GENERAL

BASIC ELECTRICITY

- **WHAT DOES AN ELECTRICAL CIRCUIT CONSIST OF?**
  SOURCE (VOLTAGE), CONDUCTOR (CURRENT) AND RESISTANCE
- **WATT IS A MEASUREMENT OF WHAT?**
  POWER
- **WHAT ARE THREE TYPES OF ELECTRICAL CIRCUITS?**
  SERIES, PARALLEL, AND SERIES-PARALLEL
- **WHAT IS OHM'S LAW?**
  E=I X R (VOLTAGE=CURRENT X RESISTANCE)
- **HOW MANY CELLS ARE IN A 24 VOLT LEAD-ACID BATTERY**
  12

ACFT DRAWINGS

- **WHY ARE DIMENSIONS USED?**
  TO INDICATE *DISTANCE BETWEEN ORIGIN AND TERMINATION*
- **HOW IS A DIMENSION LINE DRAWN?**
  SOLID LINES USUALLY BROKEN AT THE MIDPOINT WITH THE MEASUREMENT INDICATED.
- **WHAT *IS TOLERANCE?***
  + OR – ALLOWANCE
- **WHAT IS CLEARANCE?**
  ALLOWABLE SPACE BETWEEN PARTS.
- **HOW MANY VIEWS ARE USED TO SHOW MOST OBJECTS IN AN AIRCRAFT DRAWING?**
  THREE. ONE OR TWO ARE ALSO USED.

WEIGHT AND BALANCE

- **WHAT IS A DATUM LINE?**
  IMAGINARY LINE FROM WHERE MEASUREMENTS ARE TAKEN
- **HOW IS THE ARM OF AN ITEM DETERMINED?**
  MEASURED FROM DATUM OR FROM AIRCRAFT SPECIFICATIONS.
- **HOW WOULD YOU DETERMINE EMPTY WEIGHT IF RECORDS ARE LOST?**
  RE-WEIGHT THE ACFT
- **WHAT IS RESIDUAL FUEL?**
  FUEL THAT CAN NOT BE DRAINED
- **WHAT ARE TWO REASONS WEIGHT & BALANCE CONTROL ARE IMPORTANT IN AN AIRCRAFT?**
  FOR SAFETY OF FLIGHT AND FOR THE MOST EFFICIENT PERFORMANCE
- **HOW DO YOU FIND THE MOMENT OF AN ITEM?**
  MULTIPLY THE WEIGHT IN POUNDS AND THE DISTANCE FROM THE DATUM (ARM) IN INCHES

FLUID LINES AND FITTINGS

- **WHAT ARE THE TWO TYPES OF LINES USED IN AVIATION AND HOW ARE THEY MEASURED?**
  FLEXIBLE LINES-- MEASURED INSIDE DIAMETER
  RIGID LINES—MEASURED OUTSIDE DIAMETER
- **NAME THE PARTS OF A MS FLARELESS-TUBE FITTING?**
  BODY, SLEEVE, AND NUT.
- **HOW IS THE SIZE OF FLEXIBLE HOES DETERMINED?**
  INSIDE DIAMETER IN 1/16 INCREMENTS.

- **HOW CAN IT BE DETERMINED IF A FLEXIBLE HOSE WAS TWISTED WHEN INSTALLED?**
  THE STRIPE THAT RUNS ALON THE LENGTH OF THE HOSE.
- **WHAT ARE THE FLARE ANGLES FOR AVIATION AND AUTOMOTIVE FITTINGS?**
  AVIATION: 37°
  AUTOMOTIVE: 45°

MATERIALS

- **WHAT IS THE GRIP LENGTH OF A BOLT EQUAL TO?**
  THE THICKNESS OF THE MATERIAL BEING FASTENED.
- **HOW ARE "AN" STEEL BOLTS IDENTIFIED?**
  BY THE MARKING ON THE HEAD
- **HOW IS THE TORQUE VALUE DETERMINED IF SPECIFIED TORQUE IS NOT GIVEN?**
  AC43.13-1B
- **WHAT ARE THE CHARACTERISTICS OF A COLD WELD?**
  IMPROPER PENETRATION WITH ROUGH AND IRREGULAR COLD LAPS THAT DO NOT FEATHER INTO THE BASE MATERIAL.
- **WHY SHOULD S MICROMETER BE PERIODICALLY CLAIBRATED?**
  SURFACES MAY WEAR, DROPPING OF THE MICROMETER, OVERTIGHTENING OF THE SPINDLE CAN CAUSE THE FRAME TO BECOME PERMANENTLY SPRUNG.
- **WHAT MATERIALS ARE COMMONLY USED AS REINFORMENT IN STRUCTURAL CCOMPOSITES?**
  ARAMID (KEVLAR), FIBERGLASS, GRAPHITE (CARBON FIBER)
- **WHAT CLASS AND THREADED FIT ARE AIRCRAFT BOLTS COMMONLY MANUFACTURED?**
  CLASS 3, MEDIUM FIT.

GROUND OPERATIONS

- **WHAT INFO. MUST BE NEXT TO FUEL FILLER CAP?**
  FUEL TYPE AND GRADE
- **WHY SHOULD MECHANICS KNOW STANDARD LIGHT SIGNALS?**
  LIGHT SIGNALS MAY BE USED BY THE TOWER DURING TAXING.
- **WHAT PRECAUTIONS SHOULD BE TAKEN DURING REFUEL OPERATIONS?**
  ACFT GROUNDED, CHALK WHEELS, NO KINKS IN HOSE
- **WHAT IS THE PURPOSE OF A TIRE CAGE?**
  TO PREVENT INJURY DURING INFLATION IN THE EVENT OF TIRE OR WHEEL FAILURE.
- **CO_2 FIRE EXTINGUISHERS CAN BE USED ON WHAT TYPE OF FIRES?**
  CLASS A, B, AND C.
- **WHAT ARE TYPICAL GROUND OPERATION HAZARDS TO BE AWARE OF OR TAKE PRECAUTIONS AGAINST?**
  FOD, OTHER AIRCRAFT OR OBSTACLES, POSSIBILITY OF FIRE, NOISE LEVELS, TURNING PROPELLORS, ROTORS, OR JET BLAST, HYDRAULIC LOCK (RADIAL ENGINES), WEATHERVANING OF TAILWHEEL AIRCRAFT, LIMITED VISIBILITY.

CLEANING AND CORROSION

- **WHAT PROCEDURES ARE COMMONLY USED TO PREVENT CORROSION IN THE PREVENTIVE MAINTENANCE PROCESS?**
  CLEANING, LUBRICATION, INSPECTION, TREATMENT, KEEPING DRAIN HOLES CLEAR, DRAIN FUEL SUMPS, DAILY WIPE DOWN, SEALING, PROTECTIVE COVERS.
- **AREAS PRONE TO CORROSION?**
  BATTERY COMPARTMENT, EXHAUST AREAS, VENT OPENINGS, BILGE AREAS, WHEEL WELLS, LANDING GEAR, WING FLAP RECESSES, PIANO HINGES, ANY AREA WATER CAN BECOME ENTRAPPED.
- **EXAMPLE OF HEAVY DUTY CLEANING AGENT?**
  SOLVENTS AND EMULSIONS.
- **WHAT IS THE EFFECT OF USING ALUMINUM METAL POLISH ON ANODIZED ALUMINUM SURFACES?**
  IT REMOVES THE OXIDE COATING.
- **WHAT IS GENERALLY USED TO CLEAN AIRCRAFT TIRES?**
  SOAP AND WATER.
- **WHAT SHOULD BE ACCOMPLISHED BEFORE PERFORMING AN INSPECTION AND WHY?**
  THE AIRCRAFT OR COMPONENT SHOULD BE CLEANED IN ORDER TO CONDUCT A MORE ACCURATE INSPECTION.
- **WHAT IS THE MOST COMMON TYPE OF CORROSION?**
  SURFACE.

