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| **PERSONNEL LICENSING DEPARTMENT****CHECKLIST FOR APPROVAL OF ATC COURSE** |
| **Name of Organisation: Aeronautical Radio of Thailand (AEROTHAI)** |
| By signing below, I, as an authorised person of NAME OF THE ATO, hereby confirm that the information given on this form are entirely true, accurate, and complete. Signature Mr.Kampanart MahatthanathamDate: 31 MARCH 2021 |
| Official Use Only |
| **Verification Result:** **🞏 Accept 🞏 Reject**  |
| **This compliance check form has been verified by:*****signature*****Songpon Rachatakullanan**  |
| **Date performed: 10 JUNE 2021** |

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| **Instructions**1. ATO is to conduct a self-assessment as part of its compliance check by providing manual references into the ‘Compliance checked by ATO’.
2. Each check list item shall be assessed and given a result either **‘Satisfactory - (S)’, ‘Unsatisfactory - (U)’ or ‘Not applicable - N/A’**
3. **‘Satisfactory’** shall be given if the ATO is able to provide valid contents and details that comply with the requirements.
4. **‘Unsatisfactory’** shall be given if the ATO is provide insufficient contents/details that comply with the requirement as well as impractical/non-realistic process or procedures that do not reflect an actual context and operations of the ATO.
5. **‘N/A’** shall be given to indicate when information in a certain table cell is not provided, either because it does not apply to a particular case in question or because the answer is not available
 |

| No | Item | Regulatory Requirement | Compliance checked by ATO | References*Eg. Section 1, Part 4, No. 5 Organisational Structure, p. xx* | CAAT Officials Use only |
| --- | --- | --- | --- | --- | --- |
| Yes | No | S | U | N/A | Remark(s) |
| 0 | Title of manual | Manual Format | X |  | *Front Page**Table of content Page 5**Record of amendments Page 4**Distribution list Page 3*- | X |  |  |  |
| Table of contents |
| List of effective pages |
| Distribution list |
| Definitions and Acronyms |
| **PART 1 GENERAL** |
| 1 | Course title | Notification of CAAT; Approval of Air Traffic Control Training Course B.E. 2559, Clause 5(2) | X |  | *Course Title Page 7* | X |  |  |  |
| 2 | Course Certificate |  | X |  | *Course Certificate Page 7* | X |  |  |  |
| 3 | Course Objectives |  | X |  | *Course Objective Page 7* | X |  |  |  |
| 4 | Course Content |  | X |  | *Table of content Page 5* | X |  |  |  |
| 5 | Course Overview1. Total Theoretical Training Hours
2. Total Practical Training Hours
 |  | X |  | *Course Overview Page 7* | X |  |  |  |
| 6 | Pre entry Requirements and Qualifications for Trainees | Notification of CAAT; Approval of Air Traffic Control Training Course B.E. 2559, Clause 5(3) | X |  | Entry Qualification Page 7 | X |  |  |  |
| 7 | Qualifications of Course Manager/Director  | Notification of CAAT; Approval of Air Traffic Control Training Course B.E. 2559, Clause 5(4) - a | X |  | Course Director qualification Page 11 | X |  |  |  |
| 8 | Qualifications of instructors | Notification of CAAT; Approval of Air Traffic Control Training Course B.E. 2559, Clause 5(4) - b | X |  | Instructor qualification Page 12 | X |  |  |  |
| 9 | Details of Main base: | Notification of CAAT; Approval of Air Traffic Control Training Course B.E. 2559, Clause 5(5) | X |  | Main base Page 7 | X |  |  |  |
| 1. Locations of the Main Base
 |
| 1. Organisations and/or airports will be used for practical training.
 |
| 10 | Training Facilities and Simulators | Notification of CAAT; Approval of Air Traffic Control Training Course B.E. 2559, Clause 5(6) | X |  |  |  |  | X |  |
| 1. Tools and Equipment for training
 |
| 1. Numbers and Qualifications of ATC Simulators
 |
| 11. | Course Development Plan  | Notification of CAAT; Approval of Air Traffic Control Training Course B.E. 2559, Clause 5(8) |  | X |  |  |  | X |  |
| 12 | Evaluation Mechanism for examinations and assessment | Notification of CAAT; Approval of Air Traffic Control Training Course B.E. 2559, Clause 6(2) | X |  | Assessment page 7 | X |  |  |  |

