Examination Center DGAC

Examination Date

Name

Firstname

Birthday

1 The latitude at which the apparent wander of a directional gyro is equal to 0 is: (1.00 P.)

[A] the North pole

[B] the equator [C] latitude 45° [D] latitude 30°

2 A piston engine compression ratio is the ratio of the: (1.00 P.) [A] total volume to the clearance volume.

[B] clearance volume to the swept volume. [C] swept volume to the clearance volume. [D] total volume to the swept volume.

3 In large modern aircraft, in the air conditioning system, reduction of air temperature and pressure is achieved by: (1.00 P.)

[A] an expansion turbine. [B] an evaporator.

[C] a condenser. [D] a compressor.

4 The apparent wander of a directional gyro is 15°/h: (1.00 P.) [A] At the latitude 45°

[B] At the North pole

[C] At the equator

[D] At the latitude 30°

5 In a "bootstrap" cooling system, the charge air is first compressed in the cold air unit to: (1.00 P.)

[A] ensure an adequate charge air flow across the inter-cooler heat exchanger. [B] maintain a constant cabin mass air flow.

[C] increase the cabin air supply pressure when the charge pressure is too low.

[D] ensure an adequate pressure and temperature drop across the cooling turbine.

6 A turbo compressor air conditioning system (bootstrap system) will: (1.00 P.) [A] decrease charge air pressure whilst causing the temperature to rise in the

heat exchanger.

[B] not affect the charge air pressure.

[C] increase charge air pressure whilst causing the temperature to drop in the heat exchanger.

[D] cause a pressure drop as well as an associated temperature drop in the charge air.

7 For a directional gyro, the system which detects the local vertical supplies: (1.00

P.)

[A] a nozzle integral with the outer gimbal ring. [B] a torque motor on the sensitive axis.

[C] two torque motors arranged horizontally. [D] a levelling erection torque motor.

8 In a directional gyro, gimballing errors are due to: (1.00 P.) [A] the vertical component of the earth's magnetic field [B] the aircraft's movement over the earth

[C] a banked attitude

[D] an apparent weight and an apparent vertical

9 The cabin heating supply in a heavy jet transport aircraft is obtained from: (1.00

P.)

[A] an electrical heater system.

[B] hot air coming from the engine's turbines.

[C] hot air coming from the engine's compressors. [D] a fuel heater system.

10 Under normal operating conditions, when an aircraft is in a banked turn, the rate- of-turn indicator indicates:

1. the angular velocity of the aircraft about the yaw axis

2. the bank of the aircraft

3. the direction of the aircraft turn

4. the angular velocity of the aircraft about the real vertical

The combination regrouping all the correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 3,4. |
| [B] | 2,4. |
| [C] | 1,3. |
| [D] | 1,2. |

11 The pack cooling fan provides: (1.00 P.)

[A] air to the eyeball outlets at the Passenger Service Unit (PSU). [B] cooling air to the pre-cooler.

[C] cooling air to the primary and secondary heat exchanger during slow flight and ground operation.

[D] cooling air to the primary and secondary heat exchanger during cruise.

12 The aircraft radio equipment which emits on a frequency of 4400 MHz is the: (1.00 P.)

[A] high altitude radio altimeter. [B] radio altimeter.

[C] weather radar. [D] primary radar.

13 The octane rating of a fuel characterises the: (1.00 P.) [A] quantity of heat generated by its combustion

[B] fuel volatility

[C] the anti-knock capability

[D] fuel electrical conductivity

14 The fuel temperature, at which, under standard conditions, the vapour ignites in contact with a flame and extinguishes immediately, is the: (1.00 P.)

[A] fire point

[B] self ignition point

[C] flash point

[D] combustion point

15 Concerning electrically powered ice protection devices, the only true statement is: (1.00 P.)

[A] on modern aeroplanes, electrically powered thermal devices are very efficient, therefore they only need little energy.

[B] on modern aeroplanes, electrically powered thermal devices are used to prevent icing on small surfaces (pitot-static, windshield...).

[C] on modern aeroplanes, electrical power supply being available in excess, this system is very often used for large surfaces de-icing.

[D] on modern aeroplanes, electrically powered thermal devices are used as de- icing devices for pitot-tubes, static ports and windshield.

16 Given:

- Ts the static temperature (SAT)

- Tt the total temperature (TAT)

- Kr the recovery coefficient

- M the Mach number

The total temperature can be expressed approximately by the formula: (1.00 P.) [A] Tt = Ts(1+0.2 M²)

[B] Tt = Ts(1+0.2 Kr.M²) [C] Tt = Ts/(1+0.2 Kr.M²) [D] Tt = Ts(1-0.2 M²)

17 The elements specifically protected against icing on transport aircraft are:

1) engine air intake and pod.

2) front glass shield.

3) radome.

4) pitot tubes and waste water exhaust masts.

5) leading edge of wing.

6) cabin windows.

7) trailing edge of wings.

8) electronic equipment compartment.

The combination regrouping all the correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 1, 2, 3, 8 |
| [B] | 1, 2, 4, 5 |
| [C] | 1, 2, 5, 6 |
| [D] | 1, 4, 5, 7 |

18 The Yaw Damper system:

1 - counters any wrong pilot action on the rudder pedals;

2 - counters dutch roll;

3 - is active only when autopilot is engaged.

The combination regrouping all the correct statements are: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 1, 2, 3. |
| [B] | 1, 2. |
| [C] | 2. |
| [D] | 2, 3. |

19 The damping element in a landing gear shock absorber used on large aircrafts is: (1.00 P.)

[A] Springs. [B] Nitrogen. [C] Oil.

[D] Oxygen.

20 The automatic fuelling shut off valve: (1.00 P.)

[A] stops fuelling as soon as a certain pressure is reached. [B] stops fuelling as soon as the fuel spills into the vent line.

[C] stops fuelling as soon as a certain fuel level is reached inside the tank. [D] cuts off the fuel in case of engine fire.

21 A relay is: (1.00 P.)

[A] An electromagnetically operated switch. [B] An electrical energy conversion unit.

[C] An electrical security switch.

[D] A switch specially designed for AC circuits.

22 The reason for using inverters in an electrical system is .. (1.00 P.) [A] To change AC into DC.

[B] To change DC into AC. [C] To avoid a short circuit. [D] To change the DC voltage.

23 During re-fuelling the automatic shut-off valves will switch off the fuel supply system when: (1.00 P.)

[A] fuelling system has reached a certain pressure. [B] the surge vent tank is filled.

[C] the fuel has reached a predetermined volume or mass. [D] there is fire.

24 The essential difference between aircraft AC alternators and DC generators

(dynamos) is that the: (1.00 P.)

[A] induced windings of the alternators are rotating (rotor), and the dynamos have a rotary inductor coil.

[B] The alternators generate much less power than DC generators.

[C] alternators supply all of the output current through the commutators and brush assemblies.

[D] induced (output) windings of the alternators are fixed (stator), and the dynamos have a fixed inductor (field) coil.

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The diagram shown in annex represents a jet fuel system. The fuel-flow measurement is carried out: (1.00 P.)

Siehe Anlage 1

[A] after low pressure valve (item 1).

[B] after high pressure pump first stage (item 2). [C] after high pressure valve (item 4).

[D] in the fuel control unit (item 3).

26 The purpose of the barometric correction in a fuel controller is to: (1.00 P.) [A] increase the fuel to air mass ratio when the altitude increases.

[B] maintain a constant fuel flow whatever the altitude is.

[C] maintain the correct fuel to air mass ratio when the altitude increases. [D] reduce the fuel to air mass ratio when the altitude increases.

27 A blocked pitot head with a clear static source causes the airspeed indicator to: (1.00 P.)

[A] react like an altimeter.

[B] read like a vertical speed indicator. [C] operate normally.

[D] freeze at zero.

28 A pitot tube covered by ice which blocks the ram air inlet will affect the following instrument (s): (1.00 P.)

[A] vertical speed indicator only. [B] airspeed indicator only.

[C] altimeter only.

[D] airspeed indicator, altimeter and vertical speed indicator.

29 The ice protection system currently used for the most modern jet aeroplanes is the

(1.00 P.)

[A] Electrical de-icing system.

[B] Pneumatic system with expandable boots. [C] Liquid de-icing system.

[D] Hot air system.

30 During flight, the wing anti-ice system has to protect (1.00 P.) [A] the whole leading edge and the whole upper wing surface. [B] the whole upper wing surface and the flaps.

[C] slats and the leading edge flaps only. [D] a part of the whole leading edge.

31 In jet aeroplanes the 'thermal anti-ice system' is primarily supplied by (1.00 P.) [A] the APU.

[B] bleed air from the engines. [C] turbo compressors.

[D] ram air, heated via a heat exchanger.

32 Flight Director Information supplied by an FD computer is presented in the form of command bars on the following instrument: (1.00 P.)

[A] HSI Horizontal Situation Indicator. [B] ADI Attitude Director Indicator.

[C] BDHI Bearing Distance Heading Indicator. [D] RMI Radio Magnetic Indicator.

33 The de-icing system which is mostly used for the wings of modern turboprop aeroplanes is: (1.00 P.)

[A] Thermal anti-icing. [B] Pneumatic boots. [C] Electrical heating. [D] Fluid de-icing.

34 The ice protection for propellers of modern turboprop aeroplanes works (1.00 P.) [A] electrically.

[B] with hot air. [C] pneumatically.

[D] with anti-icing fluid.

35 When the AC generators are connected in parallel, the reactive loads are balanced by means of the: (1.00 P.)

[A] voltage.

[B] torque of the Constant Speed Drive (CSD). [C] frequency.

[D] energizing current.

36 The conditions under which you obtain the highest engine power are: (1.00 P.) [A] cold and dry air at high pressure.

[B] warm and dry air at high pressure. [C] cold and humid air at high pressure. [D] warm and humid air at low pressure.

37 In an AC power generation system, the Constant Speed Drive (CSD):

1 - can be disconnected from the drive shaft.