MATH

- **HOW MAY MATH PROBLEMS BE WRITTEN FOR LARGE NUMBERS?**
  SCIENTIFIC NOTATION
- **HOW IS ONE MILLION (1,000,000) WRITTEN IN A SCIENTIFIC NOTATION?**
  1 X 10 TO THE SIXTH POWER
- **A STATEMENT OF EQUALITY BETWEEN TWO OR MORE RATIOS IS WHAT?**
  A PROPORTION. EXAMPLE 3:4=6:8
- **HOW DO YOU CHANGE DECIMAL TO %?**
  MOVE DECIMAL 2 PLACES TO THE RIGHT
- **WHAT IS A MIXED NUMBER?**
  A COMBINATION OF A WHOLE NUMBER AND A FRACTION.
- **THE COMPARISON OF TWO NUMBERS OR QUANTITIES IS KNOWN AS WHAT?**
  A RATIO.

FORMS AND RECORDS

- **WHO IS RESPONSIBLE FOR THE MAINTENANCE ENTRY AFTER PERFORMING A 100-HOUR INSPECTION?**
  THE PERSON APPROVING THE AIRCRAFT FOR RETURN TO SERVICE.
- **WHO SIGNS MAINTENANCE RECORDS FOR 100 HR?**
  A&P OR PERSON COMPLETING WORK
- **WHERE IS THE DESCRIPTION OF A MAJOR REPAIR/ALTERATION RECORDED IN ADDITION TO THE MAINTNENANCE RECORD ENTRY?**
  FAA FORM 337
- **WHAT IS THE PUNISHMENT FOR MAKING A FRAUDULENT OR INTENTIONALLY FALSE ENTRY FOR A REQUIRED RECORD?**
  SUSPENSION OR REVOCATION OF THE APPLICABLE AIRMEN CERTIFICATE(S).
- **WHAT IS THE DISPOSITION OF FORM 337?**
  1 COPY TO OWNER, 1 COPY TO FAA

- **WHO IS AUTHORIZED TO PERFORM AN ANNUAL INSPECTION?**
  A CERTIFICATED MECHANIC WHO HOLDS AN INSPECTION AUTHORIZATION
- **WHEN IS THE AIRCRAFT TOTAL TIME REQUIRED TO BE RECORDED IN A MAINTENANCE ENTRY?**
  WHEN AN INSPECTION RECORD ENTRY IS MADE.
- **TEMPORAY RECORDS MUST BE KEPT BY AIRCRAFT OWNERS FOR HOW LONG?**
  ONE YEAR OR UNTIL THE WORK IS REPEATED OR SUPERSEDED.

BASIC PHYSICS

- **WHAT ARE THE TYPES OF HEAT TRANSFER?**
  CONDUCTION, CONVECTION, RADIATION
- **WHAT IS THE ATMOSPHERIC PRESSURE AT SEA LEVEL ON A STANDARD DAY?**
  14.7 PSI OR 29.92 INCHES OF MERCURY
- **WHAT IS FRICTION?**
  THE RESISTANCE OF TO MOVEMENT BETWEEN OBJECTS.
- **WHAT ARE THE 4 FORCES ACTING ON AN ACRAFT IN FLIGHT?**
  WEIGHT (GRAVITY), LIFT, THRUST AND DRAG
- **WHAT IS MATTER?**
  ANYTHING THAT OCCUPIES SPACE AND HAS WEIGHT.
- **THREE STATES OF MATTER?**
  SOLID, LIQUID, AND GAS
- **LOWERING THE FLAPS HAS WHAT EFFECT ON AN AIRCRAFT IN FLIGHT?**
  INCREASES LIFT, DECREASES STALL SPEED, AND INCREASES DRAG.

MAINTENANCE PUBLICATIONS

- **WHAT IS THE PURPOSE OF AIRWORTHY DIRECTIVES (AD)?**
  TO CORRECT AN UNSAFE CONDITION
- **WHEN MUST A SERVICE BULLETIN, ISSUED BY THE MANUFACTURER, BE COMPLIED WITH?**
  WHEN IT IS PART OF AN AIRWORTHINESS DIRECTIVE OR OTHER APPROVED DATA.
- **WHAT MANUAL IS CREATED BY THE MANUFACTURER FOR TECHNICIANS WHO PERFORM MAINTENANCE ON UNITS, COMPONENTS, AND SYSTEMS WHILE INSTALLED ON THE AIRCRAFT?**
  THE AIRCRAFT MAINTENANCE MANUAL.
- **WHEN MUST AN AIRWORTHY DIRECTIVE BE COMPLIED WITH?**
  BY THE DATE LISTED ON AIRWORTHY DIRECTIVE
- **ARE AIRWORTHINESS DIRECTIVES AUTOMATICALLY ISSUED TO MECHANICS?**
  NO.
- **HOW CAN A MECHANIC DETERMINE MINOR/ MAJOR REPAIRS?**
  FAR PART 43 APPENDIX A

A&P PRIVILAGES

- **WHAT TYPE OF MAINTENANCE CAN A&P MECHANICS PERFORM?**
  100HR, ROUTINE MAINTENANCE, PROGRESSIVE INSPECTION (SUPERVISED BY IA)
- **WHAT MUST BE DONE IF THERE IS A PERMANENT CHANGE OF ADDRESS?**
  NOTIFY THE FAA IN WRITING WITHIN 30 DAYS AFTER ANY CHANGE IN PERMANENT ADDRESS.

- **HOW LONG IS A MECHANIC CERTIFICATE GOOD FOR?**
  UNTIL SURRENDERED, SUSPENDED, OR REVOKED.
- **HOW LONG MUST A PERSON WAIT BEFORE REAPPLYING FOR A MECHANIC CERTIFICATE AFTER REVOCATION?**
  ONE YEAR, UNLESS THE ORDER OF REVOCATION STATES OTHERWISE.
- **WHAT RATINGS ARE ISSUED WITH MECHANICS CERTIFICATE?**
  AIRFRAME AND POWER PLANT
- **WHEN MAY A MECHANIC (NOT EMPLOYED BY A REPAIR STATION) PERFORM AN ANNUAL INSPECTION?**
  IF THE MECHANIC HOLDS AN INSPECTION AUTHORIZATION (IA).
- **HOW LONG IS A TEMPORAY CERTIFICATE GOOD FOR?**
  120 DAYS.