| **Course Content – Appendix A: Basic Training** |
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| 1. **Aerodrome Control**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | Remark(s) |
| 1 | Course introduction and administration  |  |  |  |  |  |  | N/A |
| 2 | Technical terms (pilot/controller glossary) |  |  |  |  |  |  | N/A |
| 3 | Human factor for air traffic controller |  |  |  |  |  |  | N/A |
| 4 | International air law and national regulations |  |  |  |  |  |  | N/A |
| 5 | Aerodromes |  |  |  |  |  |  | N/A |
| 6 | Aircraft, wake turbulence and designators |  |  |  |  |  |  | N/A |
| 7 | Airspace, ATS and ATC organisations |  |  |  |  |  |  | N/A |
| 8 | Basic meteorology and altimetry |  |  |  |  |  |  | N/A |
| 9 | AIS, ATIS, MET messages and NOTAMs |  |  |  |  |  |  | N/A |
| 10 | Rules of the air |  |  |  |  |  |  | N/A |
| 11 | Basic radio navigation |  |  |  |  |  |  | N/A |
| 12 | Spelling alphabets, codes and indicators |  |  |  |  |  |  | N/A |
| 13 | General communication procedures |  |  |  |  |  |  | N/A |
| 14 | Control taxiing aircraft and section runway in use |  |  |  |  |  |  | N/A |
| 15 | Flight plans and flight progress strips for arriving aircraft |  |  |  |  |  |  | N/A |
| 16 | Control arriving IFR aircraft |  |  |  |  |  |  | N/A |
| 17 | Control arriving VFR aircraft |  |  |  |  |  |  | N/A |
| 18 | Control arriving IFR/VFR aircraft |  |  |  |  |  |  | N/A |
| 19 | ATC clearance |  |  |  |  |  |  | N/A |
| 20 | Flight plans and flight progress strips for departing aircraft |  |  |  |  |  |  | N/A |
| 21 | Pushback and start-up, control of departing IFR aircraft |  |  |  |  |  |  | N/A |
| 22 | Control departing VFR aircraft |  |  |  |  |  |  | N/A |
| 23 | Control departing and arriving IFR/VFR aircraft |  |  |  |  |  |  | N/A |
| 24 | Aeronautical ground lights |  |  |  |  |  |  | N/A |
| 25 | Wind shear |  |  |  |  |  |  | N/A |
| 26 | Control of vehicles and personnel |  |  |  |  |  |  | N/A |
| 27 | Control helicopter traffics |  |  |  |  |  |  | N/A |
| 28 | Control aircraft making touch-and-go landing |  |  |  |  |  |  | N/A |
| 29 | Military procedures |  |  |  |  |  |  | N/A |
| 30 | Emergencies and abnormal situations |  |  |  |  |  |  | N/A |
| 31 | Wind shear |  |  |  |  |  |  | N/A |
| 32 | Control of vehicles and personnel |  |  |  |  |  |  | N/A |
| 33 | Control helicopter traffics |  |  |  |  |  |  | N/A |
| 34 | Control aircraft making touch-and-go landing |  |  |  |  |  |  | N/A |
| 35 | Military procedures |  |  |  |  |  |  | N/A |
| 36 | Emergencies and abnormal situations |  |  |  |  |  |  | N/A |

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| **Course Content – Appendix A: Basic Training** |
| 1. **Approach Control Procedural**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | Remark(s) |
| 1 | Course introduction and administration  |  |  |  |  |  |  | N/A |
| 2 | Flight information services and airspace structures  |  |  |  |  |  |  | N/A |
| 3 | Separation for departing traffics and approach responsibility  |  |  |  |  |  |  | N/A |
| 4 | Flight plans and flight progress strips for arriving and departing aircraft  |  |  |  |  |  |  | N/A |
| 5 | Control departing IFR traffics  |  |  |  |  |  |  | N/A |
| 6 | Control departing IFR/VFR traffics  |  |  |  |  |  |  | N/A |
| 7 | Instrument approach procedures  |  |  |  |  |  |  | N/A |
| 8 | ATC clearance and coordination  |  |  |  |  |  |  | N/A |
| 9 | Control arriving IFR traffics  |  |  |  |  |  |  | N/A |
| 10 | Control arriving IFR/VFR traffics  |  |  |  |  |  |  | N/A |
| 11 | Control arriving IFR traffics when delay expected  |  |  |  |  |  |  | N/A |
| 12 | Control arriving and departing IFR/VFR traffics  |  |  |  |  |  |  | N/A |
| 13 | Control over-flying traffics  |  |  |  |  |  |  | N/A |
| 14 | Missed approach procedures  |  |  |  |  |  |  | N/A |
| 15 | Normal traffics and repeated instrument approach  |  |  |  |  |  |  | N/A |
| 16 | Control traffic in abnormal situations |  |  |  |  |  |  | N/A |