2 - can be disconnected from the generator.

3 - is a hydro-mechanical system.

4 - is an electronic system.

5 - can not be disconnected during flight.

6 - can be disconnected during flight.

The combination regrouping all the correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 2, 3, 4 |
| [B] | 1, 3, 6 |
| [C] | 1, 2, 5 |
| [D] | 1, 4, 5 |

38 The crank assembly consists of (1.00 P.)

[A] propeller, crankshaft, pistons and connecting rods. [B] Crankcase, crankshaft, connecting rods and pistons.

[C] crankshaft, camshaft, valves, valve springs and push rods. [D] crankshaft, connecting rods and pistons.

39 The ventilation system in a fuel tank: (1.00 P.)

[A] It prevents a surge in the tank of an iced aeroplane. [B] prevents vapour lock in the fuel lines.

[C] can be used to drain the tanks, for daily checks. [D] prevents low pressure or overpressure in the tank.

40 The fuel tanks of aircrafts must be checked for water (1.00 P.) [A] immediately after every refuelling.

[B] during refuelling.

[C] before the first flight of the day or after a long turnaround time. [D] before each flight.

41 The task of the primer pump is to (1.00 P.)

[A] to serve as main supply pump in a fuel injection system. [B] provide additional fuel for an engine start.

[C] inject additional fuel during engine acceleration.

[D] serve as an alternate pump in case of an engine driven pump failure.

42 When the AC generators are connected in parallel, the reactive loads are balanced by means of the: (1.00 P.)

[A] voltage controller.

[B] torque of the Constant Speed Drive (CSD). [C] excitation current.

[D] frequency or load controller.

43 The power required for field excitation of the main rotor in modern constant- frequency alternators is directly controlled by: (1.00 P.)

[A] an AC generator.

[B] the voltage regulator.

[C] an excitation alternator with a permanent magnet generator. [D] a battery.

44 Viscosity is (1.00 P.)

[A] the flow velocity inside the oil lines. [B] the temperature dependence of an oil.

[C] Viscosity is the pressure resistance of an oil. [D] the resistance of a gas or liquid to flow.

45 The alternators, when connected, are usually connected: (1.00 P.) [A] In series mode.

[B] Dependant on the type of generator. [C] In parallel mode.

[D] Dependant on the type of engine.

46 Skip distance is the: (1.00 P.)

[A] wavelength distance of a certain frequency

[B] highest critical frequency distance

[C] thickness of the ionosphere

[D] range from the transmitter to the first sky wave

47 In a four-stroke piston engine, the only "driving" stroke is: (1.00 P.) [A] compression

[B] exhaust

[C] power

[D] induction

48 Alternating current can be derived from direct current by: (1.00 P.) [A] a series wound motor.

[B] an inverter.

[C] an alternating current motor. [D] the use of relays.

49 On an aircraft, the Krueger flap is a: (1.00 P.) [A] leading edge flap close to the wing tip [B] leading edge flap close to the wing root [C] trailing edge flap

[D] leading edge flap

50 In a pressurized transport aircraft, the protective breathing equipment: (1.00 P.) [A] protects all the occupants against the effects of accidental depressurization.

[B] protects the members of the crew against the effects of accidental depressurization.

[C] protects the members of the crew against smoke and noxious gases.

[D] gives medical assistance to certain passengers with respiratory disorders.

51 When quick donning masks are in use, the pilot is: (1.00 P.) [A] not able to do any radio communication.

[B] only able to transmit. [C] only able to receive. [D] able to radiotelephone.

52 VFE is the maximum speed: (1.00 P.)

[A] with the flaps extended in take-off position. [B] with the flaps extended in landing position.

[C] at which the flaps can be operated in turbulence. [D] with the flaps extended in a given position.

53 A fault protection circuit in a fire detection system will: (1.00 P.)

[A] activate an alarm in the cockpit and in the landing gear bay for ground crew. [B] inhibit the fire detector when the detection line is connected to ground.

[C] automatically initiate APU shutdown and fire extinguisher striker activation in the event of fire.

[D] activate the fire detection system when the detection line is connected to ground.

54 During deceleration following a landing in an easterly direction, a magnetic compass made for the northern hemisphere indicates: (1.00 P.)

[A] an apparent turn to the north. [B] no apparent turn.

[C] no apparent turn only on northern latitudes. [D] an apparent turn to the south.

55 In a fire detection system with single-loop continuous components (with no fault protection), if the line is accidentally grounded: (1.00 P.)

[A] the power supply is cut off automatically.

[B] the engine fire extinguisher striker is automatically activated. [C] there will be no effect on the system

[D] the fire alarm is triggered.

56 During deceleration following a landing in a northerly direction, a magnetic compass made for the southern hemisphere indicates: (1.00 P.)

[A] no apparent turn only on southern latitudes. [B] an apparent turn to the west.

[C] an apparent turn to the east. [D] no apparent turn.

57 During deceleration following a landing in a southerly direction, a magnetic compass made for the northern hemisphere indicates: (1.00 P.)

[A] no apparent turn only on northern latitudes. [B] an apparent turn to the west.

[C] an apparent turn to the east. [D] no apparent turn.

58 When a continuous loop wire type fire detection system is tested: (1.00 P.) [A] only the warning function is tested.

[B] the whole wire is heated.

[C] the wiring and the warning are tested. [D] a part of the wire is heated.

59 What is breathed in when using a passenger oxygen mask? (1.00 P.) [A] 100% oxygen.

[B] Cabin air and oxygen or 100% oxygen. [C] A mixture of oxygen and freon gas.

[D] Cabin air and oxygen.

60 During deceleration following a landing in a westerly direction, a magnetic compass made for the southern hemisphere indicates: (1.00 P.)

[A] an apparent turn to the north. [B] an apparent turn to the south.

[C] no apparent turn only on southern latitudes. [D] no apparent turn.

61 The correct formula to calculate the total displacement of a multi-cylinder piston engine is: (1.00 P.)

[A] piston area \* piston stroke \* number of cylinders

[B] piston area \* piston stroke

[C] cylinder length \* cylinder diameter

[D] cylinder volume \* number of cylinders

62 During deceleration following a landing in a westerly direction, a magnetic compass made for the northern hemisphere indicates: (1.00 P.)

[A] an apparent turn to the south. [B] no apparent turn.

[C] no apparent turn only on northern latitudes. [D] an apparent turn to the north.

63 During deceleration following a landing in an easterly direction, a magnetic compass made for the southern hemisphere indicates: (1.00 P.)

[A] no apparent turn.

[B] an apparent turn to the south.

[C] no apparent turn only on southern latitudes. [D] an apparent turn to the north.

64 A pilot wishes to turn right on to a southerly heading with 20° bank at a latitude of

20° North. Using a direct reading compass, in order to achieve this he must stop the turn on an approximate heading of: (1.00 P.)

[A] 180° [B] 200° [C] 170° [D] 150°

65 A pilot wishes to turn left on to a southerly heading with 20° bank at a latitude of

20° North. Using a direct reading compass, in order to achieve this he must stop the turn on an approximate heading of: (1.00 P.)

[A] 200° [B] 190° [C] 170° [D] 160°

66 A pilot wishes to turn left on to a northerly heading with 10° bank at a latitude of

50° North. Using a direct reading compass, in order to achieve this he must stop the turn on an approximate heading of: (1.00 P.)

[A] 330° [B] 355° [C] 015° [D] 030°

67 A pilot wishes to turn right through 90° on to North at rate 2 at latitude of 40

North using a direct reading compass. In order to achieve this the turn should be stopped on an indicated heading of approximately: (1.00 P.)

[A] 330° [B] 010° [C] 360° [D] 030°

68 The compass heading can be derived from the magnetic heading by reference to a: (1.00 P.)

[A] map showing the isoclinic lines [B] magnetic variation correction card [C] compass deviation card

[D] map showing the isogonic lines

69 The magnetic heading can be derived from the true heading by means of a: (1.00

P.)

[A] map showing the isogonal lines

[B] deviation correction curve

[C] compass swinging curve

[D] map showing the isoclinic lines

70 If the ground wire between the magnetos and the ignition switch becomes disconnected the most noticeable result will be that: (1.00 P.)

[A] the engine cannot be started with the ignition switch in the "ON" position

[B] the power developed by the engine will be strongly reduced

[C] a still operating engine will run down

[D] the engine cannot be shut down by turning the ignition switch to the "OFF" position

71 The main purpose of the mixture control is to: (1.00 P.) [A] increase the oxygen supplied to the engine.

[B] adjust the fuel flow to obtain the correct fuel/air ratio. [C] decrease the air supplied to the engine.

[D] decrease the oxygen supplied to the engine.

72 In which sections of the carburettor would icing most likely occur? (1.00 P.) [A] main air bleed and main discharge nozzle

[B] float chamber and fuel inlet filter

[C] venturi and the throttle valve

[D] accelerator pump and main metering jet

73 The operating principle of float-type carburettors is based on the: (1.00 P.) [A] difference in air pressure at the venturi throat and the air inlet

[B] automatic metering of air at the venturi as the aircraft gains altitude

[C] increase in air velocity in the throat of a venturi causing an increase in air pressure

[D] measurement of the fuel flow into the induction system

74 In an engine equipped with a float-type carburettor, the low temperature that causes carburettor ice is normally the result of: (1.00 P.)

[A] low volatility of aviation fuel

[B] freezing temperature of the air entering the carburettor

[C] vaporization of fuel and expansion of the air in the carburettor

[D] compression of air at the carburettor venturi

75 Fuel/air ratio is the ratio between the: (1.00 P.)

[A] mass of fuel and mass of air entering the carburettor [B] volume of fuel and volume of air entering the cylinder. [C] volume of fuel and volume of air entering the carburettor. [D] mass of fuel and mass of air entering the cylinder.

76 Which statement is correct concerning the effect of the application of carburettor heat? (1.00 P.)

[A] The volume of air entering the carburettor is reduced, thus leaning the fuel/air mixture.

