

يتكون هذا الاختبار من (100) سؤال موضوعي من نوع الاختيار من متعدد، الإجابة عنها إجبارية. ظلل بقلم الرصاص بشكل غامق الدائرة التي تشير إلى الإجابة الصحيحة في المكان المخصص لذلك في نموذج الإجابة المرفق.

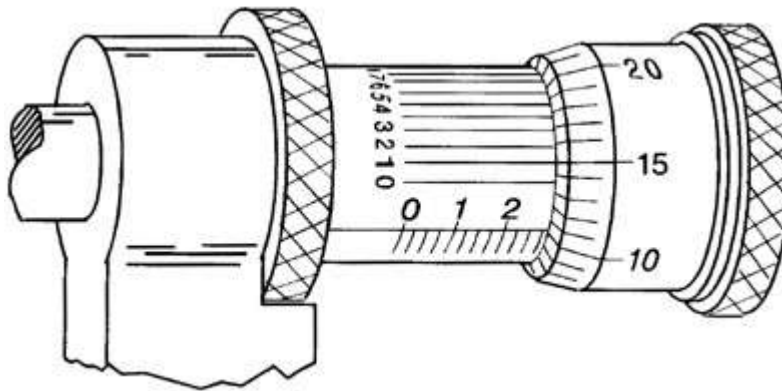
نظم الوقود والخدمة في الطائرات

1. **Zero fuel weight is:**
  - a- The basic operation weight plus the weight of full passengers and cargo
  - b- The maximum weight of a loaded airplane less fuel weight
  - c- The gross weight plus fuel, passengers and cargo
  - d- The basic weight plus the weight of item such as oil, crew, fuel and crews baggage
2. **When gasoline and air is heated and compressed above the critical pressure they will chemically combine at an explosive rate this is called:**
  - a- Vapor pressure
  - b- Detonation
  - c- Fractional distillation
  - d- Boiling temperature
3. **The center of gravity of an airplane is located:**
  - a- Behind of its center of pressure.
  - b- Below of its center of pressure.
  - c- Ahead of its center of pressure
  - d- Same point of its center of pressure
4. **The product of the weight and the arm is:**
  - a- The moment
  - b- The force
  - c- The gravity
  - d- The power
5. **Imaginary vertical line from which all of the weight and balance computations are taken is:**
  - a- Datum
  - b- Moment
  - c- Ballast
  - d- Balance point
6. **The weight added to the aircraft to bring the center of gravity into its allowable limit, is called:**
  - a- Datum
  - b- Arm
  - c- Ballast
  - d- Fulcrum
7. **The three basic requirements of fire to accrue are:**
  - a- Heat, fuel and oxygen
  - b- Heat, fuel and spark
  - c- Fuel, heat and temperature
  - d- Heat, fuel and gasoline
8. **Aircraft hoisting means:**
  - a- Raising the aircraft on jacks
  - b- Moving an aircraft without it is engines
  - c- Holding the aircraft down to the ground by chains or ropes
  - d- Lifting the aircraft off the ground by cables or chains
9. **When towing an aircraft, the towing speed must not exceed:**
  - a- (15) miles/ hour
  - b- (5) miles/ hour
  - c- (50) miles / hour
  - d- (20) Km/ hour

