

## QUESTIONS Section I - Aircraft Mechanic General

- AM.I.A.K1** QUESTION: What is considered the basic building block of all matter?  
ANSWER: The atom is considered the basic building block of all matter.  
REFERENCE: FAA-H-8083-30A page 12-2
- AM.I.B.K1** QUESTION: When is a full section view used on an aircraft drawing?  
ANSWER: It is used when the interior construction or hidden features of an object cannot be shown clearly by exterior views.  
REFERENCE: FAA-H-8083-30A, page 4-3
- AM.I.C.K2** QUESTION: The weight and balance system commonly employed among aircraft consists of three equally important elements. What are they?  
ANSWER: They are the weighing of the aircraft, the maintaining of the weight and balance records, and the proper loading of the aircraft.  
REFERENCE: FAA-H-8083-30A, page 6-1
- AM.I.D.K1** QUESTION: In the early days of aviation, what tubing material was used extensively in aviation fluid applications?  
ANSWER: Copper was used.  
REFERENCE: FAA-H- 8083-30A, page 9-2
- AM.I.E.K9** QUESTION: What property is essential for metals used in making wire and tubing?  
ANSWER: The property is ductility.  
REFERENCE: FAA-H-8083-30A, page 7-2
- AM.I.F.R7** QUESTION: Why should no one ever approach a single-rotor helicopter from the rear?  
ANSWER: The tail rotor is invisible when operating.  
REFERENCE: FAA-H-8083-30A, page 1-5
- AM.I.G.K20** QUESTION: If, due to the configuration of an aircraft, it is impossible for a person to mark an aircraft in accordance with 14 CFR Part 45.21 and 45.23 through 45.33, what must be done?  
ANSWER: The owner/operator may apply to the FAA for a different marking procedure.  
REFERENCE: 14 CFR 45.22(d)
- AM.I.H.K4** QUESTION: Define the term "aspect ratio".  
ANSWER: Aspect ratio is the ratio of the length (or span) of an airfoil to its width (or chord).  
REFERENCE: FAA-H-8083-30A, page 3-8
- AM.I.I.K5** QUESTION: What is FAA Form 8100-2?  
ANSWER: FAA Form 8100-2 is a Standard Airworthiness Certificate.  
REFERENCE: FAA-H-8083-30A, page 2-5
- AM.I.J.K3** QUESTION: Two gears with teeth on their outer edges act like what class of lever?  
ANSWER: They act like a first class lever.  
REFERENCE: FAA-H-8083-30A, page 5-11
- AM.I.K.K4** QUESTION: Irregular and haphazard inspections invariably result in what?  
ANSWER: The result is a gradual and certain deterioration of an aircraft.  
REFERENCE: FAA-H-8083-30A, page 10-1
- AM.I.L.K3** QUESTION: A review of accident related data indicates that approximately 75–80 percent of all aviation accidents are the result of human error. Of those accidents what percent are maintenance related?  
ANSWER: Of those accidents, about 12 percent are maintenance related.  
REFERENCE: FAA-H-8083-30A, page 14-2

