Предварительные вопросы по экзамену:

1. Introduction, Fundamental Definitions and Phenomena.

2. Basic Flame Types.

3. Types of Fuel.

4. Experimental Investigation of Flames.

5. Mathematical Description of Premixed Laminar Flat Flames.

6. Laminar premixed Flames.

7. Zeldovich’s Analysis of Flame Propagation.

8. Laminar Nonpremixed Flames.

9. Thermodynamics of Combustion Processes.

10. Methods of Quantifying Fuel and Air Content of Combustible Mixtures.

11. Determination of Heating Values.

12. Transport Phenomena.

13. Fick’s Law.

14. Ignition Processes.

15. Chemical Kinetics.

16. Simplified Model of Combustion Chemistry.

17. Reaction Mechanisms.

18. The Navier-Stokes-Equations for Three-Dimensional Reacting Flow.

19. Combustion of Liquid and Solid Fuels.

20. Turbulent Reacting Flows.

21. Turbulent Nonpremixed Flames.

22. Turbulent Premixed Flames.

23. Formation of Hydrocarbons and Soot.

24. Low Temperature Oxidation, Engine Knock.

25. Formation of Nitric Oxides.