldehydes

5. In which organic reaction do two molecules or parts of the same molecule combine?
   a. substitution  
   b. subtraction  
   c. condensation  
   d. elimination

6. Which of the following are the small units joined to each other by organic reactions in a polymer?
   a. monomers  
   b. micropolymer  
   c. copolymers  
   d. linear polymers

7. Which organic reaction can form polyethylene if repeated many times?
   a. division  
   b. condensation  
   c. multiplication  
   d. addition

8. Branched polymers
   a. tend to be more dense than unbranched polymers.  
   b. tend to be weaker than unbranched polymers.  
   c. are always thermoplastic.  
   d. tend to be less dense than unbranched polymers.

9. Which of the following is an example of linear molecules packed closely together?
   a. cross-linked polyethylene  
   b. high-density polyethylene  
   c. low-density polyethylene  
   d. polystyrene

10. PET, Polyethylene terephthalate, is a polyester formed when terephthalic acid reacts with
    a. cross-linked polymers.  
    b. water.  
    c. ethylene glycol.  
    d. amino acids.
Solutions

1. 1) 5-ethyl-3-methyl-octa-1,5-diene
   2) 2,3,5-trimethylheptane
   3) hex-2-ene
   4) 3-chloropent-2-ene
   5) 1,2,3,5-tetramethylbenzene
   6) phenol
   7) 3,4-dimethylhexan-2-ol
   8) chlorocyclobutane
   9) 6,7-dimethyloctan-4-one
   10) diphenylmethanone

3. Draw/write the following formulas for 2-methyl-1-propanol: (3 marks)

   skeletal | structural (kekulé) | molecular
   --------|---------------------|--------
   OH      | H-C-C-C-O          | C₄H₉OH

5. M.C. Answers
1) C  
2) A  
3) B  
4) C  
5) C  
6) A  
7) D  
8) D  
9) B  
10) C