

Aeronautical Knowledge Test – Chapter 1: Introduction to Flying

**1. History of Flight:**

1.1. Link each individual or group of individuals to their early contribution to aviation:

The Chinese	Huge monoplane that was propelled by a stream engine housed inside the fuselage
William Samuel Henson	First full-size man-carrying airplane
Wilbur and Orville Wright	Sketches of proposed flying machines
Professor Jacques Charles	First gas balloon
Leonardo da Vinci	Kite
Sir George Cayley	First human flight in heavier than air – in “The Flyer” biplane
Joseph and Etienne Montgolfier	
Robert Hooke	Idea of artificial propulsion

**2. History of FAA:**

2.1 the first airmail flight was conducted on May 15<sup>th</sup>, 1918 between two cities. They are

- a. New York and Washington, DC
- b. New York and Chicago
- c. Chicago and San Francisco
- d. Washington, DC and San Francisco

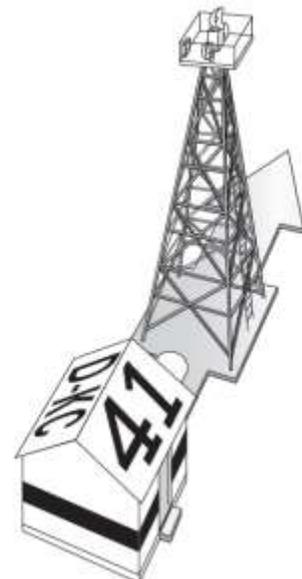
2.2 What activities did the Air Commerce Act, passed by Congress on May 20<sup>th</sup>, 1926, charge the Secretary of Commerce with:

- a. Fostering air commerce,
- b. Issuing and enforcing air traffic rules,
- c. Licensing pilots,
- d. Certificating aircraft
- e. Establishing airways
- f. Operating and maintaining aids to air navigation
- g. All of the above

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2.3 What is figure XX on the right depicting

- a. A standard airway beacon tower
- b. An air traffic controller tower
- c. An aircraft



d. None of the above

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2.4 what were the airway beacon used for?

- a. Help the department of Commerce with identifying routes flown
- b. Help pilots navigate their routes
- c. Provide farmers with livestock shelter
- d. None of the above

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2.5 when was the first pilot license granted?

- a. 1960
- b. 1934
- c. 1927
- d. 1990

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2.6 when was the first mechanics license granted?

- a. 1960
- b. 1934
- c. 1927
- d. 1990

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2.7 between 1934 and 1936, the Bureau of Air Commerce formerly names the Aeronautics Branch accomplished the following (check all that applies):

- Brought together a group of airlines
- Named the airlines
- Encouraged airlines to form the first Air Traffic Control (ATC) facilities
- Took over the responsibility to operate and advance the ATC facilities
- All of the above
- None of the above

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2.8 Resident Roosevelt split the CAA into two agencies. The Civil Aeronautics Administration (CAA), and the Civil Aeronautics Board (CAB). Link each agency with its corresponding responsibility.

CAA

The economic regulation of the airlines  
Certification of airmen and aircraft  
Accident investigation

CAB

The development of new airways  
Rulemaking to enhance safety  
Facilitate ATC  
Rule enforcement

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- 2.9 What did the Federal Act of 1958 establish?
- The Federal Aviation Agency (FAA)
  - The Civil Aeronautics Administration (CAA)
  - The Civil Aeronautics Board (CAB)
  - The Department of Transportation (DOT)

**Department of Transportation (DOT)**

- 2.10 Link each organization with one of its present activities

Department of Transportation (DOT)	Investigation of all transportation accidents within the United States
Federal Aviation Administration (FAA) formerly known as Federal Aviation Agency (FAA)	Serve the United States by ensuring a fast safe, efficient, accessible, and convenient transportation system meeting vital national interests and enhancing the quality of life of the American people, then, now, and into the future
National Transportation Safety Board (NTSB) formerly known as Civil Aeronautics Board (CAB)	Increase security duties of aviation both on the ground and in the air
Department of Homeland Security (DHS) p.1-6:	Establish and regulate <i>noise standards</i> of aircraft

**ATC Automation**

- 2.11 when was the ATC system semi-automated?
- Min-1980
  - Mid-1970
  - Min1960
  - 2016
- p. 1-6
- 2.12 what are the benefits of the Deregulation Act of 1978?
- For the first time in 40 years, airlines could enter the market
  - Airlines (from 1981) could expand their routes as they saw fit
  - Airlines (from 1982) had full freedom to set their fares.
  - Unfretted free competition ushered in a new era in passenger air travel
- 1, 2, and 4
  - 1, 2, and 3
  - None of the

- d. All of the above

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2.13 Fill in the gaps below from the selection of words

1. high unemployment
2. free competition
3. generous subsidies
4. sacrificed
5. non-union employees
6. Public support

There was stiff opposition to the bill [for the Deregulation Act] —from the major airlines who feared (...), from labor unions who feared (...), and from safety advocates who feared that safety would be (...). (...) was, however, strong enough to pass the act. The act appeased the major airlines by offering (...) and pleased workers by offering (...) benefits if they lost their jobs as a result.

