Exercise for Module - 8

Answer the following

1. What are the requirements of tracer particles used for flow visualization?

2. Why tracer methods cannot be used for visualization of compressible flows?

3. What is Gladstone-Dale equation? How does it explain the deflection of a light

4. Ray in a compressible medium?

5. Differentiate the three methods schlieren, shadowgraph and interferometry

6. Draw a schematic of the schlieren system making use of concave mirrors

7. Marking the components and the test section.

8. Why the lenses/mirrors used in schlieren system has large focal length?

9. Explain the principle of operation of colour schlieren.

10. Why the bow shock visualized through shadowgraph has bright and dark bands?

11. Explain the interferometric principle?

12. On what factors does the sensitivity of interferometer depend?

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