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| **Course Content – Appendix A: Basic Training** |
| 1. **Area Control Procedural**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | Remark(s) |
| 1 | Course introduction and administration  |  |  |  |  |  |  | N/A |
| 2 | Area control services (lecture) |  |  |  |  |  |  | N/A |
| 3 | Standard separation and area control responsibility (lecture) |  |  |  |  |  |  | N/A |
| 4 | Co-ordination (lecture/exercise) |  |  |  |  |  |  | N/A |
| 5 | Flight data |  |  |  |  |  |  | N/A |
| 6 | Crossing point calculation (lecture/exercise) |  |  |  |  |  |  | N/A |
| 7 | Simulation exercise (lecture/simulator) |  |  |  |  |  |  | N/A |

| **Course Content – Appendix B: Advanced Training** |
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| 1. **ATS Instructor Training**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Training objectives | *Each topic all have objective* |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 2 | Unit Training Plan | *Topic a*  |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 3 | Unit training structure | Topic a |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 4 | Teaching and learning process | Topic c |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 5 | Systems approach to training | Topic a |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 6 | The Role of the instructor | Topic a |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 7 | Human performance | Topic c |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 8 | Questioning technique | Topic g |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 9 | Class management | Topic c |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 10 | Notes and handouts | Exercise 1 |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 11 | Visual and audio-visual resources instruction | Topic h |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 12 | Computer-based training techniques | Topic k |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 13 | Talks, lectures and lessons | Topic b |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham | X |  |  |  |
| 14 | Designing, planning and preparation | Topic d |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham |  |  |  |  |
| 15 | Assessment and evaluation | Topic a |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham |  |  |  |  |
| 16 | Practical exercise planning, instruction and assessment | Topic a |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham |  |  |  |  |
| 17 | Briefing, monitoring and debriefing | Topic a |  |  | Kampanart, Jaklid, Suvimol, Graham Derek Papham |  |  |  |  |

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| **Course Content – Appendix B: Advanced Training** |
| 1. **ATS Examiner Training**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Unit Training Plan |  |  |  |  |  |  |  | N/A |
| 2 | Unit training structure |  |  |  |  |  |  |  | N/A |
| 3 | Regulation |  |  |  |  |  |  |  | N/A |
| 4 | Preparation of examinations and assessments of competence |  |  |  |  |  |  |  | N/A |
| 5 | Conduct of examinations and assessments of competence |  |  |  |  |  |  |  | N/A |
| 6 | Questioning techniques |  |  |  |  |  |  |  | N/A |
| 7 | Assessing Competence |  |  |  |  |  |  |  | N/A |
| 8 | Scenario practical and oral assessment |  |  |  |  |  |  |  | N/A |
| 9 | Personal data protection and liability |  |  |  |  |  |  |  | N/A |
| 10 | Report writing and recording |  |  |  |  |  |  |  | N/A |