### 3. The Role of the FAA:

#### The Code of Federal Regulations (CFR)

3.1 The Code of Federal Regulations (CFR) is

- a. A set of recommendations published by the executive departments and agencies of the United States Government
- b. the codification of the general and permanent rules published by the Department of Homeland Security
- c. The codification of the general and permanent rules published by the executive departments and agencies of the United States Government
- d. None of the Above

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3.2 What title of CFR is about Aeronautics and Space?

- a. Title 5
- b. Title 21
- c. Title 50
- d. Title 14

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3.3 Where is the primary location of FAA located?

- a. Oklahoma City, Oklahoma
- b. Washington DC
- c. Atlantic City, New Jersey
- d. San Francisco, California

p. 1-8

3.4 Within the FAA, the Flight Standards Service promotes safe air transportation by setting the standards for certification and oversight of

- a. Airmen
- b. Air operators

- c. Air agencies
- d. Designees
- e. All of the above

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### 3.4 link each entity with its activity/responsibility

Flight Standards District Office (FSDO)

Is devoted to reducing aircraft accidents by using a coordinated effort to focus resources on elusive accident causes

Aviation Safety Inspector (ASI)

Administer and enforce safety regulations and standards for the production, operation, maintenance, and/ or modification of aircraft used in civil aviation. Also conduct inspections of various aspects of the aviation system.

FAA Safety Team (FAASTeam)

Provide information and services for the aviation community

p. 1-9:

### 3.4 how can you obtain assistance from the FAA

- a. via a toll-free phone
- b. email
- c. regular mail
- d. all of the above

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### 3.5 Cite one of the reference materials published by FAA

### 3.6 What does NOTAMs stand for?

- a. Nothing in particular
- b. Notices to Airmen. They are time-critical aeronautical information either temporary in nature of not sufficiently known in advance to permit publication on aeronautical charts or in other operational publications
- c. Notices to Airmen. They are time-critical aeronautical information published on aeronautical charts or in other operational publications
- d. Norwegian Operations and Traffic Management

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## 4. Aircraft Classifications and Ultralight Vehicles

4.1 Ultralight vehicle is a general term the FAA uses to define a device that is used or intended to be used for flight in the air. This term is defined in 14 CFR 103. As the term implies, **powered** ultralight vehicles must weigh less than

- a. 254 lbs. empty weight
  - b. 155 lbs. empty weight
  - c. 300 lbs. empty weight
  - d. 500 lbs. empty weight
- p. 1-14

4.2 Ultralight vehicle is a general term the FAA uses to define a device that is used or intended to be used for flight in the air. This term is defined in 14 CFR 103. As the term implies, unpowered ultralight vehicles must weigh less than

- a. 254 lbs. empty weight
  - b. 155 lbs. empty weight
  - c. 300 lbs. empty weight
  - d. 500 lbs. empty weight
- p. 1-14

## 5. Pilot Certifications:

5.1 complete the following sentences using the following words:

- 1. limitations
- 2. where
- 3. does not demonstrate
- 4. purpose
- 5. when
- 6. privileges

Privileges—define (...) and (...) the pilot may fly, with whom they may fly, the (...) of the flight, and the (...) they are allowed to fly.

Limitations—the FAA may impose (...) on a pilot certificate if, during training or the practical test, the pilot (...) all skills necessary to exercise all privileges of a (...) level, category, class, or type rating.

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5.2 To earn a Sport Pilot Certificate, one must:

- a. Be at least 16 years old to become a student sport pilot (14 years old for gliders or balloons)
- b. Be at least 17 years old to test for a sport pilot certificate (16 years old for gliders or balloons)
- c. Be able to read, write, and understand the English language
- d. Hold a current and valid driver's license as evidence of medical eligibility
- e. All of the above

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5.3 A private pilot is one who

- a. Flies for pleasure or personal business without accepting compensation for flying except in some very limited, specific circumstances.

- b. May be compensated for flying
  - c. Is tested to the highest level of piloting ability
  - d. None of the above
- p. 1-17

5.4 A commercial pilot is one who

- a. Flies for pleasure or personal business without accepting compensation for flying except in some very limited, specific circumstances.
  - b. May be compensated for flying
  - c. Is tested to the highest level of piloting ability
  - d. None of the above
- p. 1-18

5.5 A private pilot is one who

- a. Flies for pleasure or personal business without accepting compensation for flying except in some very limited, specific circumstances.
  - b. May be compensated for flying
  - c. Is tested to the highest level of piloting ability
  - d. None of the above
- p. 1-18

## **6. Selecting a Flight School**

6.1. A 14 CFR part 61 school must

- a. Meet stringent requirements for personnel, equipment, maintenance, facilities,
  - b. Teach an established curriculum, which includes a training course outline (TCO) approved by the FAA.
  - c. Both of the above
  - d. None of the above
- p. 1-19

