Exam questions

1. The object of the “Technical Mechanics” course
2. Fundamental notions in Theoretical Mechanics
3. Fundamental principles of Theoretical Mechanics
4. The force, projection of the force on an axis
5. Addition of two concurrent forces
6. Moment of a force about a given point
7. Couple
8. Varignon’s theorem
9. Reduction of a force in a given point
10. Reduction of a system of forces in a given point
11. Systems of coplanar forces
12. Systems of parallel forces. Center of the parallel forces
13. Centers of gravity
14. Statics of the particle
15. Statics of the rigid body
16. Statically determined and stable rigid body
17. Loads
18. Steps to solve the reactions from the constraints of a statically and stable rigid body
19. Subject of the strength of materials. Basic hypothesis and principles
20. Definition of internal forces. Method of section
21. Stress at a point. Strain
22. Normal Stress. Hooke's Law
23. Stress-strain Diagram
24. Shear Stress
25. Torsion
26. Bending
27. Definition of allowable stress
28. Basic concepts and definitions of the science of machines and mechanisms
29. Classification of kinematic pairs
30. Kinematic Diagrams
31. Mobility of mechanisms