## QUESTIONS Section II - Aircraft Mechanic Airframe

- AM.II.A.K2** QUESTION: What are the four common basic stresses on an aircraft?  
ANSWER: They are tension, compression, shear, and bearing.  
REFERENCE: FAA-H-8083-31A, page 4-2
- AM.II.B.K20** QUESTION: Name one aircraft structure that a honeycomb panel can be used for.  
ANSWER: They have a variety of uses on the aircraft, such as floor panels, bulkheads, and control surfaces, as well as wing skin panels.  
REFERENCE: FAA-H-8083-31A, page 1-18
- AM.II.C.K12** QUESTION: In relation to an aircraft, what is the boundary layer?  
ANSWER: It is the part of the airflow closest to the surface of the aircraft.  
REFERENCE: FAA-H-8083-31A, page 2-7
- AM.II.D.K1** QUESTION: To establish conformity of an aircraft product the mechanic must start with what document?  
ANSWER: The document is the Type Certificate Data Sheet.  
REFERENCE: FAA-H-8083-31A, page 2-59
- AM.II.E.K1** QUESTION: References to auxiliary landing gear refer to what gear on any particular aircraft?  
ANSWER: It refers to the nose gear, tail gear, or outrigger-type.  
REFERENCE: FAA-H-8083-31A, page 13-2
- AM.II.F.K2** QUESTION: Hydraulic system liquids are used primarily for what?  
ANSWER: They are used primarily to transmit and distribute forces to various units to be actuated.  
REFERENCE: FAA-H-8083-31A page 12-2
- AM.II.G.K9** QUESTION: The production of gaseous oxygen for commercial or aircraft cylinders is often through what process?  
ANSWER: It is done by the process of liquefying air.  
REFERENCE: FAA-H-8083-31A, page 16-4
- AM.II.H.K20** QUESTION: There are usually two parts to any instrument or instrument system. What are they?  
ANSWER: One part senses the situation and the other part displays it.  
REFERENCE: FAA-H-8083-31A page 10-2
- AM.II.I.K16** QUESTION: What is the actuating (output) element component of an autopilot system?  
ANSWER: It is the servo.  
REFERENCE: FAA-H-8083-31A, page 10-63
- AM.II.J.K7** QUESTION: What does the first number in a fuel performance number indicate?  
ANSWER: It indicates the octane rating of the fuel in a lean fuel-air mixture.  
REFERENCE: FAA-H-8083-31A, page 14-6
- AM.II.K.K17** QUESTION: What is battery capacity measured in?  
ANSWER: It is measured in amp-hours.  
REFERENCE: FAA-H-8083-31A, page 9-22
- AM.II.L.K3** QUESTION: Name one of the most common anti-icing systems in use.  
ANSWER: The most common anti-icing systems used are thermal pneumatic, thermal electric, and chemical.  
REFERENCE: FAA-H-8083-31A, page 15-4
- AM.II.M.K5** QUESTION: What are the two most common types of portable fire extinguishers used in cabins or flight decks?  
ANSWER: The most common types are Halon 1211 and water.  
REFERENCE: FAA-H-8083-31A, page 17-11
- AM.II.N.K5** QUESTION: What are the two main parts of a rotorcraft swash plate?  
ANSWER: The two main parts are the stationary swash plate and the rotating swash plate.  
REFERENCE: FAA-H-8083-31A, page 2-28
- AM.II.O.K1** QUESTION: What are the components used to heat water supply lines and waste water tanks?  
ANSWER: They are heater blankets and in-line heaters.

SAMPLE

## QUESTIONS Section III- Aircraft Mechanic Powerplant

- AM.III.A.K2** QUESTION: Define the term “operating flexibility” in regard to aircraft engines.  
ANSWER: Operating flexibility is the ability of an engine to run smoothly and give desired performance at all speeds from idling to full-power output.  
REFERENCE: FAA-H-8083-32A, page 1-3
- AM.III.B.K1** QUESTION: Define the term “thermal efficiency” in regard to aircraft engines.  
ANSWER: It is the ratio of net work produced by the engine to the chemical energy supplied in the form of fuel.  
REFERENCE: FAA-H-8083-32A page 1-60
- AM.III.C.K3** QUESTION: Name one of the three basic ultrasonic inspection methods.  
ANSWER: There are three basic ultrasonic inspection methods:  
1. Pulse-echo.  
2. Through transmission.  
3. Resonance.  
REFERENCE: FAA-H-8083-32A page 10-7
- AM.III.D.K9** QUESTION: Many large high-bypass turbofan engines use what type of fuel control system?  
ANSWER: Many large high-bypass turbofan engines use the FADEC type of fuel control system.  
REFERENCE: FAA-H-8083-32A, page 2-39
- AM.III.E.K4** QUESTION: Where are fire switches normally installed?  
ANSWER: Fire switches are typically installed on the center overhead panel or center console in the flight deck.  
REFERENCE: FAA-H-8083-32A, page 9-10
- AM.III.F.K10** QUESTION: Name the components of a basic magnetic circuit.  
ANSWER: The magnetic circuit consists of a permanent multi-pole rotating magnet, a soft iron core, and pole shoes.  
REFERENCE: FAA-H-8083-32A, page 4-2
- AM.III.G.K2** QUESTION: Name one type of oil filter used on aircraft engines?  
ANSWER: The oil filter used on an aircraft engine is usually one of four types: screen, Cuno, canister, or spin-on.  
REFERENCE: FAA-H-8083-32A, page 6-7
- AM.III.H.K7** QUESTION: Name one general type of inertia starter.  
ANSWER: There are three general types of inertia starters: hand, electric, and combination hand and electric.  
REFERENCE: FAA-H-8083-32A, page 5-2
- AM.III.I.K1** QUESTION: Gasoline and other liquid fuels do not burn at all unless they are mixed with what other element?  
ANSWER: Gasoline and other liquid fuels do not burn at all unless they are mixed with air.  
REFERENCE: FAA-H-8083-32A, page 2-4
- AM.III.J.K1** QUESTION: The basic induction system of an aircraft reciprocating engine consists of what components?  
ANSWER: The basic induction system of an aircraft reciprocating engine consists of an air scoop used to collect the inlet air and ducting that transfers the air to the inlet filter.  
REFERENCE: FAA-H-8083-32A, page 3-1
- AM.III.K.K1** QUESTION: What is the purpose of inlet guide vanes on a turbine engine?  
ANSWER: Inlet guide vanes (IGV) help straighten the airflow and direct it into the first stages of the compressor.  
REFERENCE: FAA-H-8083-32A, page 3-17
- AM.III.L.K1** QUESTION: What are two general types of exhaust systems in use on reciprocating aircraft engines?  
ANSWER: They are the short stack (open) system and the collector system.  
REFERENCE: FAA-H-8083-32A, page 3-23
- AM.III.M.K1** QUESTION: The propeller control system is divided into two types of control. What are they?  
ANSWER: The propeller control system is divided into two types of control: one for flight and one for ground operation.  
REFERENCE: FAA-H-8083-32A, page 7-31