AIRFRAME

WOOD

- **WHAT TYPES OF WOOD ARE USED OTHER THAN SOLID?**
  PLYWOOD AND LAMINATED
- **WHAT IS A LAMINATED WOOD ASSY?**
  TWO OR MORE PLYS OF WOOD GLUED TOGETHER IN PARALELL
- **HOW DO YOU INSPECT FOR WOOD ROT?**
  LOOK FOR DARK DISCOLORATION ON SURFACE OR GRAY STAINS ABOVE GRAIN
- **WHY IS IMPORTANT TO INSPECT WOOD CAREFULLY?**
  TO DETECT DECAY
- **WHY SHOULD STAINS AND DISCOLRATIONS BE INSPECTED CAREFULLY?**
  TO DETERMINE IF HARMLESS OR STAGE OF DECAY (PRELIMINARY OR ADVANCED)
- **WHAT IS THE MAXIMUM NUMBER OF SPLICES THAT SHOULD BE MADE IN ANY ONE SPAR?**
  TWO
- **WHAT IS THE MINIMUM TEMPERATURE FOR CURING WOOD JOINTS WITH RESIN GLUE?**
  70 DEGREES F.

COVERING

- **WHAT ARE 2 FORMS OF FABRICS?**
  SYNTHETIC AND ORGANIC
- **WHAT ORGANIC FIBERS ARE USED FOR AIRCRAFT COVERING?**
  COTTON AND LINEN.
- **WHAT IS REINFORCEMENT TAPE USED FOR?**
  SO AS NOT TO TEAR THE FABRIC DURING STICHING
- **HOW ARE VENTILATIONS AND DRAINS RE-ENFORCED?**
  PLASTIC OR ALUMINIM GROMMETS
- **HOW DO YOU DETERMINE THE RIB LACE SPACING WHEN THE ORIGINAL SPACING IS UNKNOWN?**
  AC43.13-1B
- **HOW DO YOU TEST FABRIC?**
  PUNCH TEST, A TEST STRIP, OR LABORATORY TESTING IF RESULTS ARE MARGINAL.

FINISHES

- **WHAT IS THE ADVANTAGE OF BUTYRATE DOPE OVER NITRATE DOPE?**
  LESS FLAMMABLE

- **THREE METHODS FOR APPLYING PAINT?**
  DIPPING, BRUSHING, AND SPRAYING
- **WHAT HEALTH SAFETY PRECAUTIONS ARE USED FOR TOXIC MATERIALS?**
  USE OF PPE (RESPIRATORS)
- **WHAT MAY CAUSE SPRAY PAINT SAGS AND RUNS?**
  TOO MUCH PAINT, OR TOO MUCH REDUCER, OR INCORRECT SPRAY GUN SETTING.
- **HOW DOES A BLUSHING PAINT FINISH APPEAR?**
  AS A DULL MILKY HAZE

SHEETMETAL

- **TYPE OF SELF-PLUGGING MECHANICAL LOCK RIVET?**
  CHERRY LOCK, CHERRY MAX, CHERRY SST, HUCK, HUCK-CINCH, OR HUCK MAX.
- **WHAT IS POTTING COMPOUND USED FOR WHEN REPAIRING BONDED HONEYCOMB?**
  HOLE FILLING
- **WHAT IS DONE TO THE DAMAGED AREA OF BONDED HONEYCOMB?**
  THE DAMAGED AREA MUST BE REMOVED IN ORDER TO REPAIR
- **WHAT CAUSES CRAZING IN PLASTIC?**
  STRESS, IMPROPER HANDLING, AND HARMFUL CLEANING SOLVENTS.
- **WHAT METHODS CAN BE USED TO FORM SHEETMETAL?**
  SHRINKING, STRETCHING, BUMPING, CRIMPING, AND FOLDING.
- **WHAT ARE LIGHTENING HOLES IN RIB SECTIONS FOR?**
  WEIGHT REDUCTION.
- **HOW IS THE TOTAL LENGTH OF A SOLID RIVET DETERMINED?**
  GRIP LENGTH (THICKNESS OF MATERIAL) + 1.5 TIMES THE DIAMETER
- **WHAT IS THE PROPER MATERIAL TO USE WHEN REPAIRING AN ALL METAL AIRCRAFT?**
  THE SAME TYPE AND THICKNESS AS THE ORIGINAL
- **WHAT IS THE SINGLE ROW SPACING AND EDGE DISTANCE FOR PROTRUDING HEAD RIVETS?**
  SPACING IS 3 TIMES THE DIAMETER AND EDGE DISTANCE IS 2 TIMES THE DIAMETER.

ASSEMBLY/RIGGING

- **WHAT DO THE FOOT PEDALS CONTROLS ON A HELICOPTER?**
  TAIL ROTOR.
- **WHAT ARE THE PRIMARY FIXED WING FLIGHT CONTROLS?**
  ALERONS, RUDDER, ELEVATOR
- **WHAT ARE THREE MECHANICAL METHODS USED TO ACTUATE FLIGHT CONTROLS?**
  CABLES, PUSH-PULL, AND TORQUE TUBES.
- **WHAT IS USED TO COMPENSATE FOR HELICOPTER MAIN ROTOR TORQUE?**
  AN AUXILLARY OR TAIL ROTOR.
- **WHAT MUST BE KNOWN BEFORE USING A TYPICAL CABLE RIGGING CHART?**
  CABLE SIZE AND AMBIENT TEMPERATURE.

- **WHAT TOOL IS USED TO CHECK THE TRAVEL OR RIGGING OF CONTROL SURFACES?**
  PROTRACTOR, RIGGING FIXTURE, RULER, OR CONTOUR TEMPLATE.

- **WHAT IS ANOTHER NAME FOR A CABLE GUIDE?**
  A CABLE FAIRLEAD.

AIRFRAME INSPECTION

- **WHAT TYPE OF INSPECTION CAN A RATED A&P MECHANIC SIGN OFF?**
  100HR
- **WHO CAN PERFORM AN ANNUAL INSPECTION?**
  A MECHANIC WHO HOLDS AN INSPECTION AUTHORIZATION (IA).
- **WHAT MAY BE USED AS A CHECKLIST FOR A 100-HOUR OR ANNUAL INSPECTION?**
  APPENDIX D OF FAR PART 43.

- **WHO MAY SUPERVISE A PROGRESSIVE INSPECTION?**
  A CERTIFICATED MECHANIC WHO HOLDS AN INSPECTION AUTHORIZATION (IA), A CERTIFICATED REPAIR STATION, OR THE AIRCRAFT MANUFACTURER.
- **WHEN A PROGRESSIVE INSPECTION PROGRAM IS DISCONTINUED WHEN IS THE FIRST 100 HR DUE?**
  100 HOURS AFTER THE LAST COMPLETED INSPECTION.
- **DO PROGRESSIVE SCHEDULED AIRCRAFT REQUIRE A 100 HR?**
  NO
- **WHERE SHOULD YOU FIND INFORMATION TO WORK ON ELECTRICAL EQUIPMENT?**
  MANUFACTURES MAINTENANCE MANUAL OR INSTRUCTIONS FOR CONTINUED AIRWORTHINESS.
- **WHAT MUST THE OWNER OR OPERATOR OF AN AIRRAFT DO IF THEY WANT TO USE A PROGRESIVE INSPECTION PROGRAM**
  SUBMIT A WRITTEN REQUEST TO THE FAA FLIGHT STANDARDS DISTRICT OFFICE (FSDO) HSVING JURISDICTION OF THE AREA WHERE THE APPLICANT IS LOCATED.