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| **Course Content – Appendix B: Advanced Training** |
| 1. **OJTI Training**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Training Objectives |  |  |  |  |  |  |  | N/A |
| 2 | Unit Training Plan |  |  |  |  |  |  |  | N/A |
| 3 | Unit training structure |  |  |  |  |  |  |  | N/A |
| 4 | Regulation |  |  |  |  |  |  |  | N/A |
| 5 | Teaching and learning |  |  |  |  |  |  |  | N/A |
| 6 | Team resource management (TRM) |  |  |  |  |  |  |  | N/A |
| 7 | Communication skills |  |  |  |  |  |  |  | N/A |
| 8 | Human performance |  |  |  |  |  |  |  | N/A |
| 9 | Concepts of threat and error management (TEM) |  |  |  |  |  |  |  | N/A |
| 10 | OJTI – Professional and personal profile |  |  |  |  |  |  |  | N/A |
| 11 | Stress management |  |  |  |  |  |  |  | N/A |
| 12 | Training session and trainee performance assessment |  |  |  |  |  |  |  | N/A |
| 13 | Progress monitoring and review |  |  |  |  |  |  |  | N/A |
| 14 | Briefing and debriefing |  |  |  |  |  |  |  | N/A |
| 15 | Report writing and recording |  |  |  |  |  |  |  | N/A |

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| **Course Content – Appendix B: Advanced Training** |
| 1. **Assessor Training**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Introduction |  |  |  |  |  |  |  | N/A |
| 2 | Regulations |  |  |  |  |  |  |  | N/A |
| 3 | Competence |  |  |  |  |  |  |  | N/A |
| 4 | Assessment |  |  |  |  |  |  |  | N/A |
| 5 | Communication |  |  |  |  |  |  |  | N/A |
| 6 | The role of the assessor |  |  |  |  |  |  |  | N/A |
| 7 | Assessment in different countries |  |  |  |  |  |  |  | N/A |

| **Course Content – Appendix C: Refresher training** |
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| 1. **Air traffic control refresher/improver training**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Air Traffic Management* General Air Traffic Management
* Maintain situational awareness
* Ensure a safe, orderly and expeditious traffic flow
* Manage potential traffic conflicts and maintain separation
* Maintain separation
* Provide information to flight crew
* Implement solutions for any identified hazards and associated risks
* Manage workload
* Manage coordination
* Manage abnormal situations
* Operate as a team member
 |  |  |  |  |  |  |  | N/A |
| 2 | Communication* Communications Failure
* Manage a complete loss of an aircraft radio communication failure effectively
* Manage a partial loss of an aircraft radio communication failure effectively
* Radio Discipline
* Uses appropriate radio telephony phraseology
* Applies correct radio communication techniques
 |  |  |  |  |  |  |  | N/A |
| 3 | Control arriving VFR aircraft |  |  |  |  |  |  |  | N/A |
| 4 | Control arriving IFR/VFR aircraft |  |  |  |  |  |  |  | N/A |
| 5 | ATC Clearance |  |  |  |  |  |  |  | N/A |
| 6 | Flight plans and flight progress strips for departing aircraft |  |  |  |  |  |  |  | N/A |
| 7 | Pushback and start-up, control of departing IFR aircraft |  |  |  |  |  |  |  | N/A |
| 8 | Control departing VFR aircraft |  |  |  |  |  |  |  | N/A |
| 9 | Control departing and arriving IFR/VFR aircraft |  |  |  |  |  |  |  | N/A |
| 10 | Aeronautical ground lights |  |  |  |  |  |  |  | N/A |
| 11 | Wind shear |  |  |  |  |  |  |  | N/A |
| 12 | Control of vehicles and personnel |  |  |  |  |  |  |  | N/A |
| 13 | Control helicopter traffics |  |  |  |  |  |  |  | N/A |
| 14 | Control aircraft making touch-and-go landing |  |  |  |  |  |  |  | N/A |
| 15 | Military procedures |  |  |  |  |  |  |  | N/A |
| 16 | Emergencies and abnormal situations |  |  |  |  |  |  |  | N/A |
| 17 | Familiarisation visit the airport |  |  |  |  |  |  |  | N/A |

