

**LIST OF TOPICS**  
**2024 ACADEMIC CHALLENGE REGIONAL EXAM**

<b>Mechanics</b>	<b>Count</b>	<b>Problem Numbers</b>
Units	1	#1
Kinematics	4	3, 4, 6, 9
Vectors	1	2
Newton's Laws	5	5, 8, 13, 14, 23
Dimensional Analysis	1	29
Work-Energy	3	10, 12, 17
Conservation of Energy	1	22
Conservation of momentum	2	26, 30
Gravitation	1	25
Density		
Rotational Dynamics	2	11, 18
Simple Harmonic Motion	1	20
Center of mass		
Static equilibrium	1	15
Power	1	19
Potential Energy	1	16
Fluid Dynamics	1	27
Electricity & Magnetism	2	33, 34
Thermodynamics	2	21, 35
Optics	1	31
Sound	1	24
Modern Physics	1	28
Special Relativity	1	32
Nuclear Physics	1	7

**Factual Recall Problems #10, #21, and #35**

**Multiple Problems (13, 14), (16, 17), (18, 19), (33, 34)**

**Previous Exams #16, #17, #23, #33, #34**