LANDING GEAR

- **WHAT POWER IS USED IN A RETRACTABLE LANDING GEAR SYSTEM?**
  HYDRAULIC, ELECTRICAL
- **WHAT CAN BE USED TO INFLATE A LANDING GEAR SHOCK STRUT**
  NITROGEN OR DRY AIR.
- **WHAT IS THE PURPOSE OF MAIN LANDING GEAR TORQUE LINKS?**
  TO KEEP THE LANDING GEAR POINTED IN A STRAIGHT AHEAD DIRECTION.
- **WHAT IS REQUIRED TO OBTAIN A SAFE LONG LASTING TIRE INSPECTION?**
  PROPER INFLATION.
- **WHAT IS THE RESULT OF UNDER INFLATION OF TIRE?**
  RAPID OR UNEVEN WEAR NEAR THE EDGES OF TREAD AND CREEP OR SLIP WHEN THE BRAKES ARE APPLIED.
- **WHEN SHOULD A LANDING GEAR RETRACTION CHECK BE ACCOMPLISHED?**
  DURING AN INSPECTION (ANNUAL, 100 HOUR, ETC.), WHEN COMPONENTS HAVE BE REPAIRED OR REPLACED, AND AFTER A HARD LANDING.
- **WHAT IS THE PURPOSE OF AN ANTI-SKID SYSTEM?**
  TO ALLOW FOR A RAPID STOP WITHOUT TIRE SKIDDING.
- **WHAT IS THE PURPOSE OF A WHEEL FUSIBLE PLUG?**
  TO RELIEVE PRESSURE IN ORDER TO PREVENT TIRE BLOWOUT.

- **METHODS FOR BLEEDING BRAKES:**
  GRAVITY AND PRESSURE.

HYDRAULICS/PNEUMATICS

- **HOW CAN CONTAMINATION OF A HYDRAULIC UNIT BE MINIMIZED DURING REPLACEMENT?**
  ALL LINES SHOULD BE PLUGGED OR CAPPED AFTER DISCONNECTING.
- **WHAT FUNCTION DOES THE PRESSURE RELIEF VALVE PROVIDE?**
  LIMITS THE AMOUNT OF PRESSURE TO PROTECT COMPONENTS
- **WHAT WOULD CAUSEA HYDRAULIC FILTER TO GO INTO OPEN BYPASS?**
  A CLOGGED FILTER.
- **WHAT IS PNEUMATICS USED ON FOR MOST ACFT?**
  ENGINES STARTERS, BRAKES, DOORS
- **WHY DO YOU USE QUICK-DISCONNECT FITTINGS?**
  TO FACILITATE MAINTENANCE AND PREVENT CONTAMINATION FROM ENTERING THE SYSTEM
- **NAME TWO TYPES OF ENGINE-DRIVEN HYDRAULIC PUMPS?**
  CONSTANY-DELIVERY AND VARIABLE-DELIVERY
- **WHAT IS USED IN SOME HYDRAULIC SYSTEMS TO SUPPLEMENT THE POWER PUMP WHEN SEVERAL UNITS ARE OPERATED AT THE SAME TIME?**
  AN ACCUMULATOR.
- **TWO TYPES OF ACCUMULATORS:**
  SPHERICAL AND CYLINDRICAL.
- **WHAT ARE SOURCES OF PNEUMATIC POWER?**
  STORAGE BOTTLES, VANE-TYPE PUMPS, AND TURBINE ENGINE COMPRESSORS.
- **WHAT HAPPENS TO THE EXCESSIVE PRESSURE IN A PNEUMATIC SYSTEM?**
  A RELIEF VALVE WILL BLEED IT TO THE ATMOSPHERE.
- **WHY ARE PNEUMATIC SYSTEMS PURGED PERIODICALLY?**
  TO REMOVE CONTAMINATIONS AND MOISTURE.

CABIN ATMOSPHERE

- **WHAT IS THE PRINCIPLE CONTROL OF CABIN PRESSURE?**
  OUTFLOW VALVE
- **WHAT IS THE METHOD OF MAINTAINING CABIN PRESSURE FOR MOST TURBINE ACFT?**
  BLEED AIR
- **WHAT TYPE OF OXYGEN IS USED IN AVIATION?**
  AVIATION GRADE BREATHABLE OXYGEN
- **WHY IS OIL ADDED TO VAPOR CYCLE FREON SYSTEM?**
  LUBRICATE AND SEAL THE SYSTEM
- **WHAT IS A ROOTS BLOWER?**
  AN ENGINE-DRIVEN COMPRESSOR.
- **WHAT PRESSURIZATION CONTROL UNIT CHANGES THE POSITION OF THE OUTFLOW VALVE?**
  THE CABIN PRESSURE CONTROLLER.
- **WHAT ARE THE SOURCES OF VENTILATING AIR IN A COMBUSTION HEATER?**
  A BLOWER/FAN OR RAM AIR.
- **WHAT MUST BE DONE IF AN OXYGEN SYSTEM HAS BEEN OPEN TO THE ATMOSPERE FOR 2 OR MORE HOURS?**
  THE SYSTEM MUST BE PURGED TO REMOVE MOISTURE.

- **WHAT PRECAUTION SHOULD BE TAKEN WHEN SERVICING OXYGEN SYSTEMS?**
  CLEAN AND GREASE FREE TOOLS, CLOTHING, AND HANDS; NO SMOKING OR OPEN FLAMES WITHIN 50 FEET; DO NOT USE ADHESIVE TAPE OF ANY KIND.

ACFT INSTRUMENTS SYSTEM

- **WHAT DOES THE YELLOW ARC ON AN INSTRUMENT INDICATE?**
  CAUTION.
- **WHY ARE SLIPPAGE MARKS USED ON INSTRUMENT GLASS COVERS?**
  TO INDICATE GLASS ROTATION IN THE BEZEL.
- **WHAT INSTRUMENTS ARE USUALLY CONNECTED TO A PITOT-STATIC SYSTEM?**
  AIRSPEED, ALTIMETER, AND VERTICAL SPEED INDICATOR (VSI).
- **WHAT MUST BE DONE AFTER REPLACEMENT OF COMPONENTS OR MAINTENANCE TO THE PITOT STATIC SYSTEM?**
  A LEAK TEST
- **WHAT DOES A TACHOMETER READ?**
  CRANKSHAFT RPM (RECIP. ENG); ROTOR SPEED (TURBINE ENG.)
- **WHAT TYPE OF INDICATING SYSTEM INDICATES EXHAUST GAS TEMP?**
  THERMOCOUPLE ASSY
- **WHAT IS MEANT BY SWINGING A COMPASS?**
  CORRECTING FOR DEVIATIONS BY ADJUSTING THE COMPENSATING MAGNETS.

