ROADMAP FOR AEROSPACE CORE

Core companies:

1. Airbus
2. GE
3. Collins Aerospace
4. New Space Research
5. TATA Advanced Systems-5
6. MRF-2

Recruitment components:

1. Aptitude Test

- Aptitude had an English section, Spatial and quantitative aptitude

2. Technical Test

- Questions on the core subject and most of the questions from the previous year's gate questions of Aerospace.
- specific test for each specialization
-Questions related to Mechanical Gate will also be these.

3. Technical Interview –

- If the candidate has done any internships or projects before, they might be asking about those works as well
-M. Tech thesis that you have worked on /currently working on
- resume projects
-Idea-based questions
-Aerodynamics, Fluid Mechanics
-Thermodynamics cycles (Rankine cycles),
-Control systems (Bode plot etc), Vibrations and systems,
-MATLAB
-ODE solvers

4. HR interview

general questions about
-the company and the role
-what inspired you to apply for this role

-why not PhD after your master’s
-weakness, and plans to overcome that.
-For a research-based role, how will I keep myself motivated throughout the years -Why not other Aerospace companies why this company
-Any event or moment from the past that may have led to self-revelation
(try to be natural with your answers.)

Preparation: -

1. Revise concepts from thermodynamics, fluid mechanics, vibrations, Stability, Aerodynamics, Aircraft Performance, Structures, Strength of materials, Fatigue, and Failure Criterion.

2. Use handbooks and lecture series in NPTEL.

3. Each company focuses on different domains (Aerodynamics, thermodynamics, controls, Structures, etc), mostly role related. (Companies like AirBus, Newspace will mainly ask questions on strength of materials, vibration and Aerodynamics.)

4. Gate preparation resources: Handbook for mech engineers.

5. Aptitude test: Use Ashish Arora's aptitude book (mostly sufficient), and Quant prep books (for probability statistics).

6. Have a broad idea of everything, specific roles go more.

7. Start early, and learn the basics of all major areas of mechanical and aerospace engineering, free body diagrams, stress diagrams, and BM diagrams, questions will not be very calculative

Resources:

https://thegatehunt.com/made-easy-handwritten-notes-for-mechanical-engineering-gate-ies-psc-download-free-pdf-of-made-easy-class-notes-made-easy-latest-handwritten-notes-for-mechanical-engineering/

For core, this site contains PDFs of handwritten notes on many important topics of relevance for placements- hence a very valuable material

Made easy publications handbook of mechanical engineering for quick reference

Some Course related playlists-

Fluid Mechanics-

- Lecture_0: Introduction to ESO204A (Fluid Mechanics & Rate Proc…

Aerodynamics-

- Mod-01 Lec-01 Aircraft and Aerodynamic Forces and Moments
- Aerodynamics Basic- Basics of Vector Calculus, Conservation Equ…

Thermodynamics-

- Fundamental laws of nature, system definitions and applications