6.2. A 14 CFR part 141 school must

- a. Meet stringent requirements for personnel, equipment, maintenance, facilities,
  - b. Teach an established curriculum, which includes a training course outline (TCO) approved by the FAA.
  - c. Both of the above
  - d. None of the above
- p. 1-19

6.3. A 14 CFR part 61 school offer

- a. Flexibility
  - b. Continuous training
  - c. Less hours to qualify for a pilot certificate
  - d. More hours to qualify for a pilot certificate
- p. 1-19

6.4. The Certificated Flight Instructor (CFI)

- a. Assumes total responsibility for training an individual to meet the standards required for certification within an ever-changing operating environment

- b. Is responsible for administering flight tests to get a pilot certificate
- c. Can take the tests on behalf of their students
- d. None of the above

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6.5. The duties, responsibilities, and authority of the CFI include the following. Check all that apply.

- Orient the student to the scenario-based training system
- Help the student become a confident planner and inflight manager of each flight and a critical evaluator of their own performance
- Help the student understand the knowledge requirements present in real world applications
- Diagnose learning difficulties and help the student overcome them
- Evaluate student progress and maintain appropriate records
- Provide continuous review of student learning

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## 7. The student Pilot

7.1. A pilot does not need a certificate to fly ultralight vehicles.

- a. True
- b. False

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7.2. To be eligible for a Student Pilot Certificate, the applicant must:

- Be at least 16 years of age (14 years of age to pilot a glider or balloon).
- Be able to read, speak, write, and understand the English language.
  - a. Both requirements must be satisfied
  - b. Either one of the two requirements is enough

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7.3. Generally, first class is designed for

- a. Commercial pilot
- b. Recreational pilot
- c. Airline transport pilot
- d. Private pilot

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7.4. Student Pilot Certificate can be processed by

- a. An FAA inspector or technician,
- b. An FAA Designated pilot examiner (DPE)
- c. An Airman Certification Representative (ACR)
- d. A Certified Flight Instructor (CFI)
- e. All of the above

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7.5. The Student Pilot Certificate is required during all flights, even in the presence of a flight instructor.

- a. True
- b. False

Solution: The Student Pilot Certificate is only required when exercising solo flight privileges. P. 1-21

7.6. Once a student has accrued sufficient training and experience, a CFI can endorse the student's logbook to authorize limited solo flight in a specific type (make and model) of aircraft.

- a. A student pilot may carry passengers
  - b. May fly the aircraft by him/herself
  - c. fly in furtherance of a business
  - d. Operate an aircraft outside of the various endorsements provided by the flight instructor
- p. 1-21

## 8. Becoming a Pilot

8.1. Eligibility, aeronautical knowledge, proficiency, and aeronautical requirements can be found in 14 CFR part 61. Link each pilot certificate with its corresponding subpart.

Recreational Pilot,	subpart D
Private Pilot	subpart E
Sport Pilot	subpart J

8.2. There are four steps involved in learning a flight maneuver. The sequences for this learning are below but out of order. Put the sequences in the correct order

1. The CFI authorizes the student pilot to practice the maneuver solo.
  2. The CFI talks the student pilot through the maneuver.
  3. The CFI introduces and demonstrates flight maneuver to the student.
  4. The student pilot practices the maneuver under CFI supervision.
- p. 1-21:-

## 9. Knowledge and Skill Tests:

9.1. Why does FAA recommend the knowledge test to be taken after the student pilot has completed a solo cross-country?

- a. Because it makes it easier for the CFIs to follow the student's progress
- b. Because the knowledge test is more meaningful to the applicant and more likely to result in a satisfactory grade if it is taken after beginning the flight portion of the training.
- c. Because it makes up for a better curriculum flow
- d. Because it will make it harder for the students to focus on the test, and therefore get them used to a high stress environment and performance

9.2. What is the Airmen Certification Standards (ACS)?

- a. A set of instructions used by students to take tests

- b. A set of guidelines for curriculum designers
- c. A handbook issued by FAA as a study material for students
- d. An enhanced version of the Practical Test Standards (PTS) that adds task specific knowledge and risk management elements to each PTS area of Operation and Task

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9.3. When are student pilots expected to take the practical test?

- a. It is the CFI who best determines when the applicant is qualified for the practical test given the applicant met the minimum ground and flight experience required by 14 CFR part 61.
- b. The student can take the test whenever he or she wants.
- c. The applicant must take the test as soon he/she meets the ground school and flight experience requirements for the type of certification and aircraft selected established in 14 CFR part 61.
- d. The student pilot can take the test when the examiner conducting the test pre-approves it.

9.4. The FAA places full responsibility for student flight training on the shoulders of the CFI, who is the cornerstone of aviation safety

- True
- False

9.5. Check all correct sentences about the role of the Designated Pilot Examiner (DPE)

- The DPE plays an important role in the FAA's mission of promoting aviation safety by administering FAA practical tests
- The DPE administers tests for both pilot and flight instructor certificates and associated ratings
- The DPE is fully responsible for student flight training