10. **The method of securing the aircraft with special points in the ground to protect it against high winds is:**
- a- Towing
  - b- Jacking
  - c- Tie down
  - d- Hoisting
11. **The process of emptying the aircraft from fuel for certain reasons is called:**
- a- Refueling
  - b- Defueling
  - c- Tie down
  - d- Hoisting
12. **The black wire in a three-wire extension cord serves as:**
- a- Earth ground
  - b- Power carrier
  - c- Equipment ground
  - d- Both (A & C) are correct
13. **Fires involve combustible liquids such as gasoline, oil, turbine fuel and many of the paint thinners and solvents classified as:**
- a- Class A
  - b- Class B
  - c- Class C
  - d- Class D
14. **APU stands for:**
- a- Airframe power use
  - b- Airframe power unit
  - c- Armament power use
  - d- Auxiliary power unit
15. **The purpose of the baffle plates in the fuel tanks is to:**
- a- Prevent fuel over flow during refueling
  - b- Provide an internal tank
  - c- Minimize fuel sloshing inside the tank
  - d- Provide an expansion space for the fuel in the fuel tank
16. **The fuel grade 100-LL color is:**
- a- Red
  - b- Blue
  - c- Green
  - d- Purple
17. **The most hazard leak found in the aircraft is:**
- a- Stain leak
  - b- Running leak
  - c- Seep leak
  - d- Heavy leak
18. **The pressure of the air above the fuel that is needed to keep the vapors in the fuel system to prevent its boiling is called:**
- a- Detonation
  - b- Vapor Pressure
  - c- Volatility
  - d- Sloshing compound
19. **The larger fuel tanks of the older aircraft are generally made of either commercially:**
- a- Pure aluminum (1100) or alloy 2024
  - b- Pure aluminum (3003) or alloy 5052
  - c- Alloy (2024) or alloy (2017)
  - d- Alloy (7075) or alloy (2117)
20. **One of the following fuel filler caps is installed on aircraft that fly in all types of weather:**
- a- Locking fuel tank caps
  - b- Lightning safe fuel tank caps
  - c- No-siphoning fuel tank cap adapters
  - d- Siphoning fuel tank caps

ادوات خدمة وتجهيز الطائرات

21. Unless otherwise specified, torque values for tightening aircraft nuts and bolts relate to:
- a- Clean, dry threads
  - b- Clean, lightly oiled threads
  - c- Both dry and lightly oiled threads
  - d- Well oiled threads
22. Identify the correct statement
- a- An outside micrometer is limited to measuring diameters
  - b- Tools used on certificated aircraft must be an approved type
  - c- Dividers do not provide a reading when used as a measuring device
  - d- Micrometer calipers are used to find the center of a shaft or other cylindrical work
23. Which tool is used to find the center of a shaft or other cylindrical work?
- a- Combination set
  - b- Dial indicator
  - c- Micrometer caliper
  - d- Surface gauge
24. If the thimble of a standard micrometer caliper, graduated in thousandths of an inch, is turned one full revolution, the spindle will move:
- a- 0.010
  - b- 0.040
  - c- 1.000
  - d- 0.025
25. (Refer to the Figure) The measurement reading on the illustrated micrometer is is:



- a- 0.2851
  - b- 0.2911
  - c- 0.2901
  - d- 0.2900
26. The identifying marks on the heads of aluminum alloy rivets indicate the:
- a- Degree of dimensional and process control observed during manufacture
  - b- Head shape, shank size, material used, and specifications adhered to during manufacture
  - c- Length of the rivets
  - d- Specific alloy used in the manufacture of the rivets