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| **Course Content – Appendix C: Refresher training** |
| 1. **Unusual and emergency management training**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Planning and conduct of emergency training courses |  |  |  |  |  |  |  | N/A |
| 2 | The ASSIST concept |  |  |  |  |  |  |  | N/A |
| 3 | Design of an exercise for unusual incidents and emergency situations |  |  |  |  |  |  |  | N/A |
| 4 | Content and use of an emergency checklist |  |  |  |  |  |  |  | N/A |
| 5 | Human factors contribution to the handling of unusual incidents and emergency situations |  |  |  |  |  |  |  | N/A |
| 6 | Role play of the tasks and behaviour of an emergency training instructor |  |  |  |  |  |  |  | N/A |
| 7 | Guidelines for the observation of exercises and the feedback to the trainee |  |  |  |  |  |  |  | N/A |

| **Course Content – Appendix D: Specialised training** |
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| 1. **Aerodrome control rating**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Course introduction and administration |  |  |  |  |  |  |  | N/A |
| 2 | Technical terms (pilot/controller glossary) |  |  |  |  |  |  |  | N/A |
| 3 | Human factor for air traffic controller |  |  |  |  |  |  |  | N/A |
| 4 | International air law and national regulations |  |  |  |  |  |  |  | N/A |
| 5 | Aerodromes |  |  |  |  |  |  |  | N/A |
| 6 | Aircraft, wake turbulence and designators |  |  |  |  |  |  |  | N/A |
| 7 | Airspace, ATS and ATC organisations |  |  |  |  |  |  |  | N/A |
| 8 | Basic meteorology and altimetry |  |  |  |  |  |  |  | N/A |
| 9 | Spelling alphabets, codes and indicators |  |  |  |  |  |  |  | N/A |
| 10 | General communication procedures |  |  |  |  |  |  |  | N/A |
| 11 | Control taxiing aircraft and section runway in use |  |  |  |  |  |  |  | N/A |
| 12 | Flight plans and flight progress strips for arriving aircraft |  |  |  |  |  |  |  | N/A |
| 13 | Control arriving IFR aircraft |  |  |  |  |  |  |  | N/A |
| 14 | Control arriving VFR aircraft |  |  |  |  |  |  |  | N/A |
| 15 | Control arriving IFR/VRF aircraft |  |  |  |  |  |  |  | N/A |
| 16 | ATC Clearance |  |  |  |  |  |  |  | N/A |
| 17 | Flight plans and flight progress strips for departing aircraft |  |  |  |  |  |  |  | N/A |
| 18 | Pushback and start-up, control of departing IFR aircraft |  |  |  |  |  |  |  | N/A |
| 19 | Control departing VFR aircraft |  |  |  |  |  |  |  | N/A |
| 20 | Control departing and arriving IFR/VFR aircraft |  |  |  |  |  |  |  | N/A |
| 21 | Aeronautical ground lights |  |  |  |  |  |  |  | N/A |
| 22 | Wind shear |  |  |  |  |  |  |  | N/A |
| 23 | Control of vehicles and personnel |  |  |  |  |  |  |  | N/A |
| 24 | Control helicopter traffics |  |  |  |  |  |  |  | N/A |
| 25 | Control aircraft making touch-and-go landing |  |  |  |  |  |  |  | N/A |
| 26 | Military procedures |  |  |  |  |  |  |  | N/A |
| 27 | Emergencies and abnormal situations |  |  |  |  |  |  |  | N/A |
| 28 | Familiarisation visit the airport |  |  |  |  |  |  |  | N/A |

| **Course Content – Appendix D: Specialised training** |
| --- |
| 1. **Approach control procedural rating**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Course introduction and administration |  |  |  |  |  |  |  | N/A |
| 2 | Flight information services and airspace structures |  |  |  |  |  |  |  | N/A |
| 3 | Separation for departing traffics and approach responsibility |  |  |  |  |  |  |  | N/A |
| 4 | Flight plans and flight progress strips for arriving and departing aircraft |  |  |  |  |  |  |  | N/A |
| 5 | Control departing IFR traffics |  |  |  |  |  |  |  | N/A |
| 6 | Control departing IFR/VFR traffics |  |  |  |  |  |  |  | N/A |
| 7 | Instrument approach procedures |  |  |  |  |  |  |  | N/A |
| 8 | ATC clearance and coordination |  |  |  |  |  |  |  | N/A |
| 9 | Control arriving IFR traffics |  |  |  |  |  |  |  | N/A |
| 10 | Control arriving IFR/VFR traffics |  |  |  |  |  |  |  | N/A |
| 11 | Control arriving IFR traffics when delay expected |  |  |  |  |  |  |  | N/A |
| 12 | Control arriving and departing IFR/VFR traffics |  |  |  |  |  |  |  | N/A |
| 13 | Control over-flying traffics |  |  |  |  |  |  |  | N/A |
| 14 | Missed approach procedures |  |  |  |  |  |  |  | N/A |
| 15 | Normal traffics and repeated instrument approach |  |  |  |  |  |  |  | N/A |
| 16 | Control traffic in abnormal situations |  |  |  |  |  |  |  | N/A |
| 17 | Familiarisation visit approach control unit |  |  |  |  |  |  |  | N/A |