[B] The volume of air entering the carburettor is reduced, thus enriching the fuel/air mixture.

[C] The density of the air entering the carburettor is reduced, thus leaning the fuel/air mixture.

[D] The density of the air entering the carburettor is reduced, thus enriching the fuel/air mixture.

77 Vapour lock is: (1.00 P.)

[A] the formation of water vapour in a fuel system

[B] vaporizing of fuel prior to reaching the carburettor

[C] vaporizing of fuel in the carburettor

[D] the inability of a fuel to vaporize in the carburettor

78 Max. Exhaust Gas Temperature is theoretically associated with: (1.00 P.) [A] Cruising mixture setting.

[B] Full rich setting. [C] Mass ratio of 1/15.

[D] Mixture ratio very close to idle cut-out.

79 The primary purpose of a supercharger is to: (1.00 P.) [A] maintain power at altitude

[B] provide leaner mixtures at altitudes below 5000 ft

[C] provide a richer mixture at high altitudes

[D] increase quantity of fuel at metering jet

80 An excessively rich mixture can be detected by: (1.00 P.) [A] high cylinder head temperatures

[B] a long purple flame from exhaust. [C] white smoke from exhaust.

[D] black smoke from exhaust.

81 The wing of an aircraft in flight, powered by engines located under the wing, is subjected to a bending moment due to thrust and drag. The loading on the front spar of the torsion box from the wing root to the wing tip is: (1.00 P.)

[A] tension, and then compression. [B] compression.

[C] tension.

[D] compression, and then tension.

82 The operation of the radio altimeter of a modern aircraft is based on: (1.00 P.) [A] amplitude modulation of the carrier wave.

[B] frequency modulation of the carrier wave. [C] pulse modulation of the carrier wave.

[D] a combination of frequency modulation and pulse modulation.

83 When a persistent underexcitation fault is detected on an AC generator connected to the aircraft mains with another AC generator, the protection device opens: (1.00

P.)

[A] the generator breaker and the tie breaker.

[B] the generator control relay and the generator breaker. [C] the tie breaker.

[D] the exciter control relay, the generator breaker and the tie breaker.

84 An airborne instrument, equipped with a gyro with 2 degrees of freedom and a horizontal spin axis is:

NB: the degree(s) of freedom of a gyro does not take into account its rotor spin axis. (1.00 P.)

[A] an artificial horizon [B] a fluxgate compass [C] a directional gyro [D] a turn indicator

85 On detection of a persistent phase unbalance on an AC generator connected to the aircraft mains, with another AC generator, the protection device opens: (1.00 P.)

[A] the generator breaker and the tie breaker. [B] the generator breaker.

[C] the exciter control relay and the generator breaker. [D] the tie breaker.

86 An airborne instrument, equipped with a gyro with 1 degree of freedom and a horizontal spin axis is a:

NB: the degree(s) of freedom of a gyro does not take into account its rotor spin axis. (1.00 P.)

[A] fluxgate compass

[B] gyromagnetic compass

[C] directional gyro

[D] turn indicator

87 A static converter is powered by: (1.00 P.)

[A] alternating current on input, alternating current on output. [B] alternating current on input, direct current on output.

[C] direct current on input, alternating current output. [D] direct current on input, direct current on output.

88 In a turn at a constant angle of bank, the turn indicator reading is: (1.00 P.) [A] independent to the aircraft true airspeed

[B] proportional to the aircraft true airspeed

[C] inversely proportional to the aircraft true airspeed

[D] proportional to the aircraft weight

89 In an aircraft electrical system where AC generators are not paralleled mounted, the changeover relay allows: (1.00 P.)

[A] connection of the Auxiliary Power Unit (APU) to its main busbar. [B] connection of the AC generator to its distribution busbar.

[C] connection of the ground power truck to its distribution busbar. [D] power supply to the faulty AC generators busbar.

90 At a low bank angle, the measurement of rate-of-turn actually consists in measuring the: (1.00 P.)

[A] roll rate of the aircraft. [B] pitch rate of the aircraft. [C] bank of the aircraft.

[D] yaw rate of the aircraft.

91 Pulling the fire shutoff handle causes a number of devices to disconnect. In respect of the AC generator it can be said that the: (1.00 P.)

[A] exciter control relay, the generator breaker and the tie breaker open. [B] exciter control relay and the generator breaker open.

[C] generator breaker opens. [D] exciter control relay opens.

92 The rate-of-turn is the: (1.00 P.) [A] yaw rate in a turn

[B] change-of-heading rate of the aircraft

[C] pitch rate in a turn

[D] aircraft speed in a turn

93 On the ground, during a right turn, the turn indicator indicates: (1.00 P.) [A] needle in the middle, ball to left

[B] needle in the middle, ball to right [C] needle to the right, ball to right [D] needle to the right, ball to left

94 In the axial flow compressor of a turbo-jet engine, the flow duct is tapered. Its shape is calculated so as to: (1.00 P.)

[A] maintain a constant axial speed in cruising flight. [B] reduce the axial speed in cruising flight.

[C] maintain a constant axial speed whatever the engine rating. [D] reduce the axial speed, whatever the engine rating.

95 On the ground, during a left turn, the turn indicator indicates: (1.00 P.) [A] needle in the middle, ball to the right

[B] needle in the middle, ball to the left [C] needle to the left, ball to the right [D] needle to the left, ball to the left

96 Electrical bonding of an aircraft is used to:

1. protect the aircraft against lightning effects.

2. reset the electrostatic potential of the aircraft to a value approximating 0 volt

3. reduce radio interference on radio communication systems

4. set the aircraft to a single potential

The combination regrouping all the correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 3, 4 |
| [B] | 2, 4 |
| [C] | 1, 2, 3 |
| [D] | 1, 3, 4 |

97 When, in flight, the needle and ball of a needle-and-ball indicator are on the left, the aircraft is: (1.00 P.)

[A] turning right with too much bank [B] turning left with not enough bank [C] turning right with not enough bank [D] turning left with too much bank

98 The Engine Pressure Ratio (EPR) is the ratio of: (1.00 P.)

[A] the total turbine outlet pressure to the total compressor inlet pressure. [B] the total turbine inlet pressure to the total compressor outlet pressure. [C] the total turbine inlet pressure to the total compressor inlet pressure. [D] the total turbine outlet pressure to the total compressor outlet pressure.

99 When, in flight, the needle and ball of a needle-and-ball indicator are on the right, the aircraft is: (1.00 P.)

[A] turning right with not enough bank

[B] turning left with too much bank [C] turning left with not enough bank [D] turning right with too much bank

100 When, in flight, the needle of a needle-and-ball indicator is on the right and the ball on the left, the aircraft is: (1.00 P.)

[A] turning left with too much bank [B] turning left with not enough bank [C] turning right with too much bank [D] turning right with not enough bank

101 A thermocouple type thermometer consists of: (1.00 P.) [A] a single-wire metal winding.

[B] a Wheatstone bridge connected to a voltage indicator.

[C] two metal conductors of the same type connected at two points. [D] two metal conductors of different type connected at two points.

102 When, in flight, the needle of a needle-and-ball indicator is on the left and the ball on the right, the aircraft is: (1.00 P.)

[A] turning left with not enough bank [B] turning right with not enough bank [C] turning right with too much bank [D] turning left with too much bank

103 The disadvantage of an electronic rpm indicator is the: (1.00 P.) [A] necessity of providing a power supply source.

[B] high influence of line resistance on the indication. [C] generation of spurious signals at the commutator. [D] influence of temperature on the indication.

104 The principle of capacity gauges is based on the: (1.00 P.)

[A] flow rate and torque variation occurring in a supply line.

[B] capacitance variation of a given capacitor with the type of dielectric.

[C] capacitance variation by the volume measurement carried out on the sensor. [D] current variation in the Wheatstone bridge.

105 Pre-ignition refers to the condition that may arise when: (1.00 P.) [A] a rich mixture is ignited by the sparking plugs.

[B] the mixture is ignited before the piston has reached top dead centre. [C] the sparking plug ignites the mixture too early.

[D] the mixture is ignited by abnormal conditions within the cylinder before the spark occurs at the plug

106 Overheating of a piston engine is likely to result from an excessively: (1.00 P.) [A] rich mixture.

[B] low barometric pressure. [C] weak mixture.

[D] high barometric pressure.

107 The working cycle of a four-stroke engine is: (1.00 P.) [A] compression induction, power, exhaust.

[B] induction, power, compression, exhaust. [C] induction, compression, power, exhaust. [D] induction, compression, expansion, power.

108 Specific fuel consumption is defined as the: (1.00 P.) [A] designed fuel consumption for a given rpm.

[B] quantity of fuel required to run the engine for one minute at maximum operating conditions.

[C] mass of fuel required to produce unit power for unit time. [D] maximum fuel consumption of the aircraft.

109 The purpose of an ignition switch is to: (1.00 P.) [A] connect the battery to the magneto

[B] connect the secondary coil to the distributor

[C] connect the contact breaker and condenser in series with the primary coil

[D] control the primary circuit of the magneto

110 The reason for having a low pressure fuel-cooled oil cooler in a recirculatory type oil system is to: (1.00 P.)

[A] cool both the oil and the fuel. [B] heat the fuel only.

[C] cool the oil and heat the fuel. [D] cool the oil only.

111 The purpose of stringers, used in fuselage construction, is to: (1.00 P.)

[A] assist the skin in absorbing the longitudinal traction-compression stresses. [B] withstand the shear stresses.

[C] integrate the strains due to pressurization to which the skin is subjected and convert them into a tensile stress.

[D] provide sound and thermal isolation.

112 The compression ratio of a piston engine is the ratio of the: (1.00 P.) [A] diameter of the bore to the piston stroke.

[B] area of the piston to the cylinder volume.

[C] volume of the cylinder with the piston at bottom dead centre to that with the piston at top dead centre.

[D] weight of the air induced to its weight after compression.

113 Prolonged running at low rpm can have an adverse effect on the functioning of the: (1.00 P.)

[A] oil pump. [B] carburettor. [C] fuel filter. [D] spark plugs.

