Reg.No : D. K. M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1 SEMESTER EXAMINATIONS JUNE – 2022 21CPCH2D ELECTIVE – II: MODERN SYNTHETIC STRATEGIES AND RENEWABLE ENERGY RESOURCES

Time: 3 Hours

SECTION $- A (5 \times 6 = 30)$

Max. Marks: 75

Answer ALL the questions.

1. (a) What are the synthons, synthetic equivalents and target molecules? Explain with an example.

(Or)

(b) How can you make the following target molecules?



2. (a) How would you protect the following functional groups?

(i) R-OH (ii) R-CHO (Or)

(b) Describe how the sharpless asymmetric epoxidation used in the synthesis?

3. (a) Describe how the structure of quinine was established?

(Or)

(b) Explain the conversion of cholesterol to progesterone.

4. (a) Explain microwave assisted reactions with suitable example.

(Or)

- (b) Write a note on polymer supported catalyst.
- 5. (a) Write the application and limitations of wind power and geothermal power.

(Or)

(b) Write about the renewable energy sources.

SECTION - B (3 x 15 = 45)

Answer any THREE of the following questions

- 6. (a) How would you plan the synthesis of 2-methyl-2-butene by disconnection approach? Explain.
 (b) Symmetric target molecules can be planned by disconnection approach symmetrically. Explain this with a suitable example.
- 7. Briefly describe the following approaches to asymmetric syntheses. In each case suggest advantages and disadvantages of the approach.
 - (i) Use of chiral pool (ii) Resolution of racemic mixture
 - (iii) Use of chiral auxiliaries (iv) Use of chiral catalysts
- 8. Discuss the biosynthesis of cholesterol and bile acids.
- 9. Explain twelve principles of green chemistry.

10. Illustrate the types of fuel cells and their applications.