

**AOV – AUTOMATION OF APPAREL PRODUCTION****EXAM TOPICS**Academic Year **2023/2024****Full-time study****EXAM TOPICS**

1. Automation – basic terms and definitions; automation, mechanization, automation goals, automation versus flexibility
2. Types of motion units (drives) mechanical, electrical, pneumatic and hydraulic – comparison, basic characteristics
3. Electric drivers – types, characteristics
4. Fluid drives - types, characteristics, control of fluid drives
5. Pneumatic drivers – air compressibility (thermodynamic processes), types of compressors, the structure of the pneumatic system, system circuit diagram, piston force calculation
6. Pneumatic drivers – graphical symbols
7. Pneumatic drives – actuation (direct and indirect actuation of single-acting and double-acting cylinders, speed control, function diagram
8. Pressure measurement – pressure definition, units of pressure, principles of pressure measurement, types of pressure gauge.
9. Application of industrial robots and manipulators in garment manufacturing – industrial robot classification, types by mechanical structure, degrees of freedom
10. End effectors (grippers) for textile material handling – types and characteristics, disadvantages of textile material from the point of view of handling, ejector principle
11. Sewing process transport – systems of sewing process transport, characteristic, linear and nonlinear conveyor systems, types of overhead conveyor system