COM/ NAV

- **WHAT IS MOST COMMON COMMUNICATION SYSTEM USED?**
  VHF
- **WHAT IS A VOR USED FOR?**
  NAVIGATION
- **WHAT ARE THE TYPICAL COMPONENTS OF A VOR SYSTEM?**
  A RECEIVER, INDICATOR, FREQUENCY SELECTOR, ANTENNA, AND POWER SUPPLY.
- **WHAT DOES A GLIDESLOPE BEAM PROVIDE?**
  VERTICAL GUIDANCE FOR THE CORRECT ANGLE OF DESCENT.
- **WHAT IS A DME?**
  DISTANCE MEASURING EQUIPMENT
- **WHAT IS AN ADF?**
  AN AUTOMATIC DIRECTION FINDER.
- **WHAT IS ONE METHOD USED TO MONITOR THE OUTPUT OF AN ELT DURING A TEST?**
  A VHF COM RECEIVER TUNED TO 121.50 MHZ.
- **WHAT ARE THE ACTUATING ELEMENTS OF AN AUTOPILOT SYSTEM?**
  SERVOS THAT OPERATE THE CONTROL SURFACES.

FUEL SYSTEM

- **WHAT IS THE PURPOSE OF THE FUEL DUMP SYSTEM?**
  DECREASE LANDING WEIGHT
- **WHAT ARE THE TYPES OF FUEL CELLS?**
  INTEGRAL AND BLADDER
- **WHAT IS A WET WING?**
  INTEGRAL FUEL TANKS.

- **WHAT SHOULD BE DONE WITH OLD GASKETS AND SEALS WHEN REPLACING COMPONENTS?**
  REPLACE GASKETS AND SEALS
- **WHAT ARE FOUR TYPES OF FUEL QUANTITY GAUGES?**
  SIGHT GLASS, MECHANICAL, ELECTRICAL, AND ELECTRONIC.
- **WHY SHOULD YOU WAIT AFTER FUELING BEFORE CHECKING FUEL SUMPS?**
  TO ALLOW TIME FOR WATER AND CONTAMINANTS TO SETTLE TO THE DRAIN POINTS.

ELECTRICAL

- **HOW DO YOU DETERMINE THE SIZE OF AN UNMARKED WIRE?**
  WIRE GAUGE
- **WHAT TYPE OF CIRCUIT BREAKER SHOULD NOT BE USED IN AIRCRAFT?**
  AUTOMATIC RESET-TYPE CIRCUIT BREAKERS.
- **WHERE IS THE WHITE POSITION LIGHT LOCATED?**
  TAIL OF ACFT
- **WHAT IS THE MAX NUMBER OF WIRES ATTACHED TO A TERMINAL LUG?**
  4
- **WHAT COLOR IS THE LEFT WINGTIP POSITION LIGHT?**
  RED.
- **HOW LONG SHOULD BONDING JUMPER WIRES BE?**
  AS SHORT AS PRACTICAL.
- **WHAT SIZE ELECTRICAL CONDUIT SHOULD BE USED?**
  25% LARGER THAN THE MAXIMUM DIAMETER OF THE WIRE BUNDLE.

POSITION AND WARNING

- **WHERE ARE THE PROCEDURES FOR CHECKING AND ADJUSTING LANDING GEAR SWITCHES?**
  THE AIRCRAFT MANUFACTURER'S MAINTENANCE MANUAL.
- **WHAT IS THE PURPOSE OF THE ANNUNCIATOR SYSTEM?**
  DISPLAY CURRENT CONDITIONS AND TO ALERT OF A MALFUNCTION.
- **WHAT MUST A RETRACTABLE LANDING GEAR POSITION INDICATE?**
  SECURED UP AND DOWN AND LOCKED POSITION.
- **WHAT SYSTEM IS USED TO INDICATE BATTERY OVER-TEMPERATURE?**
  A WARNING LIGHT.
- **WHAT IS THE SOURCE OF THE ANTI-SKID WARNING SYSTEM SIGNAL?**
  THE ANTI-SKID CONTROL UNIT.

ICE/RAIN

- **WHAT ARE TWO METHODS OF INFLATING PNEUMATIC DEICER BOOTS?**
  AN ENGINE-DRIVEN VACUUM PUMP AND BLEED AIR FROM A TURBINE-ENGINE COMPRESSOR.
- **WHAT SOURCES OF POWER ARE USED IN WIPER SYSTEM?**
  ELECTRIC OR HYDRAULIC
- **WHY IS A RAIN REPELLANT SYSTEM NOT OPERATED ON DRY WINSHIELDS?**
  HEAVY UNDILUTED REPELLENT WILL RESTRICT VISIBILITY.
- **WHAT METHODS ARE USED TO REMOVE RAIN FROM A WINDSHIELD?**
  WIPERS, PNEUMATICS (BLAST OF AIR), CHEMICAL RAIN REPLELLENT, AND WINDSHIELDS TREATED WITH A HYDOPHOBIC COATING.
- **HOW DOES A PNEUMATIC RAIN REPELLANT SYSTEM WORK?**
  A BLAST OF AIR THAT PREVENTS RAIN FROM HITTING WINSHIELD

FIRE DETECTION

- **IN WHAT PARTS OF THE ACFT ARE CARBON MONOXIDE DETECTORS USED?**
  CABIN AND COCKPIT
- **HOW ARE THERMAL SWITCHES WIRED?**
  IN A PARARELL WITH EACH OTHER AND IN SERIES WITH THE LIGHT
- **WHAT TYPE OF EXTINGUISHING AGENT IS USUALLY FOUND IN HIGH RATE OF DISCHARGE SYSTEM?**
  HALON 1301
- **WHAT IS THE PURPOSE OF A YELLOW DISK IN EXTINGUISHING SYSTEM?**
  INDICATES HAS HAD A NORMAL DISCHARGE
- **WHAT ARE TWO TYPES OF SMOKE DETECTION INSTRUMENTS USED IN AIRCRAFT?**
  LIGHT REFRACTION (PHOTOCELL) AND IONIZATION.
- **WHAT PROCEDURE IS USED TO CHECK A FIRE EXTINGUISHER CONTAINER FOR PRESSURE?**
  A CHART IS USED TO DETERMINE THE MINIMUM AND MAXIMUM GAGE READING BASED ON TEMPERATURE.
- **WHAT PROTECTION IS PROVIDED FOR A FIRE EXTINGUISHER BOTTLE IN CASE OF A TEMPERATURE RISE IN EXCESS OF SET LIMITS?**
  THE AGENT DUMPS OVERBOARD EJECTING A RED THERMAL DISCHARGE INDICATOR (DISK).