SAMPLE

**PROJECT GENERAL - WEIGHT AND BALANCE**

Project #	<b>DESCRIPTION:</b>	Compute forward and aft loaded CG limit.
	<b>GIVEN:</b>	Manufacturer's publications, weight and balance records, and project information on assigned aircraft.
	<b>PERFORMANCE STANDARD:</b>	The applicant will use the provided information to compute the forward and aft loaded CG limit.
	<b>ACS CODE:</b>	AM.I.C.S6
	<b>REFERENCE:</b>	FAA-H-8083-30A, pp. 6-21 through 6-22; Manufacturer's publications, weight and balance records, and project information on assigned aircraft.

Question # **QUESTION:** What is the total moment of the assigned aircraft?  
**ANSWER:** The total moment will be calculated with information provided in the project.  
**REFERENCE:** FAA-H-8083-30A, page 6-22  
**ACS CODE:** AM.I.C.K4

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Question # **QUESTION:** What is the total arm of the assigned aircraft?  
**ANSWER:** The total arm will be calculated with information provided in the project.  
**REFERENCE:** FAA-H-8083-30A, page 6-22  
**ACS CODE:** AM.I.C.K5

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**PROJECT AIRFRAME –AIRFRAME INSPECTION**

Project #	<b>DESCRIPTION:</b>	Provide a checklist for conducting a 100-hour inspection.
	<b>GIVEN:</b>	Assigned aircraft, appropriate reference material
	<b>PERFORMANCE STANDARD:</b>	The applicant will provide a checklist for conducting a 100-hour inspection on the assigned aircraft
	<b>ACS CODE:</b>	AM.II.D.S5
	<b>REFERENCE:</b>	14CFR part 43

Question # **QUESTION:** What is the first step in conducting a 100-hour inspection?  
**ANSWER:** The first step is to clean the aircraft.  
**REFERENCE:** 14 CFR 43  
**ACS CODE:** AM.II.D.R4

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Question # **QUESTION:** Who is required to maintain the records of inspection?  
**ANSWER:** The owner/operator is required to retain records of inspection.  
**REFERENCE:** 14 CFR 43  
**ACS CODE:** AM.II.D.K2

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**PROJECT POWERPLANT – ENGINE FUEL METERING SYSTEMS**

Project #	<b>DESCRIPTION:</b>	Locate and explain procedures for removing and installing a turbine engine fuel control unit.
	<b>GIVEN:</b>	Assigned aircraft, and appropriate reference material.
	<b>PERFORMANCE STANDARD:</b>	The applicant will locate and explain procedures for removing and installing a turbine engine fuel control unit, as prescribed by reference material
	<b>ACS CODE:</b>	AM.III.I.S14
	<b>REFERENCE:</b>	Appropriate Maintenance Manuals and other applicable materials

Question # **QUESTION:** On the assigned aircraft what is the required torque for installing the fuel control unit?  
**ANSWER:** The torque will be as per the manufacturer's maintenance manual.  
**ACS CODE:** AM.III.I.K8  
**REFERENCE:** Assigned aircraft's maintenance manual

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Question # **QUESTION:** On the assigned aircraft what is the procedure for draining the residual fuel in the fuel control unit?  
**ANSWER:** The procedure will be per the manufacturer's maintenance manual.  
**ACS CODE:** AM.III.I.R3  
**REFERENCE:** Assigned aircraft's maintenance manual

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