

CONTENTS

Foreword	7
Exam Requirements and Sample Tasks	9

SCIENTIFIC READING AND RESEARCH PREPARATION

<i>Skimming, Summarizing, Research Conceptual Framework (RCF)</i>	12
<i>Scanning, Annotating, RCF</i>	20
<i>Intensive Reading, Analysis, RCF, Scientific Writing Style</i>	32
<i>Abstracting Practice</i>	67

RESEARCH FOR STUDY AND ABSTRACTING

Section 1. AI in Aviation	68
The Impact of Digitalization and Intelligentization on Air Transportation System (<i>Australia</i>).....	68
Augmented Air Traffic Control System – Artificial Intelligence as Digital Assistance System to Predict Air Traffic Conflicts (<i>Austria</i>).....	88
A Survey on Artificial Intelligence (AI) and eXplainable AI in Air Traffic Management: Current Trends and Development with Future Research Trajectory (<i>France, Sweden, Italy</i>).....	119
Section 2. Innovations	152
A Physics-Based Multidisciplinary Approach for the Preliminary Design and Performance Analysis of a Medium Range Aircraft with Box-Wing Architecture (<i>Italy</i>).....	152
Conceptual Design and Comparative Study of Strut-Braced Wing and Twin-Fuselage Aircraft Configurations with Ultra-High Aspect	

Ratio Wings (<i>Germany</i>).....	199
A Comparative Study on the Tuning of the PID Flight Controllers Using Swarm Intelligence (<i>Turkey</i>).....	241
Comparison of Flight Test Data and Aeroelastic Simulation Results for DLR's Research Aircraft ATRA (<i>Germany</i>).....	260
Design Conception and Evaluation of an Unmanned Amphibious Aerial Vehicle Using Systematic Approach (<i>India</i>).....	281
Section 3. Aircraft Technology and Engineering.....	303
Review of Sensor Technology to Support Automated Air-to-Air Refueling of a Probe Configured Uncrewed Aircraft (<i>USA</i>).....	303
Multidisciplinary Design Optimization of Twin-Fuselage Aircraft with Boundary Layer Ingesting Distributed Propulsion (<i>Germany, China, UK</i>).....	337
Ground Vibration Testing on Very Flexible Aircraft (<i>USA</i>).....	377
Influence of Aileron Placement on Roll Response of High-Aspect- Ratio-Wing Aircraft (<i>USA</i>).....	411
References.....	433
Appendix 1. Connectives to Structure the Ideas.....	437
Appendix 2. Library-Research Paper Example.....	439
Appendix 3. Teacher's Page.....	485
Reviews.....	497