WELDING

- **WHAT IS THE MOST USED METHOD FOR WELDING MAGNESIUM?**
  GAS SHIELDED ARC WELDING
- **WHAT IS HAZARD ASSOCIATED WITH WELDING MAGNESIUM?**
  IT IS EXTREMELY HARD TO EXTINGUISH IF IGNITED.
- **WHY IS FLUX USED IN SILVER SOLDERING?**
  TO CHEMICALLY CLEAN THE BASE METAL WITHOUT THE SLIGHTEST FILM OF OXIDE.
- **WHAT TYPE OF FLAME IS USED FOR SILVER SOLDERING?**
  A SOFT NEUTRAL OR SLIGHTLY REDUCING FLAME.
- **WHAT IS THE MOST USED METHOD FOR WELDING ALUMINUM?**
  GAS SHIELDED WELDING
- **WHAT ARE 3 TYPES OF WELDING**
  GAS, ELECTRIC ARC, AND ELECTRIC RESISTANCE
- **WHICH VALVE SHOULD BE TURNED OFF FIRST WHEN EXTINGUISHING A TORCH?**
  ACETELYNE
- **WHAT SAFETY PRECAUTION SHOULD BE TAKEN WHEN GAS WELDING IS FINISHED BEFORE WALKING AWAY?**
  VALVES OFF, THANKS DEPRESSURIZED
- **WHAT IS THE RESULT OF INSUFFICENT PENATRATION OF A WELD?**
  WEAK WELD (COLD WELD)

POWERPLANT

RECIP. ENGINES

- **HOW ARE PISTON RINGS INSTALLED AND WHY**
  THEY ARE STAGGERED TO PREVENT OIL BLOW BY
- **WHAT FACTORS DO YOU LEARN ABOUT THE CONDITIONS OF AN ENGINE FROM THE RESULTS OF A COMPRESSION TEST?**
  RINGS AND VALVES ARE SEALED AND PISTON REACHES TOP DEAD CENTER (TDC)
- **WHAT PROCEDURE SHOULD BE FOLLOWED WHEN VALVE BLOW-BY IS INDICATED BY A HISSING SOUND ON A RECIPROCATING ENGINE WHEN PULLING THE PROPELLER THROUGH?**
  PERFORM A CYLINDER COMPRESSION CHECK TO IDENTIFY THE FAULTY CYLINDER.
- **WHAT IS THE PROCEDURE FOR REPAIRING A LOOSE STUD IN AN ENGINE CRANKCASE?**
  REMOVE THE LOOSE STUD; INSPECT THE HOLE FOR THE SIZE AND CONDITION OF THE THREADS. AN OVERSIZED STUD MAY BE NEEDED.
- **HOW IS A CYLINDER BARREL INSPECTED FOR OUT OF ROUNDNESS?**
  A DIAL INDICATOR CAN BE USED TO MEASURE THE TOP OF THE CYLINDER AND THE SKIRT. TWO READINGS SHOULD BE TAKEN 90 DEGREES FROM EACH OTHER.
- **WHAT IS THE PURPOSE OF THE OIL CONTROL RING?**
  TO REGULATE THE THICKNESS OF THE OIL FILM ON THE CYLINDER WALL.

TURBINE ENGINES

- **WHAT ARE TWO TYPES OF COMPRESSORS?**
  AXIAL AND CENTRIFUGAL
- **WHAT ARE THE MAJOR COMPONENTS OF A TYPICAL GAS TURBINE ENGINE?**
  AIR INLET, COMPRESSOR SECTION, COMBUSTION SECTION, TURBINE SECTION, EXHAUST SECTION, AND ACCESSORY SECTION.
- **HOW ARE TURBINE ENGINE ROTOR BLADES ATTACHED TO ROTOR DISKS?**
  BY A BULB-TYPE ROOT, FIR TREE-TYPE ROOT, OR DOVETAIL TYPE ROOT.
- **WHAT EFFECT DOES HUMIDITY HAVE ON TURBINE ENGINES?**
  NONE
- **WHAT PREVENTS BURNING OF COMBUSTION CHAMBERS?**
  COOLING AIR ALONG THE INSIDE OF THE LINER.
- **WHAT ARE THE DESIRED EFFECTS OF TURBINE ENGINE COMPRESSOR FIELD CLEANING?**
  REMOVAL OF CONTAMINANT DEPOSITS FROM INTERIOR ENGINE SURFACES, AND IMPROVED ENGINE PERFORMANCE.
- **WHAT TYPE OF COMPRESSOR BLADE DAMAGE MAY BE FOUND WHEN INSPECTING COMPRESSOR BLADES?**
  DENTS, GALLING, PITTING, CRACKS, SCRATCHES, BURRS, BURNS, AND GOUGES.

INSPECTION

- **WHAT NEEDS TO BE DONE TO PREPARE AN ENGINE FOR A 100-HOUR INSPECTION?**
  REMOVE THE COWLING AND CLEAN.

- **WHAT IS A PLACE WHERE YOU CAN FIND LIMITATION / SPECIFICATION OF AN ENGINE?**
  TYPE CERTIFICATE DATA SHEET, MAINTENANCE / SERVICE MANUAL, ENGINE SPECIFICATIONS
- **WHAT ADDITIONAL INSPECTION MUST BE PERFORMED IF A CYLINDER COMPRESSION IS WEAK?**
  AN INTERNAL CYLINDER INSPECTION.
- **WHAT PUBLICATION IS NEEDED TO CHECK AN ENGINE FOR CONFORMITY WITH SPECIFICATIONS?**
  THE ENGINE SPECIFICATIONSOR TYPE CERTIFICATE DATA SHEET.
- **WHAT PUBLICATION IS NEEDED TO CHECK AN ENGINE FOR NORMAL OPERATION?**
  THE MANUFACTURER'S MAINTENANCE MANUAL.
- **WHAT IS REQUIRED AFTER A TURBINE ENGINE EXPERIENCES EXHAUST GAS TEMPERATURE EXCEEDING LIMITS?**
  A HOT SECTION INSPECTION.
- **WHEN REMOVING TURBOJET OR TURBOFAN TURBINE BLADES, WHY IS IT IMPORTANT THAT THEY BE INSTALLED IN THE SAME LOCATION?**
  TO MAINTAIN TURBINE WHEEL BALANCE.

INSTRUMENTS

- **WHAT ARE THE BASIC COMPONENTS OF AN ENGINE FUEL FLOW SYSTEM?**
  A TRANSMITTER AND AN INDICATOR.
- **WHY IS FUEL FLOW MONITORED?**
  FUEL FLOW IS AN INDICATION OF FUEL CONSUMPTION AND ENGINE PERFORMANCE.
- **WHAT CONTROLS MANIFOLD PRESSURE?**
  ENGINE RPM AND THROTTLE OPENING.
- **WHAT DOES A TURBINE ENGINE TACHOMETER INDICATE?**
  PERCENTAGE OF COMPRESSOR RPM.
- **WHAT PRESSURES ARE MEASURED TO OBTAIN ENGINE PRESSURE RATIO?**
  TOTAL INLET PRESSURE AND TOTAL TURBINE EXHAUST PRESSURE.
- **HOW CAN A TURBINE EGT SYSTEM BE CHECKED WITHOUT RUNNING THE ENGINE?**
  BY CHECKING THE RESISTANCE OF THERMOCOUPLES AND CIRCUITS.