- 27. The dimensions of an MS20430AD-4-8 rivet are:**
- a- 1/8 inch in diameter and 1/4 inch long
  - b- 1/8 inch in diameter and 1/2 inch long
  - c- 4/16 inch in diameter and 8/32 inch long
  - d- 1/2 inch in diameter and 8/32 inch long
- 28. Aircraft bolts are usually manufactured with a:**
- a- Class 1 fit for the threads
  - b- Class 2 fit for the threads
  - c- Class 3 fit for the threads
  - d- Class 4 fit for the threads
- 29. Which statement regarding aircraft bolts is correct?**
- a- When tightening castellated nuts on drilled bolts, if the cotter pin holes do not line up, it is permissible to overtighten the nut to permit alignment of the next slot with the cotter pin hole
  - b- In general, bolt grip lengths should equal the material thickness.
  - c- Alloy steel bolts smaller than 1/4-inch diameter should not be used in primary structure.
  - d- AN standard steel bolts are marked with two raised dashes on the bolt head
- 30. Generally speaking, bolt grip lengths should be:**
- a- Equal to the thickness of the material which is fastened together, plus approximately one diameter
  - b- Equal to the thickness of the material which is fastened together
  - c- One and one half times the thickness of the material which is fastened together
  - d- At least three times the thickness of the thinnest sheet
- 31. A bolt with a single raised dash on the head is classified as an**
- a- AN corrosion-resistant steel bolt
  - b- NAS standard aircraft bolt
  - c- NAS close tolerance bolt
  - d- AN aluminum bolt
- 32. Where is an AN clevis bolt used in an airplane?**
- a- For tension and shear load conditions.
  - b- Where external tension loads are applied
  - c- Only for shear load applications
  - d- In landing gear assemblies
- 33. A fiber-type, self-locking nut must never be used on an aircraft if the bolt is**
- a- Under shear loading
  - b- Under tension loading
  - c- Subject to rotation
  - d- To be mounted in a vertical position
- 34. Which defect in aircraft finishes may be caused by adverse humidity, drafts, or sudden changes in temperature?**
- a- Orange peel
  - b- Pinholes
  - c- Spray dust
  - d- Blushing

- 35. What is the usual cause of runs and sags in aircraft finishes?**
- a- Too much material applied in one coat.
  - b- Material is being applied too fast
  - c- Low atmospheric humidity
  - d- Material drying too fast
- 36. Which properly applied finish topcoat is the most durable and chemical resistant?**
- a- Synthetic enamel
  - b- Acrylic lacquer
  - c- Synthetic lacquer
  - d- Polyurethane
- 37. If registration numbers are to be applied to an aircraft with a letter height of 12 inches, what is the minimum space required for the registration mark N1683C?**
- Note:**
- $2/3 \times \text{height} = \text{character width.}$
- $1/6 \times \text{height} = \text{width for 1.}$
- $1/4 \times 2/3 \text{ height} = \text{spacing.}$
- $1/6 \times \text{height} = \text{stroke or line width}$
- a- 52 inches
  - b- 48 inches
  - c- 57 inches
  - d- 60 inches
- 38. Cylinders used to transport and store acetylene**
- a- Are pressure tested to 3,000 PSI
  - b- Are green in color
  - c- Contain acetone
  - d- Are purged after each use
- 39. Acetylene at a line pressure above 15 PSI is**
- a- Dangerously unstable
  - b- Stable
  - c- Used when a reducing flame is necessary
  - d- Usually necessary when welding metal over 3/8-inch thick
- 40. In selecting a torch tip size to use in welding, the size of the tip opening determines the**
- a- Temperature of the flame
  - b- Melting point of the filler metal
  - c- Type of the flame
  - d- Amount of heat applied to the work

## النظم الهيدروليكية في الطائرات

- 41. The unit of Dynamic Viscosity in SIU is:**
- a- J.s
  - b- Pa.s
  - c- kgm.s
  - d- Nm/s
- 42. The primary element of most hydraulic pressure gages is:**
- a- Burdon Tube
  - b- Bellows
  - c- Diaphragm
  - d- Manometer