114 The purpose of the venturi in a carburettor is to: (1.00 P.)

[A] create a rise in pressure at the throat before the mixture enters the induction system.

[B] prevent enrichment of the mixture due to high air velocity through the carburettor.

[C] create the suction necessary to cause fuel to flow through the carburettor main jets.

[D] ensure complete atomisation of the fuel before entering the injection system.

115 The capacitance type fuel gauging system indicates the fuel quantity by measuring the: (1.00 P.)

[A] resistivity variation of the fuel.

[B] dielectric change between fuel and air. [C] electrical resistance change.

[D] density variation of the fuel.

116 The reading on the oil pressure gauge is the: (1.00 P.)

[A] pressure of the oil on the inlet side of the pressure pump. [B] pressure of the oil on the outlet side of the pressure pump. [C] pressure in the oil tank reservoir.

[D] difference between the pressure pump pressure and the scavenge pump pressure.

117 In an aircraft equipped with a DC main power system, AC for instrument operation may be obtained from: (1.00 P.)

[A] a contactor. [B] a TRU.

[C] an inverter. [D] a rectifier.

118 The conditions to be met to activate a shunt generator are:

1. presence of a permanent field

2. closed electrical circuit

3. generator terminals short-circuited

4. minimum rotation speed

The combination of correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 1, 3 |
| [B] | 1, 2 |
| [C] | 2, 3 |
| [D] | 1, 4 |

119 If a current is passed through a conductor which is positioned in a magnetic field: (1.00 P.)

[A] a force will be exerted on the conductor.

[B] the intensity of the magnetic field will decrease. [C] the current will increase.

[D] there will be no effect unless the conductor is moved.

120 The compressor surge effect during acceleration is prevented by the: (1.00 P.) [A] variable setting type nozzle guide vanes.

[B] Fuel Control Unit (F.C.U.). [C] surge bleed valves.

[D] inlet guide vanes.

121 A bus-bar is: (1.00 P.)

[A] a device which may only be used in DC circuits. [B] a distribution point for electrical power.

[C] the stator of a moving coil instrument.

[D] a device permitting operation of two or more switches together.

122 Consider the flight deck oxygen supply system. The purpose of the oxygen regulator (as a function of demand and altitude) is to:

1. decrease oxygen pressure from 1800 PSI (in the bottles) down to about 50-75

PSI (low pressure system)

2. supply pure oxygen

3. supply diluted oxygen

4. supply oxygen at normal pressure

5. supply oxygen at emergency/positive pressure

6. trigger the continuous cabin altitude warning at 10000 ft cabin altitude

The combination regrouping all the correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 3, 4, 5, 6 |
| [B] | 1, 2, 3, 4 |
| [C] | 2, 3, 4, 5 |
| [D] | 1, 3, 4, 6 |

123 When carrying out battery condition check using the aircraft's voltmeter: (1.00 P.) [A] the battery should be isolated.

[B] a load should be applied to the battery in order to give a better indication of condition.

[C] no load should be applied to the battery because it would depress the voltage.

[D] the load condition is unimportant.

124 Connecting two 12 volt 40 ampere-hour capacity batteries in series will result in a total voltage and capacity respectively of: (1.00 P.)

[A] 24 volts, 40 ampere-hours. [B] 12 volts, 40 ampere-hours. [C] 24 volts, 80 ampere-hours. [D] 12 volts, 80 ampere-hours.

125 A diluter demand oxygen regulator: (1.00 P.)

[A] is only recommended for use with smoke in the cockpit. [B] delivers oxygen flow when inhaling.

[C] delivers oxygen flow only above FL 100.

[D] mixes air and oxygen in a passenger oxygen mask.

126 By-pass turbine engines are mainly used in commercial aviation, because: (1.00

P.)

[A] they produce less noise.

[B] twin spool or triple spool jet engines require a high by pass ratio.

[C] at high subsonic airspeeds they have a better propulsive efficiency than propeller or straight jet engines.

[D] they are lighter than straight jet engines.

127 The purpose of a voltage regulator is to control the output voltage of the: (1.00 P.) [A] generator at varying loads and speeds.

[B] batteries at varying loads.

[C] generators at varying speeds and the batteries at varying loads. [D] TRU.

128 The purpose of bonding the metallic parts of an aircraft is to: (1.00 P.)

[A] prevent electrolytic corrosion between mating surfaces of similar metals. [B] provide a single earth for electrical devices.

[C] isolate all components electrically.

[D] provide safe distribution of electrical charges and currents.

129 To reverse the direction of rotation of shunt-type (parallel field) DC electric motor, it is necessary to: (1.00 P.)

[A] reverse the polarity of either the stator and the rotor. [B] connect a phase-shift capacitor to the field circuit. [C] reverse the polarity of the motor connections.

[D] change the connections from shunt to series.

130 When AC generators are operated in parallel, they must be of the same: (1.00 P.) [A] voltage and amperage.

[B] voltage and frequency. [C] amperage and kVAR.

[D] frequency and amperage.

131 Below its design speed, an axial compressor: (1.00 P.) [A] has a tendency to surge in the centre stages.

[B] has a tendency to surge in the rear stages. [C] has a tendency to surge in the front stages. [D] has no tendency to surge.

132 Regarding Ohm's law: (1.00 P.)

[A] The power in the circuit is inversely proportional to the square of the current.

[B] The current in a circuit is directly proportional to the resistance of the circuit.

[C] The current in a circuit is inversely proportional to voltage. [D] The current in a circuit is directly proportional to voltage.

133 Circuit breakers protecting circuits may be: (1.00 P.) [A] used only in AC circuits.

[B] used only in DC circuits. [C] reset at any time.

[D] used in AC and DC circuits.

134 The advantages of alternating current on board an aircraft are:

1. simple connection

2. high starting torque

3. flexibility in use

4. lighter weight of equipment

5. easy to convert into direct current

6. easy maintenance of machines

The combination of correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 1, 4, 6 |
| [B] | 1, 2, 3, 4, 5, 6 |
| [C] | 3, 4, 5, 6 |
| [D] | 1, 2, 3, 5, 6 |

135 Direct current generators are connected: (1.00 P.) [A] in series to provide maximum voltage.

[B] in parallel to provide maximum power. [C] in series to provide maximum power. [D] in parallel to provide maximum voltage.

136 A closed loop control system in which a small power input controls a much larger power output in a strictly proportionate manner is known as: (1.00 P.)

[A] an amplifier. [B] an autopilot.

[C] a feedback control circuit. [D] a servomechanism.

137 A piston engine may use a fuel of a different grade than the recommended: (1.00

P.)

[A] provided that it is an aeronautical petrol

[B] provided that the grade is higher [C] provided that the grade is lower [D] never

138 Fire precautions to be observed before refuelling are: (1.00 P.)

[A] Aircraft must be more than 10 metres from radar or HF radio equipment under test.

[B] Passengers may be boarded (traversing the refuelling zone) providing suitable fire extinguishers are readily available.

[C] Ground Power Units (GPU) are not to be operated.

[D] All bonding and connections to the earth terminal between ground equipment and the aircraft should be made before filler caps are removed.

139 On detection of a persistent overvoltage fault on an AC generator connected to the aircraft AC busbars, the on-board protection device opens: (1.00 P.)

[A] the exciter breaker and the generator breaker.

[B] the exciter breaker, the generator breaker and tie breaker. [C] The generator breaker and tie breaker.

[D] The generator breaker.

140 "Nose wheel shimmy" may be described as: (1.00 P.)

[A] a possibly damaging vibration of the nose wheel when moving on the ground.

[B] the amount of free movement of the nose wheel before steering takes effect. [C] the oscillatory movement of the nose wheel when extended prior to landing. [D] aircraft vibration caused by the nose wheel upon extension of the gear.

141 A feeder fault on a direct current circuit results from a flux unbalance between the: (1.00 P.)

[A] generator and the series winding turn.

[B] shunt exciter and the series winding turn. [C] voltage coil and the series winding turn. [D] voltage coil and the series winding.

142 The useful work area in an ideal Otto engine indicator diagram is enclosed by the following gas state change lines (1.00 P.)

[A] 2 adiabatic and 1 isothermic lines.

[B] 2 adiabatic, 1 isochoric and 1 isobaric lines. [C] 2 adiabatic and 2 isochoric lines.

[D] 2 adiabatic and 2 isobaric lines.

143 A modern Auxiliary Power Unit (APU) is designed to provide power for ground starting of an engine. It also supplies both in the air (subject to certification limitations) and on the ground: (1.00 P.)

[A] air conditioning and thrust in the event of engine failure. [B] air conditioning and electrical services.

[C] air conditioning and electrical services (on the ground) electrical and hydraulic back-up services (in the air).

[D] either air conditioning or electrical services, but never both at the same time.

144 Ignition occurs in each cylinder of a four stroke engine (TDC = Top Dead

Centre): (1.00 P.)

[A] behind TDC at each crankshaft revolution.

[B] behind TDC at each second crankshaft revolution. [C] before TDC at each crankshaft revolution.

[D] before TDC at each second crankshaft revolution.

145 When a persistent top excitation limit fault on an AC generator connected to the mains with another AC generator, the overexcitation protection device opens: (1.00 P.)

[A] the generator breaker.

[B] the exciter breaker, the generator breaker and the tie breaker. [C] the exciter breaker and the generator breaker.

[D] the tie breaker.

146 The power output of a piston engine can be calculated by: (1.00 P.) [A] Force times distance.

[B] Torque times RPM. [C] Pressure times arm. [D] Work times velocity.

147 The power of a piston engine which will be measured by using a friction brake is: (1.00 P.)

[A] Heat loss power. [B] Brake horse power. [C] Friction horse power.

[D] Indicated horse power.

148 With respect to a piston engine aircraft, ice in the carburettor: (1.00 P.) [A] will only form at OAT's below +10°C.

[B] will only form at OAT's below the freezing point of fuel. [C] may form at OAT's higher than +10°C.