FIRE PROTECTION

- **WHAT ARE THE TYPES OF FIRE DETECTION SYSTEMS?**
  OVER HEAT, RATE OF RISE AND FLAME DETECTION
- **WHAT ARE THE TYPES OF EXTINGUISHING AGENT DISTRIBUTION?**
  DISCHARGE (SPRAY) NOZZLE OR PERFORATED TUBE
- **WHAT IS THE MINIMUM NUMBER OF THERMAL SWITCHES NEEDED FOR A THERMAL SWITCH FIRE PROTECTION SYSTEM?**
  AT LEAST ONE.
- **WHAT IS THE PURPOSE OF A FIRE EXTINGUISHING SYSTEM?**
  TO DILUTE THE ATMOSPHERE AROUND A FIRE WITH AN INERT AGENT THAT WILL NOT SUPPORT COMBUSTION.
- **HOW LONG DOES IT TAKE TO DISCHARGE AN HRD AGENT?**
  ONE TO TWO SECONDS.
- **WHAT IS THE PURPOSE OF A DISCHARGE CARTRIDGE AND HOW IS IT ACTIVATED?**
  THE CARTRIDGE IS ELECTRICALLY OPERATED AND RELEASES THE FIRE EXTINGUISHING AGENT.

- **WHAT INDICATES LOW AGENT PRESSURE IN A CONTAINER IN A FIRE EXTINGUISHING SYSTEM?**
  A PRESSURE GAUGE.

ENG. ELECTRICAL

- **WHERE IS GENERATOR PERFORMANCE DATA LOCATED?**
  GENERATOR DATA PLATE
- **WHY IS MULTIPLE GENERATORS SYSTEMS PARALLELED?**
  LOAD SHARING
- **HOW MANY PHASES IN ACFT. AC SYSTEM?**
  3 PHASES
- **WHAT METHODS ARE USED TO MAINTAIN 400 HZ ALTERNATOR OUTPUT ON LARGE TURBOJET/TURBOFAN ENGINES?**
  CONSTANT SPEED DRIVES (CSD), INTEGRATED DRIVE GENERATORS (IDG), VARIABLE-SPEED CONSTANT FREQUENCY (VSCF) POWER SYSTEMS.
- **WHAT IS THE STANDARD FOR ELECTRICAL WIRE USED IN U.S. MANUFACTURED AIRCRAFT?**
  THE AMERICAN WIRE GAUGE (AWG).
- **WHY IS A SERIES WOUND MOTOR COMMONLY USED AS AN AIRCRAFT ENGINE STARTER?**
  IT HAS A HIGH STARTING TORQUE UNDER HEAVY LOAD CONDITIONS.

LUBRICATION

- **WHERE DOES THE OIL TEMPERATURE BULB USUALLY SENSE OIL TEMPERATURE?**
  AT THE ENGINE OIL INLET.
- **WHAT ARE THE MOST CRITICAL LUBE POINTS OF A GAS TURBINE ENG?**
  TURBINE BEARINGS
- **WHY IS EXPANSION SPACE NEEDED IN AN OIL SUMP?**
  FOR FOAM AND TEMPERATURE EXPANSION
- **WHAT DOES THE PRESENCE OF METAL PARTICLES IN AN ENGINE OIL FILTER INDICATE?**
  POSSIBLE ENGINE INTERNAL FAILURE.
- **IN WHAT AREAS OF A TURBINE ENGINE OIL SYSTEM ARE OIL SCREENS/FILTERS LOCATED?**
  OIL PRESSURE SYSTEM (MAIN FILTER), SCAVENGE SYSTEM, AT OR JUST BEFORE THE OIL JETS.
- **WHAT TYPE OF OIL IS USED IN TURBINE ENGINES?**
  SYNTHETIC.
- **WHAT WOULD BE AN INDICATION OF AN OBSTRUCTED OIL COOLER PASSAGE?**
  HIGH OIL TEMPERATURE.

IGNITION AND STARTING

- **WHAT ARE THE 3 MAJOR COMPONENTS IN A HIGH TENSION MAGNETIC CIRCUIT?**
  A PERMANENT MULTI-POLE ROTATING MAGNET, SOFT IRON CORE, AND POLE SHOES.
- **WHICH MAGNETO IS GROUNDED WHEN THE RIGHT ONE IS SELECTED?**
  THE LEFT ONE
- **IN TERMS OF THE ENGINE CRANKSHAFT POSITION, WHEN DOES THE IGNITION OCCUR?**
  AT A SPECIFIC NUMBER OF DEGREES BEFORE TOP DEAD CENTER ON THE COMPRESSION STROKE.

- **WHAT ARE 2 PARTS OF A STARTER GENERATOR THAT REQUIRES PERIODIC INSPECTION?**
  BRUSH AND COMMUTATOR

- **WHAT ARE THE ELEMENTS FOR FIRE?**
  FUEL, AIR, AND SPARK (HEAT SOURCE)
- **WHERE IS THE E-GAP POSITION IN A MAGNETO?**
  A FEW DEGREES BEYOND MAGNETIC NEUTRAL.
- **WHAT IS THE PURPOSE OF THE CAPACITOR IN A MAGNETO?**
  TO PREVENT ARCING AT THE POINTS AND AIDS IN THE COLLAPSE OF THE MAGNETIC FIELD.
- **WHAT IS THE PURPOSE OF USING TWO MAGNETOS?**
  REDUNDANCY AND IMPROVED COMBUSTION EFFICIENCY.
- **THE REMAINING SERVICE LIFE OF THE BRUSHES TYPICALLY USED IN MANY STARTER-GENERATORS CAN BE DETERMINED BY VISUAL INSPECTION OF?**
  THE AMOUNT OF WEAR GROOVE REMAINING ON THE BRUSHES.

FUEL METERING SYSTEMS

- **WHAT ARE THE TWO TYPES OF CARBURETORS MOST COMMONLY USED ON SMALL RECIPROCATING ENGINES?**
  FLOAT-TYPE AND PRESSURE-TYPE CARBURETORS.
- **WHAT DOES THE MIXTURE CONTROL DO ON FLOAT-TYPE CARBURETORS?**
  CONTROLS THE FUEL/AIR MIXTURE.
- **WHAT IS THE PURPOSE OF A CARBURETOR ECONOMIZER SYSTEM?**
  TO PROVIDE ADDITIONAL FUEL AT HIGH POWER SETTINGS FOR COOLING THE ENGINE TO PREVENT DETONATION.
- **DEPENDING ON THE ENGINE TYPE, TRIMMING IS ACCOMPLISHED ACCORDING TO ONE OF TWO TYPES OF (ENGINE) INDICATION; WHAT ARE THEY?**
  TURBINE-EPR; RECIPROCATING-RPM
- **WHAT PROBLEM IS CAUSED BY AN EXCESSIVELY RICH MIXTURE AT IDLE IN A RECIPROCATING ENGINE?**
  SPARK PLUG FOULING.
- **WHAT IS THE FUNCTION OF A TURBINE ENGINE FUEL CONTROL UNIT?**
  TO AUTOMATICALLY SATISFY FUEL REQUIREMENTS OF THE ENGINE.

