ATSEP QUALIFICATION TRAINING COURSE: NAVIGATION COMBINED

SYLLABUS

1. PERFORMANCE-BASED NAVIGATION (NAV PBN)
    1.1. NAV CONCEPTS
        1.1.1.Operational Requirements
        1.1.2.Performance-based Navigation
        1.1.3.Area Navigation Concept (RNAV)
        1.1.4.NOTAM
2. GROUND-BASED SYSTEMS – NDB (NAV NDB) – OPTIONAL TOPIC
    2.1. NDB / LOCATOR
        2.1.1.Use of the System
        2.1.2.Ground Station Architecture
        2.1.3.Transmitter Subsystem
        2.1.4.Antenna Subsystem
        2.1.5.Monitoring and Control Subsystems
        2.1.6.On-board Equipment
        2.1.7.System Check and Maintenance
3. GROUND-BASED SYSTEMS – DF (NAV DF) – OPTIONAL TOPIC
    3.1. DF
        3.1.1.Use of the System
        3.1.2.VDF/DDF Equipment Architecture
        3.1.3.Receiver Subsystem
        3.1.4.Antenna Subsystem
        3.1.5.Monitoring and Control Subsystems
        3.1.6.System Check and Maintenance
4. GROUND-BASED SYSTEMS – VOR (NAV VOR)
    4.1. VOR

4.1.1.Use of the System

4.1.2.Fundamentals of CVOR and / or DVOR

4.1.3.Ground Station Architecture

4.1.4.Transmitter Subsystem

4.1.5.Antenna Subsystem

4.1.6.Monitoring and Control Subsystem

4.1.7.On-board Equipment

4.1.8.System Check and Maintenance

5. GROUND-BASED SYSTEMS – DME (NAV DME)

5.1. DME

5.1.1.Use of the System

5.1.2.Fundamentals of DME

5.1.3.Ground Station Architecture

5.1.4.Receiver Subsystem

5.1.5.Signal Processing

5.1.6.Transmitter Subsystem

5.1.7.Antenna Subsystem

5.1.8.Monitoring and Control Subsystem

5.1.9.On-board Equipment

5.1.10. System Check and Maintenance

6. GROUND-BASED SYSTEMS – ILS (NAV ILS)

6.1. ILS

6.1.1.Use of the System

6.1.2.Fundamentals of ILS

6.1.3.Bi-frequency Systems

6.1.4.Ground Station Architecture

6.1.5.Transmitter Subsystem

6.1.6.Antenna Subsystem

6.1.7.Monitoring and Control Subsystem

6.1.8.On-Board Equipment

6.1.9.System Check and Maintenance

7. GROUND-BASED SYSTEMS – MLS (NAV MLS) – OPTIONAL TOPIC

7.1. MLS

7.1.1.Use of the System

7.1.2.Fundamentals of MLS

7.1.3.Ground Station Architecture

7.1.4.Transmitter Subsystem

7.1.5.Antenna Subsystem

7.1.6.Monitoring and Control Subsystem

7.1.7.On-Board Equipment

7.1.8.System Check and Maintenance

8. GLOBAL NAVIGATION SATELLITE SYSTEM (NAV GNS)

8.1. GNSS

8.1.1.General View

9. ON-BOARD EQUIPMENT (NAV OBE)

9.1. ON-BOARD SYSTEMS

9.1.1.On-Board Systems

9.2. AUTONOMOUS NAVIGATION

9.2.1.Inertial Navigation

9.3. VERTICAL NAVIGATION

9.3.1.Vertical Navigation

10. FUNCTIONAL SAFETY (NAV FST)

10.1. SAFETY ATTITUDE

10.1.1. Safety Attitude

10.2. FUNCTIONAL SAFETY

10.2.1. Functional Safety