[D] will only form at outside air temperatures (OAT's) below the freezing point of water.

149 When an underspeed fault is detected on an AC generator connected to the aircraft

AC busbar, the protection device opens the: (1.00 P.) [A] exciter breaker, generator breaker and tie breaker. [B] exciter breaker and generator breaker.

[C] generator breaker. [D] exciter breaker.

150 The power of a piston engine decreases during a climb with a constant power lever setting because of the decreasing: (1.00 P.)

[A] humidity.

[B] engine temperature. [C] air density.

[D] temperature.

151 The part of a piston engine that transforms reciprocating movement into rotary motion is termed the: (1.00 P.)

[A] piston

[B] camshaft

[C] reduction gear

[D] crankshaft

152 The voltage regulator of a DC generator is connected in: (1.00 P.) [A] parallel with the armature.

[B] parallel with the shunt field coil. [C] series with the shunt field coil. [D] series with the armature.

153 Which one of the following factors would be most likely to increase the possibility of detonation occurring within a piston engine? (1.00 P.)

[A] High cylinder head temperature.

[B] Using an engine with a low compression ratio. [C] Slightly retarding the ignition timing.

[D] The use of a fuel with a high octane rating as compared to the use of one with a low octane rating.

154 In a piston engine if the ratio of air to fuel, by weight, is approximately 9:1, the mixture is said to be: (1.00 P.)

[A] weak

[B] rich

[C] normal

[D] too weak to support combustion

155 On starting, in a brushless AC generator with no commutator rings, the generator is activated by: (1.00 P.)

[A] the main field winding. [B] the auxiliary winding.

[C] the stabilizer winding jointly with the voltage regulator. [D] a set of permanent magnets.

156 To ensure that the fuel flow is kept directly proportional to the mass of air flowing through the choke, thus preventing the main jet supplying excessive fuel as engine speed is increased, a carburettor is fitted with: (1.00 P.)

[A] an accelerator pump

[B] a diffuser

[C] a power jet

[D] a mixture control

157 The capacity of an accumulator is: (1.00 P.)

[A] The number of cycles (charging and discharging) that a battery can withstand without deterioration of its cells.

[B] The no-load voltage of the battery multiplied by its rated output current. [C] The quantity of electricity that the battery can supply during discharge. [D] The intensity withstood by the battery during charging.

158 The oil system for a piston engine incorporates an oil cooler that is fitted: (1.00

P.)

[A] between the oil tank and the pressure pump

[B] after the pressure pump but before the oil passes through the engine

[C] after the oil has passed through the engine and before it enters the sump

[D] in the return line to the oil tank after the oil has passed through the scavenge pump

159 The purpose of a compressor bleed valve is to prevent surging: (1.00 P.) [A] at low compressor rpm.

[B] with altitude.

[C] of the first compressor stages.

[D] generated by foreign object ingestion.

160 In order to measure temperature, the cylinder head temperature (CHT) gauge utilises a: (1.00 P.)

[A] bourdon tube.

[B] wheatstone bridge circuit.

[C] thermocouple consisting of two dissimilar metals. [D] ratiometer circuit.

161 Landing gear torque links are used to: (1.00 P.)

[A] prevent the extension of the landing gear oleo strut rod.

[B] prevent rotation of the landing gear piston in the oleo strut.

[C] maintain the compass heading throughout taxiing and take-off. [D] take up the lateral stresses to which the gear is subjected.

162 When leaning the mixture for the most economic cruise fuel flow, excessive leaning will cause: (1.00 P.)

[A] high engine RPM [B] low cylinder head [C] high cylinder head

[D] high manifold pressure

163 The first indication of carburettor icing in airplanes equipped with constant speed propellers would most likely be a: (1.00 P.)

[A] decrease in manifold pressure

[B] decrease in rpm

[C] rough running engine followed by loss in rpm.

[D] rough running engine followed by an increase in manifold pressure

164 The illumination of the green landing gear light indicates that the landing gear is: (1.00 P.)

[A] locked-down and its door is locked. [B] not in the required position.

[C] in the required position. [D] locked-down.

165 What will happen to the geometrical pitch angle of a "constant speed propeller" if the manifold pressure is increased ? (1.00 P.)

[A] It will decrease so that the engine can increase

[B] It will remain the same

[C] It will increase

[D] It will increase and after a short time it will be the same again

166 What will eventually happen during a continuous climb with a mixture setting full rich? (1.00 P.)

[A] increase of the power available. [B] fouling of spark plugs.

[C] the engine will overheat.

[D] the engine will operate smoother even though fuel consumption is increased.

167 With an aircraft fitted with a fixed pitch propeller, during flight at normal cruising speed, one magneto fails completely. This will first cause: (1.00 P.)

[A] excessive vibration

[B] loss of approximately 100 rpm

[C] engine to overheat.

[D] additional load on the other magneto

168 In flight, with centre tank empty and APU operating, a fuel unbalance is detected

(quantity in tank 1 < quantity in tank 2). Rebalancing of the two tanks is: (1.00 P.)

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[A] possible with "CROSSFEED" open and tank 1 pumps "OFF" and tank 2 pumps "ON".

[B] possible with "CROSSFEED" open and tank 2 pumps "OFF". [C] impossible because there is no fuel in centre tank.

[D] impossible without causing the APU to stop.

169 A pilot can actuate the feathering system by: (1.00 P.) [A] pulling the power levers rearwards.

[B] pushing the power lever forwards.

[C] pushing the propeller control lever forwards. [D] pulling the propeller control lever rearwards.

170 The function of an accumulator in a hydraulic brake system is: (1.00 P.)

[A] to store the hydraulic energy recovered by the anti skid system to prevent wheel blocking.

[B] to function as a buffer to assist the hydraulic system during heavy braking. [C] to supply a limited amount of brake energy in case the hydraulic system

normally powering the brakes does not function anymore. [D] to damp pressure fluctuations of the auto brake system.

171 The use of too low an octane fuel may cause: (1.00 P.) [A] a prompt pre-ignition reaction.

[B] a cooling effect on cylinders

[C] detonation

[D] higher manifold pressure

172 Consider a jet engine whose control is based on the Engine Pressure Ratio (EPR):

1. with a constant EPR, the thrust decreases when the altitude increases

2. with a constant EPR, the thrust is independent of the Mach number

3. At same environmental conditions, a given EPR setting maintains the thrust irrespective of engine wear due to ageing.

4. the EPR is determined by the impact pressure difference between the turbine outlet and the compressor inlet

5. on take-off, in the event of icing not detected by the crew, the indicated EPR is lower than the real EPR

The combination regrouping all the correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 1, 5. |
| [B] | 2, 3, 4. |
| [C] | 3, 4, 5. |
| [D] | 1, 3. |

173 Once the engine has started, ignition systems of piston engines are: (1.00 P.) [A] independent of the electrical system of the aircraft.

[B] dependent on the AC-Generator. [C] dependent on the DC-Generator. [D] dependent on the battery.

174 The cylinder head and oil temperature gauges are to exceed the normal operating ranges if a pilot (1.00 P.)

[A] operating wit higher-than-normal oil pressure

[B] uses fuel that has a rating lower-than-specified for the engine [C] uses fuel that has a rating higher-than-specified for the engine [D] operates with the mixture control set too rich.

175 Consider the variable-pitch propeller of a turbo-prop.

During deceleration: (1.00 P.)

[A] when feathered, the propeller produces thrust and absorbs no engine power. [B] at zero power, the propeller thrust is zero and the engine power absorbed is

nil.

[C] when braking, the propeller supplies negative thrust and absorbs engine power.

[D] with propeller windmilling, the thrust is zero and the propeller supplies engine power.

176 As the flight altitude increases, if no leaning is made with the mixture control: (1.00 P.)

[A] the density of air entering the carburettor decreases and the amount of fuel increases.

[B] the volume of air entering the carburettor remains constant and the amount of fuel decreases

[C] the density of air entering the carburettor decreases and the amount of fuel remains constant

[D] the volume of air entering the carburettor decreases and the amount of fuel decreases

177 Among the different types of aircraft structures, the shell structures efficiently transmit the:

1. normal bending stresses

2. tangent bending stresses

3. torsional moment

4. shear stresses

The combination regrouping all the correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 1, 2, 4 |
| [B] | 1, 2, 3 |
| [C] | 1, 3, 4 |
| [D] | 2, 3, 4 |

178 When starting an engine or when the engine runs at an idle rpm on ground, the mixture is: (1.00 P.)

[A] lean, to prevent hat the engine consumes too much fuel. [B] rich, because carburettor heat is switched on

[C] rich, because the choke valve is closed

[D] rich, to make starting possible and to cool the engine sufficiently when idling

179 The application of carburettor heat reduces (1.00 P.)

[A] the volume of air entering the carburettor, thus leaning the fuel/air mixture

[B] it reduces the density of air entering the carburettor, thus leaning the fuel/air mixture

[C] the density of air entering the carburettor, thus enriching the fuel/air mixture

[D] the volume of air entering the carburettor, thus enriching the fuel/air mixture.

180 On a non-stressed skin type wing, the wing structure elements which take up the vertical bending moments Mx are: (1.00 P.)

[A] the skin. [B] the webs. [C] the ribs. [D] the spars.

181 On four-stroke piston engines, the theoretical valve and ignition settings are readjusted in order to increase the: (1.00 P.)

[A] compression ratio [B] piston displacement [C] engine RPM

[D] overall efficiency

182 An impulse coupling does not function at such speeds above those encountered in starting. Its engaging pawls are prevented from operating at higher speeds by (1.00 P.)