ENGINE FUEL SYSTEM

- **WHAT IS THE PURPOSE OF A TURBINE ENGINE DRIVEN FUEL PUMP?**
  TO DELIVER A CONTINUOUS SUPPLY OF FUEL AT THE PROPER PRESSURE AT ALL TIMES.
- **WHAT IS THE PURPOSE OF THE BOOST PUMP?**
  ADDS PRESSURE TO FUEL PUMPS
- **WHAT CAUSES VAPOR LOCK?**
  LOW FUEL PRESSURE, HIGH FUEL TEMPERATURE, AND EXCESSIVE FUEL TURBULENCE.
- **WHAT ARE THE PURPOSES OF MAIN FUEL STRAINERS?**
  TO COLLECT WATER AND SEDIMENT, AND KEEP FOREIGN MATTER OUT OF CARBURETOR.
- **WHAT IS THE SAFETY FEATURE IN AN ENGINE FUEL SYSTEM MICRON FILTER SYSTEM?**
  A BYPASS VALVE.

INDUCTION SYSTEMS

- **WHAT IS THE EFFECT OF ICING ON INDUCTION SYSTEM?**
  REDUCTION IN POWER AND/OR ERRATIC OPERATION
- **WHAT ARE THE CLASSIFICATIONS OF INDUCTION SYSTEM ICE?**
  IMPACT, FUEL EVAPORATION, AND THROTTLE.
- **WHAT IS AN INDICATION OF DIRTY AIR INLET FILTER?**
  DECREASE IN PERFORMANCE/ LOSS OF POWER
- **WHAT ARE THE 2 TYPES OF SUPERCHARGED INDUCTION SYSTEMS?**
  INTERNALLY AND EXTERNALLY DRIVEN
- **AN INDUCTION SYSTEM OBSTRUCTION WILL HAVE WHAT TYPE OF INDICATION?**
  THE ENGINE FAILS TO START OR LOW POWER.

ENGINE COOLING

- **WHAT HAPPENS TO WASTE ENGINE HEAT AFTER IT IS TRANSFERRED TO CYLINDER COOLING FINS?**
  IT IS TRANSFERRED FROM THE CYLINDERS TO THE AIR.
- **WHAT IS AN AUGMENTER COOLING SYSTEM?**
  AN EXHAUST SYSTEM INCORPORATING INNER AND OUTER TUBES THAT USE EXHAUST GAS VELOCITY TO PRODUCE A VENTURI EFFECT TO DRAW MORE AIRFLOW OVER THE ENGINE.
- **WHAT IS USED TO CONTROL THE AMOUNT OF AIRFLOW FOR COWLING?**
  COWL FLAPS
- **WHAT POSITION SHOULD COWL FLAPS BE IN DURING GROUND OPERATIONS?**
  FULLY OPEN.
- **WHAT INFORMATION MUST BE REFERENCED PRIOR TO RE-PROFILING A COOLING FIN?**
  THE MANUFACTURER'S SERVICE OR OVERHAUL MANUAL.
- **WHERE MUST MOST COOLING AIR FLOW TO COOL A TURBINE ENGINE?**
  THROUGH THE INSIDE OF THE ENGINE.
- **WHAT AREAS OF A TURBINE ENGINE ARE COOLED BY AIR PASSING THROUGH THE ENGINE?**
  THE COMBUSTION CHAMBER AND TURBINE.
- **WHAT IS THE SOURCE OF BLEED AIR VENTED TO TURBINE ENGINE BEARINGS AND OTHER PARTS IN SOME ENGINES?**
  THE ENGINE COMPRESSOR.

EXHAUST / REVERSE

- **HOW ARE HIGH TEMPERATURE NOXIOUS GASES REMOVED AND DISPOSED OF IN AN OPERATING RECIPROCATING ENGINE?**
  BY THE EXHAUST SYSTEM.
- **WHAT IS THE PRIMARY FUNCTION OF AN EXHAUST SYSTEM?**
  TO PROVIDE PROTECTION AGAINST THE POTENTIALLY DESTRUCTIVE ACTION OF EXHAUST GASES.
- **WHY SHOULD LEAD, ZINC, OR GALVANIZED MARKS NOT BE MADE ON THE EXHAUST SYSTEM?**
  THE MARKS CAUSE A CHANGE IN MOLECULAR STRUCTURE WHEN HEATED AND WILL CAUSE CRACKS.
- **WHAT IS THE FUNCTION OF THERMOCOUPLE TIP IN EXHAUST?**
  MEASURE TEMP
- **WHAT HAPPENS TO ENGINE POWER WHEN A HEAT EXCHANGER LEAKS EXHAUST GASES INTO THE ENGINE INDUCTION SYSTEM?**
  A LOSS OF POWER.

- **WHAT IS A COMMON CAUSE OF TURBOCHARGER WASTE GATE STICKING?**
  COKE DEPOSITS OR CARBON BUILDUP.
- **WHAT ARE THRUST REVERSERS PRIMARILY USED FOR?**
  TO SLOW THE AIRCRAFT AFTER LANDING.

PROPELLERS

- **WHAT IS THE PURPOSE OF PROPELLERS?**
  PROVIDE THRUST
- **WHAT IS THE PURPOSE OF METAL TIPPING FASTENED TO A WOODEN PROPELLER LEADING EDGE AND TIP?**
  TO PROTECT THE PROPELLER FROM DAMAGE.
- **WHEN ENGINE VIBRATION IS REPORTED WHAT SHOULD BE CHECKED TO DETERMINE IF IT WAS ENGINE OR PROPELLER?**
  PROPELLER TRACK
- **WHAT IS BLADE TRACK?**
  THE RELATIONSHIP OF BLADE TIPS TO ONE ANOTHER
- **WHAT MAY BE USED TO DETERMINE PROPELLER BLADE ANGLE?**
  A PROPELLER PROTRACTOR.
- **WHAT HAPPENS TO A CONSTANT SPEED FEATHERING PROPELLER WHEN THE PROPELLER GOVERNOR OIL PRESSURE DROPS TO ZERO?**
  THE PROPELLER WILL FEATHER.
- **WHAT TYPES OF SYSTEMS ARE USED FOR PROPELLER ICE CONTROL?**
  FLUID AND ELECTRICAL.

APU

- **WHAT IS THE FUNCTION OF AN APU ON MODERN TRANSPORT CATEGORY AIRCRAFT**
  TO SUPPLY GROUND ELECTRICAL AND PNEUMATIC POWER WHEN THE ENGINES ARE NOT OPERATING AND IN SOME AIRCRAFT AS A BACKUP SOURCE FOR INFLIGHT POWER.
- **WHAT IS TYPICALLY USED TO START AN APU?**
  BATTERY
- **WHAT IS USUALLY THE SOURCE OF APU FUEL SUPPLY?**
  ACFT MAIN FUEL TANK
- **AT WHAT SPEED DOES THE APU OPERATE?**
  100%
- **WHAT ARE USES FOR APU PRODUCED PNEUMATIC POWER?**
  ENGINE STARTING, GROUND AIR CONDITIONING, ANTI-ICING
- **WHAT TYPE OF OPERATING PRACTICE COULD CAUSE THE THERMAL SHOCK AND POSSIBLE DAMAGE TO THE APU?**
  ABRUPT SHUT DOWN.
- **HOW LONG IS A TYPICAL APU COOL-DOWN?**
  THREE MINUTES.