- 53. The purpose of a sequence valve in a hydraulic retractable landing gear system is to:**
- a- Ensure operation of the landing gear and gear doors in the proper order
  - b- Provide a means of disconnecting the normal source of hydraulic power and connecting the emergency source of power
  - c- Prevent heavy landing gear from falling too rapidly upon extension
  - d- To direct the fluid in sequence
- 54. In brake service work, the term 'bleeding brakes' is the process of:**
- a- Withdrawing fluid from the system for the purpose of removing air that has entered the system
  - b- Withdrawing air only from the system
  - c- Replacing small amounts of fluid in reservoir
  - d- Withdrawing fluid from the system make the system bleed
- 55. The internal resistance of a fluid which tends to prevent it from flowing is called:**
- a- Acidity
  - b- Viscosity
  - c- Volatility
  - d- Density
- 56. The fusible plugs installed in some aircraft wheels will:**
- a- Indicate tire tread separation
  - b- Prevent overinflation
  - c- Melt at a specified elevated temperature
  - d- Explode when critical value of pressure achieved
- 57. Pneumatic systems utilize:**
- a- Return lines
  - b- Diluter valves
  - c- Relief valves
  - d- Pumps
- 58. The component in the hydraulic system that is used to direct the flow of fluid is the:**
- a- Selector valve
  - b- Orifice check valve
  - c- Check valve
  - d- None of the above
- 59. An antiskid system is:**
- a- A hydraulic system
  - b- An electrohydraulic system
  - c- An electrical system
  - d- A completely mechanical sys
- 60. Debooster valves are used in brake systems primarily to**
- a- Ensure rapid application and release of the brakes
  - b- Reduce brake pressure and maintain static pressure
  - c- Reduce the pressure and release the brakes rapidly
  - d- Rise pressure and release the brakes slowly and safely

النظم الكهربائية في الطائرات

- 61. Some electric motors have two sets of field windings wound in opposite directions so that the**
- a- speed of the motor can be more closely controlled
  - b- power output of the motor can be more closely controlled.
  - c- motor can be operated in either direction
  - d- power output of the motor increased

- 62. The factors that frequency of A.C. generators depends on are:**
- a- Number of turns & wire diameter
  - b- Number of poles & rotational speed
  - c- Input voltage & wire length
  - d- Current output & Input voltage
- 63. The machine that converts mechanical energy into electrical energy is :**
- a- Alternator.
  - b- DC motor.
  - c- Generator.
  - d- Transformer.
- 64. The device which changes alternating current into direct current is the:**
- a- Coil.
  - b- Rectifier.
  - c- Transistor.
  - d- CSD.
- 65. The ampere-hour rating of a storage battery delivers 45 amperes for 2 hours is:**
- a- 90.0 ampere hour.
  - b- 45.0 ampere hour.
  - c- 112.5 ampere hour.
  - d- 18 ampere / hour.
- 66. In the wire identification system the number 14 in (J 14 C-20) indicates:**
- a- System in which the wire used.
  - b- Individual wire number.
  - c- Section of wire.
  - d- Wire size AWG size.
- 67. The device that is used to measure the electrical power is :**
- a- Voltmeter
  - b- Ohmmeter
  - c- Ammeter
  - d- Wattmeter
- 68. The Device that provides ground operation to aircraft without ground support equipment is:**
- a- Aircraft APU
  - b- TRU
  - c- Ground PS
  - d- DCG
- 69. What is the principal advantage of the series wound dc motor?**
- a- High starting torque
  - b- Suitable for constant speed use
  - c- Low starting torque
  - d- High starting voltage
- 70. When adding a rheostat to a light circuit to control the light intensity, it should be connected in:**
- a- series parallel with the light switch
  - b- parallel with the light
  - c- series with the light
  - d- the same manner as the light in the circuit
- 71. Aircraft electrical junction boxes located in a fire zone are usually constructed of:**
- a- stainless steel
  - b- cadmium plated steel
  - c- asbestos
  - d- copper coated
- 72. Electric circuits are protected from overheating by means of:**
- a- fuses
  - b- thermocouples
  - c- Shunts
  - d- VPC coating