[A] electro-magnetic action of operating magneto. [B] engine oil pressure

[C] a coil spring

[D] centrifugal force

183 The modern anti-skid processes are based on the use of a computer whose input data is:

1. idle wheel speed (measured)

2. braked wheel speed (measured)

3. brake temperature (measured)

4. desired idle wheel train slipping rate

5. tire pressure

The combination regrouping all the correct statements is: (1.00 P.)

|  |  |
| --- | --- |
| [A] | 1, 3. |
| [B] | 1, 2, 4. |
| [C] | 2, 4. |
| [D] | 1, 2, 3, 4, 5. |

184 The Engine Pressure Ratio (EPR) is computed by: (1.00 P.)

[A] dividing turbine discharge pressure by compressor inlet pressure.

[B] multiplying compressor discharge pressure by turbine inlet pressure. [C] dividing compressor discharge pressure by turbine discharge pressure. [D] multiplying compressor inlet pressure by turbine discharge pressure.

185 A condenser in parallel with breaker points will (1.00 P.) [A] assist in collapse of secondary winding.

[B] intensify current in secondary winding

[C] assist in negative feedback to secondary coil

[D] permit arcing across points

186 An impulse magneto coupling (1.00 P.)

[A] gives an automatic spark increase during high speed operation. [B] gives a retarded spark at starting

[C] advances ignition timing and gives a hotter spark at starting

[D] reduces magneto speed during engine warm-up

187 The purpose of static wick dischargers is to: (1.00 P.)

[A] dissipate static charge of the aircraft in flight thus avoiding radio interference as a result of static electricity.

[B] provide a path to ground for static charges when refuelling. [C] be able to fly higher because of less electrical friction.

[D] dissipate static charge from the aircraft skin after landing.

188 If an engine fails to stop with the magneto switch in OFF position, the cause may be: (1.00 P.)

[A] switch wire grounded

[B] defective condenser

[C] excessive carbon formation in cylinder head. [D] fouled spark plugs

189 If the ground wire between the magneto and the ignition switch becomes disconnected, the most noticeable result will be that the engine (1.00 P.)

[A] will not operate at the left magneto

[B] will not operate at the right magneto

[C] cannot be shut down by turning the switch to the OFF position. [D] cannot be started with the switch in the ON position

190 A slaved directional gyro derives it's directional signal from: (1.00 P.) [A] the flight director.

[B] a direct reading magnetic compass. [C] the flux valve.

[D] the air-data-computer.

191 An impulse coupling is installed on a magneto of a piston engine to: (1.00 P.) [A] provide a stronger spark on top dead centre for engine starting.

[B] facilitate quick removal and installation. [C] absorb starting loads.

[D] advance the ignition timing.

192 Aircraft magneto`s receive electrical energy from (1.00 P.) [A] batteries

[B] rotating permanent magneto's. [C] condensers

[D] generators

193 The type of windings commonly used in DC starter motors are: (1.00 P.) [A] shunt wound.

[B] series shunt wound. [C] compound wound. [D] series wound.

194 Cooling air for a reciprocating engine can be obtained by means of: (1.00 P.) [A] a turbocharger

[B] ram air

[C] a supercharger

[D] a pneumatic system.

195 A chip detector in the oil system of an engine/gearbox is to indicate that (1.00 P.) [A] the piston rings are worn

[B] to indicate that seals are worn

[C] there are metal particles in the oil

[D] the oil temperature is too high

196 The lubricating system of an aircraft engine is used to (1.00 P.) [A] operate ground adjustable propellers.

[B] prevent inter-crystalline corrosion

[C] keep the engine warm

[D] aid in dissipation of heat

197 A relay is: (1.00 P.)

[A] a unit that is used to convert electrical energy to heat energy. [B] another name for a solenoid valve.

[C] a device that is used to increase electrical power. [D] a magnetically operated switch.

198 A pressure relief valve that does not fit on its seat properly would result in (1.00

P.)

[A] low oil temperature. [B] low oil pressure

[C] high oil pressure

[D] excessive oil consumption

199 It may be determined that an aircraft is not properly bonded if: (1.00 P.) [A] static noises can be heard on the radio.

[B] a circuit breaker pops out.

[C] there is interference on the VOR receiver.

[D] there is heavy corrosion on the fuselage skin mountings.

200 A magnetic plug can be used to (1.00 P.) [A] collect static electricity.

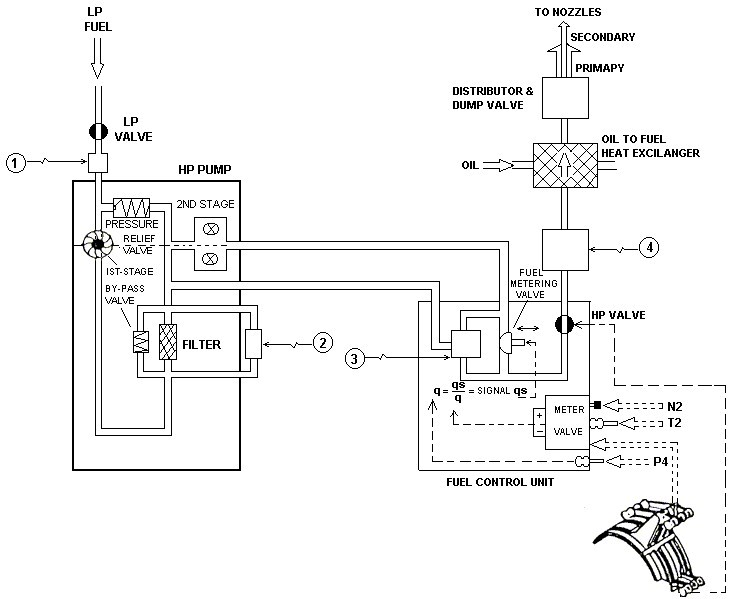
[B] collect ferrous particles reaching the sump

[C] prevent metallic particles from entering the oil system

[D] collect carbon found in the oil

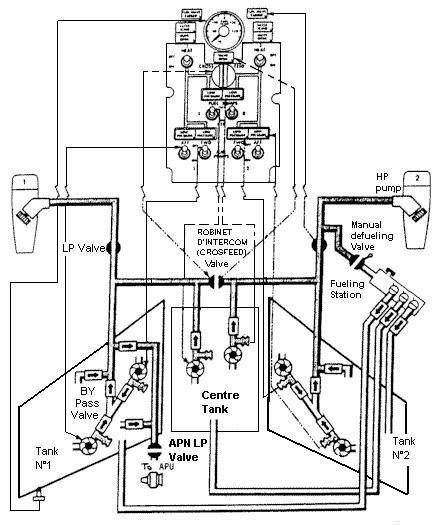
Anlage 1 zu Aufgabe 25

Titel: Anlage 1



Anlage 2 zu Aufgabe 168

Titel: Anlage 1



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| **66.** | **A** | **B** | **C** | **D** |

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| **65.** | **A** | **B** | **C** | **D** |

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| **63.** | **A** | **B** | **C** | **D** |

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| **62.** | **A** | **B** | **C** | **D** |

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| **60.** | **A** | **B** | **C** | **D** |

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| **59.** | **A** | **B** | **C** | **D** |

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| **57.** | **A** | **B** | **C** | **D** |

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| **56.** | **A** | **B** | **C** | **D** |

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| **54.** | **A** | **B** | **C** | **D** |

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| **53.** | **A** | **B** | **C** | **D** |

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| **51.** | **A** | **B** | **C** | **D** |

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| **50.** | **A** | **B** | **C** | **D** |

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| **48.** | **A** | **B** | **C** | **D** |

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| **47.** | **A** | **B** | **C** | **D** |

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| **45.** | **A** | **B** | **C** | **D** |

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| **44.** | **A** | **B** | **C** | **D** |

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| **42.** | **A** | **B** | **C** | **D** |

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| **41.** | **A** | **B** | **C** | **D** |

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| **39.** | **A** | **B** | **C** | **D** |

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| **38.** | **A** | **B** | **C** | **D** |

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| **36.** | **A** | **B** | **C** | **D** |

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| **35.** | **A** | **B** | **C** | **D** |

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| **33.** | **A** | **B** | **C** | **D** |

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| **32.** | **A** | **B** | **C** | **D** |

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| **30.** | **A** | **B** | **C** | **D** |

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| **29.** | **A** | **B** | **C** | **D** |

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| **27.** | **A** | **B** | **C** | **D** |

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| **26.** | **A** | **B** | **C** | **D** |

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| **24.** | **A** | **B** | **C** | **D** |

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| **23.** | **A** | **B** | **C** | **D** |

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| **21.** | **A** | **B** | **C** | **D** |

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| **20.** | **A** | **B** | **C** | **D** |

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| **18.** | **A** | **B** | **C** | **D** |

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| **17.** | **A** | **B** | **C** | **D** |

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| **15.** | **A** | **B** | **C** | **D** |

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| **14.** | **A** | **B** | **C** | **D** |

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| **12.** | **A** | **B** | **C** | **D** |

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| **11.** | **A** | **B** | **C** | **D** |

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| **9.** | **A** | **B** | **C** | **D** |

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| **8.** | **A** | **B** | **C** | **D** |

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| **6.** | **A** | **B** | **C** | **D** |

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| **5.** | **A** | **B** | **C** | **D** |

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| **Vom Teilnehmer auszufüllen** | |
| **Name:** | **Prüf.-Nr.:** |
| **Prüfungsdatum:** | **Unterschrift** |

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| **1.** | A | B | C | D |  | **2.** | A | B | C | D |  | **3.** | A | B | C | D |  |

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| **4.** | **A** | **B** | **C** | **D** |

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| **7.** | **A** | **B** | **C** | **D** |

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| **10.** | **A** | **B** | **C** | **D** |

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| **13.** | **A** | **B** | **C** | **D** |

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| **16.** | **A** | **B** | **C** | **D** |

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| **19.** | **A** | **B** | **C** | **D** |

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| **22.** | **A** | **B** | **C** | **D** |

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| **25.** | **A** | **B** | **C** | **D** |

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| **28.** | **A** | **B** | **C** | **D** |

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| **31.** | **A** | **B** | **C** | **D** |

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| **34.** | **A** | **B** | **C** | **D** |

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| **37.** | **A** | **B** | **C** | **D** |

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| **40.** | **A** | **B** | **C** | **D** |

