

# Capstone II

## Comprehensive avionics exam

Name \_\_\_\_\_ Airmen Cert. # \_\_\_\_\_ Date \_\_\_/\_\_\_/\_\_\_

This exam is administered at the completion of initial ground training and is designed to measure the effectiveness of the training and to ensure that the level of understanding for the pilot/operator is satisfactory for safe operation using the equipment.

This exam is to be completed using the avionics training device and the in-flight quick reference list.

### General Knowledge

#1.) Please define the following:

AHRS \_\_\_\_\_

ADS-B \_\_\_\_\_

CDTI \_\_\_\_\_

EFIS \_\_\_\_\_

ADC \_\_\_\_\_

FIS-B \_\_\_\_\_

IDU \_\_\_\_\_

PFD \_\_\_\_\_

RAIM \_\_\_\_\_

WAAS \_\_\_\_\_

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### Caution/Warning/Advisory System

#2.) For each of the following conditions there may be a CWA system that demands pilot attention. In each case identify it as a caution warning or advisory and state the annunciation and flag color.

#### Example:

Condition / Aircraft below selected altitude.  
Category (Caution), Annunciation ("Altitude"),  
Flag (Altitude), Color (Yellow).

A. Condition / Excessive rate of decent.

Category (\_\_\_\_\_), Annunciation (\_\_\_\_\_),  
Flag (\_\_\_\_\_), Color (\_\_\_\_\_).

B. Condition / Premature descent.

Category (\_\_\_\_\_), Annunciation (\_\_\_\_\_),  
Flag (\_\_\_\_\_), Color (\_\_\_\_\_).

C. Condition / Deviation of 10 kts. from target airspeed.

Category (\_\_\_\_\_), Annunciation (\_\_\_\_\_),  
Flag (\_\_\_\_\_), Color (\_\_\_\_\_).

D. Condition / GPS/WAAS loss of navigation.

Category (\_\_\_\_\_), Annunciation (\_\_\_\_\_),  
Flag (\_\_\_\_\_), Color (\_\_\_\_\_).

E. Condition / No air data.

Category (\_\_\_\_\_), Annunciation (\_\_\_\_\_),  
Flag (\_\_\_\_\_), Color (\_\_\_\_\_).

F. Condition / GPS/WAAS in terminal mode.

Category (\_\_\_\_\_), Annunciation (\_\_\_\_\_),  
Flag (\_\_\_\_\_), Color (\_\_\_\_\_).

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Failure Modes

#3.) The equipment as installed has 8 operating modes from normal to GPS, ADC and AHRS failed.

For each of the following conditions describe the indications on the PFD and ND.

A. GPS failure.

PFD \_\_\_\_\_

ND \_\_\_\_\_

B. ADC failure.

PFD \_\_\_\_\_

ND \_\_\_\_\_

C. AHRS failure.

PFD \_\_\_\_\_

ND \_\_\_\_\_

D. GPS and AHRS failure.

PFD \_\_\_\_\_

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ND \_\_\_\_\_

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### Menu functions and procedures

#4.) The following exercises will examine your ability to use the system to create-edit flight plans and create user waypoints.

A. Create a user waypoint "TEST1" using (LAT-LON)  
N55.56 W162.26.

Create a user waypoint "TEST2" using (RAD-DST)  
SSR 030 RAD 60 NM

Create a flight plan from "TEST1" to "TEST2".  
What is the heading and distance?

Heading \_\_\_\_\_ Distance \_\_\_\_\_

B. Create a flight plan from PABA to PAFA and use the menus while creating the flight plan to answer the following.

PABA is \_\_\_\_\_ Locate N \_\_\_\_\_ W \_\_\_\_\_

PAFA is \_\_\_\_\_ Located N \_\_\_\_\_ W \_\_\_\_\_

What is the Heading and distance from PABA to PAFA?

Heading \_\_\_\_\_ Distance \_\_\_\_\_

C. Using the menu functions locate information on CYXY and record the following.

Name \_\_\_\_\_ Location \_\_\_\_\_

Available radio frequencies if any \_\_\_\_\_

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### Demonstration

The ability to use the following functions needs to be demonstrated to an instructor or check airman.

Select a flight plan from PAJN to PAKT and for PAJN load a DP and TRANS.

[ ] SAT [ ] UNSAT

Set a Parallel Track. (2 miles to right)

[ ] SAT [ ] UNSAT

Count Down timer / store and activate a countdown time.

[ ] SAT [ ] UNSAT

Set the heading bug / turn the heading bug off.

[ ] SAT [ ] UNSAT

Specify a Target Altitude / Turn bugs off.

[ ] SAT [ ] UNSAT

Show/Hide Terrain (PFD) & (ND)

[ ] SAT [ ] UNSAT

Heading up and North up formats.

[ ] SAT [ ] UNSAT