- 73. The purpose of brushless generator is to:**
- a- To give high power
  - b- To give low power
  - c- To regulate the voltage
  - d- To supply power without arcing in a high altitude
- 74. If it is necessary to use an electrical connector where it may be exposed to moisture, the mechanic should:**
- a- coat the connector with grease
  - b- use a special moisture proof type
  - c- spray the connector with varnish or zinc chromate
  - d- wear rubber shoes
- 75. The three kinds of circuit-protection devices used most commonly in aircraft circuits are:**
- a- circuit breakers, capacitors, and current limiter plug-ins mechanical reset types
  - b- circuit breakers, resistors, and current limiters
  - c- circuit breakers, fuses, and current limiters
  - d- voltage limiters, frequency regulators and fuses
- 76. If a wire is installed so that it comes in contact with some moving parts, what protection should be given the wire?**
- a- Wrap with soft wire solder into a shield
  - b- Pass through conduit
  - c- Wrap with friction tape
  - d- coat with oil layer to ease friction
- 77. CSD driven generators are usually cooled by:**
- a- oil spray
  - b- both ram air and an integral fan
  - c- an integral fan
  - d- water
- 78. The APU is located in the:**
- a- Tail cone of the aircraft
  - b- Left Wing of the aircraft
  - c- Right wing of the aircraft
  - d- Nose cone of the aircraft
- 79. How can the direction of rotation of a dc electric motor be changed?**
- a- Rotate the positive brush one commutator segment
  - b- Interchange the wires which connect the motor to the external power source
  - c- Reverse the electrical connections to either the field or armature windings
  - d- Reverse the connected plug, in the socket
- 80. How are generators rated?**
- a- Watts at rated voltage
  - b- Amperes at rated voltage
  - c- The impedance at rated voltage
  - d- Watts at rated amperes

محركات الطائرات

- 81. The operation of pilot valve in the governor of a constant speed propeller is controlled by :**
- a- Blade counterweights
  - b- Booster pump oil pressure
  - c- Engine oil pressure
  - d- Centrifugal force acting on the flyweights
- 82. What is the principal advantage of using propeller reduction gears To enable?**
- a- The propeller RPM to be increased without an accompanying increase in engine RPM.
  - b- The engine RPM to be increased with an accompanying increase in power and allow the propeller to remain at a lower, more efficient RPM
  - c- The engine RPM to be increased with an accompanying increase in propeller RPM
  - d- The propeller RPM to be the same as the engine RPM
- 83. The factors that increases the wear in a reciprocating engine are:**
- a- Operating too long between oil changes
  - b- Operating with too rich mixture
  - c- Cylinder head temperature has been in excess of that allowed by the manufacturer
  - d- All Answers are correct
- 84. One of the followings is an advantage of the V-engine over the In-line engine is:**
- a- Less noisy
  - b- Lower fuel consumption
  - c- Shorter and lighter crankshaft is to be used
  - d- Easier to be manufactured
- 85. Internal combustion engine is an example of:**
- a- External combustion engine
  - b- Gas turbine engine
  - c- Reciprocating engine
  - d- Steam compression engine
- 86. The two-stroke cycle reciprocating engine completes its cycle in:**
- a- One revolution of the crankshaft, and five events
  - b- Two revolutions of the crankshaft, and five events
  - c- One revolution of the crankshaft, and two events
  - d- Two revolutions of the crankshaft, and four events



**97. A modern turbojet engine produces its thrust from acceleration the flow of:**

- |              |              |
|--------------|--------------|
| a- Electrons | b- Hydraulic |
| c- Fuel      | d- Hot gases |

**98. A gas turbine engine that delivers power through a shaft to operate something other than a propeller is referred to as:**

- |                        |                       |
|------------------------|-----------------------|
| a- A turboshaft engine | b- A turboprop engine |
| c- A turbofan engine   | d- None of the above  |

**99. The purpose of the propeller is to Convert:**

- a- Mechanical energy into potential energy.
- b- Engine horsepower into useful work
- c- Heat energy into mechanical energy
- d- The rotary power of the engine into thrust

**100. The propeller governor is defined as:**

- a- The RPM sensing device used to control engine RPM at constant speed
- b- The device used to control vibration
- c- The device used to control forces on propeller
- d- The RPM indicator

انتهت الأسئلة