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\*\*\*\*\*