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| **43.** | **A** | **B** | **C** | **D** |

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| **46.** | **A** | **B** | **C** | **D** |

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| **49.** | **A** | **B** | **C** | **D** |

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| **52.** | **A** | **B** | **C** | **D** |

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| **55.** | **A** | **B** | **C** | **D** |

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| **58.** | **A** | **B** | **C** | **D** |

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| **61.** | **A** | **B** | **C** | **D** |

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| **64.** | **A** | **B** | **C** | **D** |

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| **132**  **.** | **A** | **B** | **C** | **D** |

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| **131**  **.** | **A** | **B** | **C** | **D** |

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| **129**  **.** | **A** | **B** | **C** | **D** |

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| **128**  **.** | **A** | **B** | **C** | **D** |

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| **126**  **.** | **A** | **B** | **C** | **D** |

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| **125**  **.** | **A** | **B** | **C** | **D** |

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| **123**  **.** | **A** | **B** | **C** | **D** |

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| **122**  **.** | **A** | **B** | **C** | **D** |

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| **120**  **.** | **A** | **B** | **C** | **D** |

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| **119**  **.** | **A** | **B** | **C** | **D** |

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| **117**  **.** | **A** | **B** | **C** | **D** |

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| **116**  **.** | **A** | **B** | **C** | **D** |

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| **114**  **.** | **A** | **B** | **C** | **D** |

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| **113**  **.** | **A** | **B** | **C** | **D** |

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| **111**  **.** | **A** | **B** | **C** | **D** |

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| **110**  **.** | **A** | **B** | **C** | **D** |

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| **108**  **.** | **A** | **B** | **C** | **D** |

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| **107**  **.** | **A** | **B** | **C** | **D** |

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| **105**  **.** | **A** | **B** | **C** | **D** |

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| **104**  **.** | **A** | **B** | **C** | **D** |

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| **102**  **.** | **A** | **B** | **C** | **D** |

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| **101**  **.** | **A** | **B** | **C** | **D** |

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| **99.** | **A** | **B** | **C** | **D** |

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| **98.** | **A** | **B** | **C** | **D** |

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| **96.** | **A** | **B** | **C** | **D** |

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| **95.** | **A** | **B** | **C** | **D** |

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| **93.** | **A** | **B** | **C** | **D** |

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| **92.** | **A** | **B** | **C** | **D** |

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| **90.** | **A** | **B** | **C** | **D** |

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| **89.** | **A** | **B** | **C** | **D** |

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| **87.** | **A** | **B** | **C** | **D** |

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| **86.** | **A** | **B** | **C** | **D** |

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| **84.** | **A** | **B** | **C** | **D** |

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| **83.** | **A** | **B** | **C** | **D** |

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| **81.** | **A** | **B** | **C** | **D** |

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| **80.** | **A** | **B** | **C** | **D** |

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| **78.** | **A** | **B** | **C** | **D** |

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| **77.** | **A** | **B** | **C** | **D** |

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| **75.** | **A** | **B** | **C** | **D** |

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| **74.** | **A** | **B** | **C** | **D** |

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| **72.** | **A** | **B** | **C** | **D** |

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| **71.** | **A** | **B** | **C** | **D** |

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| **Vom Teilnehmer auszufüllen** | |
| **Name:** | **Prüf.-Nr.:** |
| **Prüfungsdatum:** | **Unterschrift** |

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| **67.** | **A** | **B** | **C** | **D** |  | **68.** | **A** | **B** | **C** | **D** |  | **69.** | **A** | **B** | **C** | **D** |  |

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| **70.** | **A** | **B** | **C** | **D** |

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| **73.** | **A** | **B** | **C** | **D** |

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| **76.** | **A** | **B** | **C** | **D** |

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| **79.** | **A** | **B** | **C** | **D** |

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| **82.** | **A** | **B** | **C** | **D** |

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| **85.** | **A** | **B** | **C** | **D** |

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| **88.** | **A** | **B** | **C** | **D** |

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| **91.** | **A** | **B** | **C** | **D** |

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| **94.** | **A** | **B** | **C** | **D** |

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| **97.** | **A** | **B** | **C** | **D** |

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| **100**  **.** | **A** | **B** | **C** | **D** |

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| **103**  **.** | **A** | **B** | **C** | **D** |

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| **106**  **.** | **A** | **B** | **C** | **D** |

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| **109**  **.** | **A** | **B** | **C** | **D** |

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| **112**  **.** | **A** | **B** | **C** | **D** |

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| **115**  **.** | **A** | **B** | **C** | **D** |

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| **118**  **.** | **A** | **B** | **C** | **D** |

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| **121**  **.** | **A** | **B** | **C** | **D** |

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| **124**  **.** | **A** | **B** | **C** | **D** |

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| **127**  **.** | **A** | **B** | **C** | **D** |

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| **130**  **.** | **A** | **B** | **C** | **D** |

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| **198**  **.** | **A** | **B** | **C** | **D** |

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| **197**  **.** | **A** | **B** | **C** | **D** |

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| **195**  **.** | **A** | **B** | **C** | **D** |

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| **194**  **.** | **A** | **B** | **C** | **D** |

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| **192**  **.** | **A** | **B** | **C** | **D** |

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| **191**  **.** | **A** | **B** | **C** | **D** |

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| **189**  **.** | **A** | **B** | **C** | **D** |

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| **188**  **.** | **A** | **B** | **C** | **D** |

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| **186**  **.** | **A** | **B** | **C** | **D** |

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| **185**  **.** | **A** | **B** | **C** | **D** |

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| **183**  **.** | **A** | **B** | **C** | **D** |

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| **182**  **.** | **A** | **B** | **C** | **D** |

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| **180**  **.** | **A** | **B** | **C** | **D** |

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| **179**  **.** | **A** | **B** | **C** | **D** |

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| **177**  **.** | **A** | **B** | **C** | **D** |

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| **176**  **.** | **A** | **B** | **C** | **D** |

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| **174**  **.** | **A** | **B** | **C** | **D** |

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| **173**  **.** | **A** | **B** | **C** | **D** |

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| **171**  **.** | **A** | **B** | **C** | **D** |

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| **170**  **.** | **A** | **B** | **C** | **D** |

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| **168**  **.** | **A** | **B** | **C** | **D** |

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| **167**  **.** | **A** | **B** | **C** | **D** |

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| **165**  **.** | **A** | **B** | **C** | **D** |

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| **164**  **.** | **A** | **B** | **C** | **D** |

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| **162**  **.** | **A** | **B** | **C** | **D** |

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| **161**  **.** | **A** | **B** | **C** | **D** |

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| **159**  **.** | **A** | **B** | **C** | **D** |

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| **158**  **.** | **A** | **B** | **C** | **D** |

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| **156**  **.** | **A** | **B** | **C** | **D** |

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| **155**  **.** | **A** | **B** | **C** | **D** |

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| **153**  **.** | **A** | **B** | **C** | **D** |

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| **152**  **.** | **A** | **B** | **C** | **D** |

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| **150**  **.** | **A** | **B** | **C** | **D** |

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| **149**  **.** | **A** | **B** | **C** | **D** |

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| **147**  **.** | **A** | **B** | **C** | **D** |

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| **146**  **.** | **A** | **B** | **C** | **D** |

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| **144**  **.** | **A** | **B** | **C** | **D** |

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| **143**  **.** | **A** | **B** | **C** | **D** |

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| **141**  **.** | **A** | **B** | **C** | **D** |

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| **140**  **.** | **A** | **B** | **C** | **D** |

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| **138**  **.** | **A** | **B** | **C** | **D** |

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| **137**  **.** | **A** | **B** | **C** | **D** |

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| **Vom Teilnehmer auszufüllen** | |
| **Name:** | **Prüf.-Nr.:** |
| **Prüfungsdatum:** | **Unterschrift** |

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| **133**  **.** | **A** | **B** | **C** | **D** |  | **134**  **.** | **A** | **B** | **C** | **D** |  | **135**  **.** | **A** | **B** | **C** | **D** |  |

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| **136**  **.** | **A** | **B** | **C** | **D** |

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| **139**  **.** | **A** | **B** | **C** | **D** |

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| **142**  **.** | **A** | **B** | **C** | **D** |

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| **145**  **.** | **A** | **B** | **C** | **D** |

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| **148**  **.** | **A** | **B** | **C** | **D** |

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| **151**  **.** | **A** | **B** | **C** | **D** |

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| **154**  **.** | **A** | **B** | **C** | **D** |

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| **157**  **.** | **A** | **B** | **C** | **D** |

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| **160**  **.** | **A** | **B** | **C** | **D** |

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| **163**  **.** | **A** | **B** | **C** | **D** |

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| **166**  **.** | **A** | **B** | **C** | **D** |

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| **169**  **.** | **A** | **B** | **C** | **D** |

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| **172**  **.** | **A** | **B** | **C** | **D** |

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| **175**  **.** | **A** | **B** | **C** | **D** |

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| **178**  **.** | **A** | **B** | **C** | **D** |

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| **181**  **.** | **A** | **B** | **C** | **D** |

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| **184**  **.** | **A** | **B** | **C** | **D** |

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| **187**  **.** | **A** | **B** | **C** | **D** |

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| **190**  **.** | **A** | **B** | **C** | **D** |

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| **193**  **.** | **A** | **B** | **C** | **D** |

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| **196**  **.** | **A** | **B** | **C** | **D** |

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| **Vom Teilnehmer auszufüllen** | |
| **Name:** | **Prüf.-Nr.:** |
| **Prüfungsdatum:** | **Unterschrift** |

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| **199**  **.** | **A** | **B** | **C** | **D** |  | **200**  **.** | **A** | **B** | **C** | **D** |  |

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| **66.** |  |  |  | **D** |

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| **65.** |  |  |  | **D** |

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| **63.** |  |  |  | **D** |

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| **62.** | **A** |  |  |  |

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| **60.** | **A** |  |  |  |

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| **59.** |  |  |  | **D** |

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| **57.** |  |  |  | **D** |

