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Model Question Paper: Final Semester Examination
M.Sc. Semester-IV, Elective Course – EC-4 (Chemistry of Natural Products)
Section- VII Steroids

MCQ (2- Marks)

1. Steroids are:
   a) Fats **b)** oils **c)** simple lipids **d)** None
2. Steroids are compound whose structures are based on:
   a) Tetracyclic ring **b)** Isoprene unit **c)** tricyclic ring **d)** all
3. Main skeleton of steroids contains:
   a) 1-21 carbon **b)** 1-17 carbon **c)** 1-19 carbon **d)** None
4. Biological activity of steroid depends on:
   a) C-3 and C-17 position b) C-3 and C-11 position c) C-6 position d) All
5. Main skeleton of steroids contains:
   a) 6- asymmetric positions b) 7- asymmetric positions
   c) 9- asymmetric positions d) 5- asymmetric positions

Short Answer type Questions (5- Marks)

Q-1. Write the following information's about steroids:
   a) General description and skeleton
   b) Stereogenic Centers and validity of Huckel's Rule

Q-2. Briefly describe the biological importance of steroids in living system.

Q-3. Discuss the following information:
   a. Isoprene units
   b. Terpenes
   c. Role of tertiary carbocation in steroidal ring formation

Q-4. Give following information in reference to steroids:
   a. Asymmetric induction
   b. Stereo-specificity
   c. Stereoisomers
   d.

Long answer type questions (12.5)

Q-1. Describe the role of squalene in the biosynthesis of steroids based on step-wise mechanism.

Q-2. Explore the following information in Androstane:

1. Ring Junction
2. Bridge Carbon
3. Cis and Trans stereochemistry and its stereoisomers of steroids
4. Ring puckering
5. trans- and cis-decalin
6. Anabolic-androgenic steroids
7. Banned Oral Steroidal drugs in sports
8. Banned Injectable Steroidal drugs in sports

Q-3. Analyze the structure activity relationship in Androsterone for generating new analogs.