| **Course Content – Appendix D: Specialised training** |
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| 1. **Approach control surveillance rating**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Course introduction and administration |  |  |  |  |  |  |  | N/A |
| 2 | Radar Theory* Principles of primary and secondary radar
* SSR mode and code
* Radar presentation
* Automated radar tracking system
* Multi-radar tracking system
 |  |  |  |  |  |  |  | N/A |
| 3 | Radar operational techniques and procedures* Use of radar in air traffic control services
* Use of radar in flight information services
* Use of radar in approach control services
 |  |  |  |  |  |  |  | N/A |
| 4 | Introduction to CNS/ATM* Communications
* Navigations
* Surveillances
* Air traffic management
* Automatic Dependent Surveillance-Broadcast (ADS-B)
* Performance-Based Navigation (PBN)
 |  |  |  |  |  |  |  | N/A |
| 5 | Other aviation subjects* Meteorological
* Instrument Approach Procedures
* Standard Instrument Departure (SID) and Standard Terminal Arrival Route (STAR)
* Simulation exercises
 |  |  |  |  |  |  |  | N/A |

| **Course Content – Appendix D: Specialised training** |
| --- |
| 1. **Area control procedural rating**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Course introduction and administration |  |  |  |  |  |  |  | N/A |
| 2 | Area control services* Air traffic control service
* Flight information service
* Alerting service
* Air traffic control clearance
* Airspace structures (ATS route, TMA, CTA, CTR)
 |  |  |  |  |  |  |  | N/A |
| 3 | Standard separation and area control responsibility* Horizontal
* Vertical
* Composite
 |  |  |  |  |  |  |  | N/A |
| 4 | Co-ordination* Estimate of transfer
* Inbound estimated
* Transfer of control
 |  |  |  |  |  |  |  | N/A |
| 5 | Flight data* Maps and charts
* Strip marking
* Board management
 |  |  |  |  |  |  |  | N/A |
| 6 | Crossing point calculation* DR computer
* Closure time
 |  |  |  |  |  |  |  | N/A |
| 7 | Simulation exercise* Control of over-flying traffics
* Control of arriving traffics
* Control of departing traffics
* Control of arriving and departing traffics
* Control of over-flying, arriving and departing traffics
* Control of traffics in abnormal situations
* Familiarisation visit
 |  |  |  |  |  |  |  | N/A |

| **Course Content – Appendix D: Specialised training** |
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| 1. **Area control Surveillance rating**
 |
| No. | Subject | Reference | Theoretical(hours) | Practical(hours) | Name of responsible instructor | CAAT Officials Use only |
| S | U | N/A | Remark(s) |
| 1 | Course introduction and administration |  |  |  |  |  |  |  | N/A |
| 2 | Principles of primary and secondary radar* Principles of primary and secondary radar
* Radar presentation
* Automated radar tracking system
* Radar data block
* SSR transponder modes and codes
* Multi-radar tracking system
 |  |  |  |  |  |  |  | N/A |
| 3 | Radar operational techniques and procedures* Use of radar in air traffic control services
* General radar procedures
* Use of radar in flight information services
* Co-ordination
 |  |  |  |  |  |  |  | N/A |
| 4 | Other aviation subjects* Closure time
* Introduction to CNS/ATM
* Introduction to PBN
 |  |  |  |  |  |  |  | N/A |
| 5 | Flight data* Maps and charts
* Strip marking
* Strip Board management
 |  |  |  |  |  |  |  | N/A |
| 6 | Simulation exercies* Basic vectoring
* Control over-flying traffics
* Control arriving traffics
* Control arriving traffics
* Control departing traffics
* Control over-flying, arriving and departing traffics
* Control traffics in abnormal situations (EMF/CMF)
* Radar failure procedures
 |  |  |  |  |  |  |  | N/A |