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| **56.** |  |  |  | **D** |

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| **54.** |  |  |  | **D** |

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| **53.** |  | **B** |  |  |

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| **51.** |  |  |  | **D** |

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| **50.** |  |  | **C** |  |

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| **48.** |  | **B** |  |  |

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| **47.** |  |  | **C** |  |

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| **45.** |  |  | **C** |  |

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| **44.** |  |  |  | **D** |

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| **42.** |  |  | **C** |  |

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| **41.** |  | **B** |  |  |

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| **39.** |  |  |  | **D** |

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| **38.** |  |  |  | **D** |

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| **36.** | **A** |  |  |  |

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| **35.** |  |  |  | **D** |

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| **33.** |  | **B** |  |  |

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| **32.** |  | **B** |  |  |

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| **30.** |  |  |  | **D** |

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| **29.** |  |  |  | **D** |

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| **27.** | **A** |  |  |  |

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| **26.** |  |  | **C** |  |

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| **24.** |  |  |  | **D** |

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| **23.** |  |  | **C** |  |

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| **21.** | **A** |  |  |  |

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| **20.** |  |  | **C** |  |

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| **18.** |  |  | **C** |  |

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| **17.** |  | **B** |  |  |

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| **15.** |  | **B** |  |  |

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| **14.** |  |  | **C** |  |

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| **12.** |  | **B** |  |  |

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| **11.** |  |  | **C** |  |

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| **9.** |  |  | **C** |  |

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| **8.** |  |  | **C** |  |

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| **6.** |  |  |  | **D** |

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| **5.** |  |  |  | **D** |

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| **Nur für den internen Gebrauch** | |
| **LÖSUNGSBOGEN** | **Prüf.-Nr.:** |
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| **1.** |  | B |  |  |  | **2.** | A |  |  |  |  | **3.** | A |  |  |  |  |

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| **4.** |  | **B** |  |  |

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| **7.** |  |  |  | **D** |

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| **10.** |  |  | **C** |  |

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| **13.** |  |  | **C** |  |

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| **16.** | **A** |  |  |  |

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| **19.** |  |  | **C** |  |

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| **22.** |  | **B** |  |  |

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| **25.** |  |  | **C** |  |

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| **28.** |  | **B** |  |  |

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| **31.** |  | **B** |  |  |

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| **34.** | **A** |  |  |  |

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| **37.** |  | **B** |  |  |

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| **40.** |  |  | **C** |  |

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| **43.** |  | **B** |  |  |

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| **46.** |  |  |  | **D** |

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| **49.** |  |  |  | **D** |

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| **52.** |  |  |  | **D** |

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| **55.** |  |  |  | **D** |

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| **58.** |  |  | **C** |  |

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| **61.** | **A** |  |  |  |

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| **64.** |  | **B** |  |  |

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| **132**  **.** |  |  |  | **D** |

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| **131**  **.** |  |  | **C** |  |

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| **129**  **.** | **A** |  |  |  |

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| **128**  **.** |  |  |  | **D** |

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| **126**  **.** |  |  | **C** |  |

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| **125**  **.** |  | **B** |  |  |

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| **123**  **.** |  | **B** |  |  |

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| **122**  **.** |  |  | **C** |  |

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| **120**  **.** |  | **B** |  |  |

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| **119**  **.** | **A** |  |  |  |

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| **117**  **.** |  |  | **C** |  |

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| **116**  **.** |  | **B** |  |  |

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| **114**  **.** |  |  | **C** |  |

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| **113**  **.** |  |  |  | **D** |

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| **111**  **.** | **A** |  |  |  |

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| **110**  **.** |  |  | **C** |  |

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| **108**  **.** |  |  | **C** |  |

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| **107**  **.** |  |  | **C** |  |

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| **105**  **.** |  |  |  | **D** |

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| **104**  **.** |  | **B** |  |  |

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| **102**  **.** | **A** |  |  |  |

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| **101**  **.** |  |  |  | **D** |

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| **99.** |  |  |  | **D** |

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| **98.** | **A** |  |  |  |

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| **96.** |  |  |  | **D** |

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| **95.** |  |  | **C** |  |

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| **93.** |  |  |  | **D** |

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| **92.** |  | **B** |  |  |

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| **90.** |  |  |  | **D** |

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| **89.** |  |  |  | **D** |

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| **87.** |  |  | **C** |  |

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| **86.** |  |  |  | **D** |

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| **84.** |  |  | **C** |  |

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| **83.** |  |  |  | **D** |

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| **81.** |  |  |  | **D** |

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| **80.** |  |  |  | **D** |

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| **78.** |  |  | **C** |  |

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| **77.** |  | **B** |  |  |

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| **75.** |  |  |  | **D** |

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| **74.** |  |  | **C** |  |

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| **72.** |  |  | **C** |  |

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| **71.** |  | **B** |  |  |

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| **Nur für den internen Gebrauch** | |
| **LÖSUNGSBOGEN** | **Prüf.-Nr.:** |
| **Prüfungsdatum:** |  |

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| **67.** | **A** |  |  |  |  | **68.** |  |  | **C** |  |  | **69.** | **A** |  |  |  |  |

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| **70.** |  |  |  | **D** |

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| **73.** | **A** |  |  |  |

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| **76.** |  |  |  | **D** |

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| **79.** | **A** |  |  |  |

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| **82.** |  | **B** |  |  |

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| **85.** |  |  |  | **D** |

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| **88.** |  |  | **C** |  |

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| **91.** |  | **B** |  |  |

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| **94.** | **A** |  |  |  |

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| **97.** |  |  |  | **D** |

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| **100**  **.** |  |  |  | **D** |

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| **103**  **.** | **A** |  |  |  |

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| **106**  **.** |  |  | **C** |  |

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| **109**  **.** |  |  |  | **D** |

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| **112**  **.** |  |  | **C** |  |

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| **115**  **.** |  | **B** |  |  |

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| **118**  **.** |  |  |  | **D** |

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| **121**  **.** |  | **B** |  |  |

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| **124**  **.** | **A** |  |  |  |

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| **127**  **.** | **A** |  |  |  |

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| **130**  **.** |  | **B** |  |  |

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| **198**  **.** |  | **B** |  |  |

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| **197**  **.** |  |  |  | **D** |

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| **195**  **.** |  |  | **C** |  |

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| **194**  **.** |  | **B** |  |  |

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| **192**  **.** |  | **B** |  |  |

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| **191**  **.** | **A** |  |  |  |

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| **189**  **.** |  |  | **C** |  |

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| **188**  **.** |  |  | **C** |  |

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| **186**  **.** |  | **B** |  |  |

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| **185**  **.** |  | **B** |  |  |

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| **183**  **.** |  | **B** |  |  |

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| **182**  **.** |  |  |  | **D** |

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| **180**  **.** |  |  |  | **D** |

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| **179**  **.** |  |  | **C** |  |

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| **177**  **.** |  | **B** |  |  |

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| **176**  **.** |  |  | **C** |  |

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| **174**  **.** |  | **B** |  |  |

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| **173**  **.** | **A** |  |  |  |

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| **171**  **.** |  |  | **C** |  |

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| **170**  **.** |  |  | **C** |  |

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| **168**  **.** | **A** |  |  |  |

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| **167**  **.** |  | **B** |  |  |

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| **165**  **.** |  |  | **C** |  |

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| **164**  **.** |  |  |  | **D** |

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| **162**  **.** |  |  | **C** |  |

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| **161**  **.** |  | **B** |  |  |

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| **159**  **.** | **A** |  |  |  |

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| **158**  **.** |  |  |  | **D** |

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| **156**  **.** |  | **B** |  |  |

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| **155**  **.** |  |  |  | **D** |

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| **153**  **.** | **A** |  |  |  |

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| **152**  **.** |  |  | **C** |  |

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| **150**  **.** |  |  | **C** |  |

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| **149**  **.** |  |  | **C** |  |

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| **147**  **.** |  | **B** |  |  |

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| **146**  **.** |  | **B** |  |  |

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| **144**  **.** |  |  |  | **D** |

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| **143**  **.** |  | **B** |  |  |

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| **141**  **.** |  |  | **C** |  |

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| **140**  **.** | **A** |  |  |  |

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| **138**  **.** |  |  |  | **D** |

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| **137**  **.** |  | **B** |  |  |

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| **Nur für den internen Gebrauch** | |
| **LÖSUNGSBOGEN** | **Prüf.-Nr.:** |
| **Prüfungsdatum:** |  |

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| **133**  **.** |  |  |  | **D** |  | **134**  **.** |  |  | **C** |  |  | **135**  **.** |  | **B** |  |  |  |

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| **136**  **.** |  |  |  | **D** |

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| **139**  **.** | **A** |  |  |  |

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| **142**  **.** |  |  | **C** |  |

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| **145**  **.** |  | **B** |  |  |

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| **148**  **.** |  |  | **C** |  |

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| **151**  **.** |  |  |  | **D** |

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| **154**  **.** |  | **B** |  |  |

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| **157**  **.** |  |  | **C** |  |

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| **160**  **.** |  |  | **C** |  |

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| **163**  **.** | **A** |  |  |  |

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| **166**  **.** |  | **B** |  |  |

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| **169**  **.** |  |  |  | **D** |

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| **172**  **.** |  |  |  | **D** |

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| **175**  **.** |  |  | **C** |  |

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| **178**  **.** |  |  |  | **D** |

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| **181**  **.** |  |  |  | **D** |

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| **184**  **.** | **A** |  |  |  |

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| **187**  **.** | **A** |  |  |  |

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| **190**  **.** |  |  | **C** |  |

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| **193**  **.** |  |  |  | **D** |

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| **196**  **.** |  |  |  | **D** |

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| **Nur für den internen Gebrauch** | |
| **LÖSUNGSBOGEN** | **Prüf.-Nr.:** |
| **Prüfungsdatum:** |  |

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| **199**  **.** | **A** |  |  |  |  | **200**  **.** |  | **B** |  |  |  |