higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

AIRCRAFT MAINTENANCE THEORY N1

15 April 2021

This marking guideline consists of 7 pages.

QUESTION 1

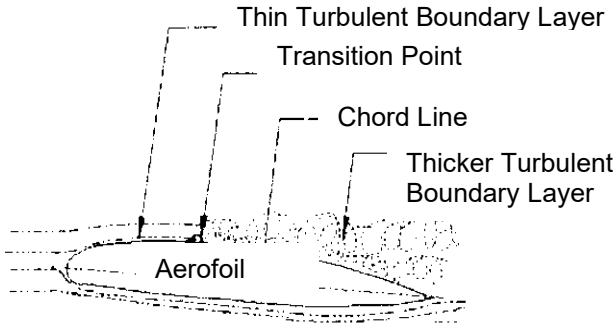
1.1 False
1.2 True
1.3 False
1.4 True
1.5 True
1.6 False
1.7 False
1.8 False
1.9 True
1.10 False
1.11 True
1.12 True
1.13 False
1.14 True
1.15 True

(15 × 1) **[15]**

QUESTION 2

Lift

- During flight the airspeed over the top surface of an aerofoil is greater than the airspeed under the surface of an aerofoil.
- This is due to the curved shape of the upper chamber of the aerofoil.
- Because of this a low pressure is caused over the top and a relatively higher pressure under the wing.
- The difference in pressure causes a vertical force called lift.
- The lift force is responsible for lifting the aircraft from the ground (5)



(5)
[10]

QUESTION 3

- Reservoir
- Stand pipe
- Supply line
- Engine driven pump
- Filter
- Pressure regulator
- Accumulator
- Pressure gauge
- Non-return valve
- Hand pump
- Rotary selector valve
- Relief valve
- Actuator **[10]**

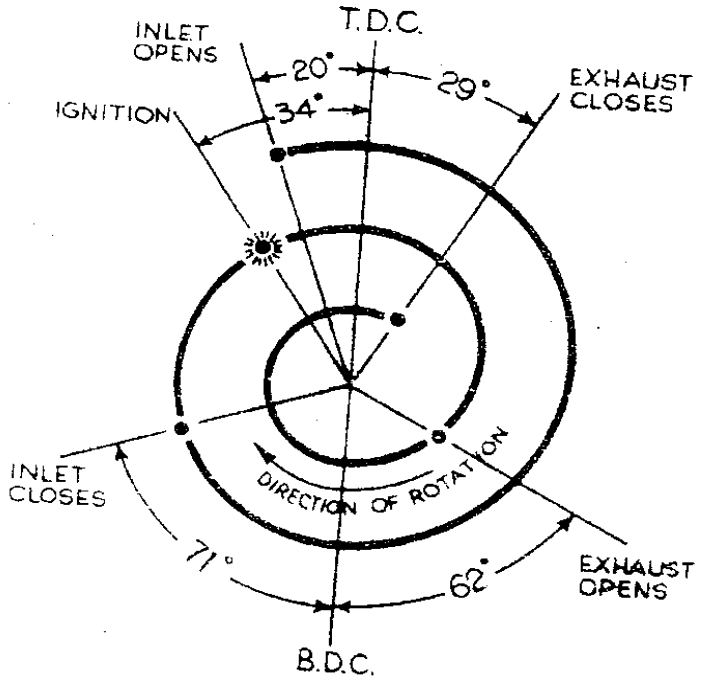
QUESTION 4

- Main rotor head
- Main rotor drive shaft
- Swash plate
- Main rotor gearbox
- Main rotor blade
- Engine
- Tail rotor drive shaft
- Tail rotor head
- Tail rotor gear box
- Tail rotor blade
- Fuselage **[10]**

QUESTION 5

5.1
- Cylinder
- Valves
- Piston
- Connecting rod
- Crank shaft (5)

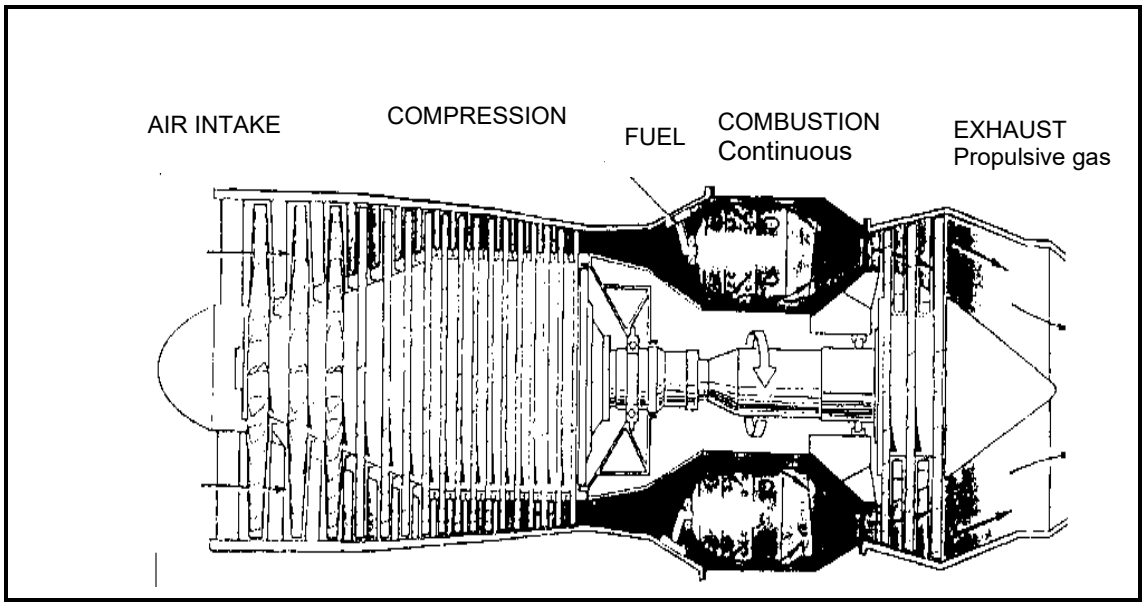
5.2



IGNITION AND VALVE-TIMING DIAGRAM (15)
[20]

QUESTION 6

6.1 Single-spool, axial flow, gas turbine engine



(15)

6.2 Primary purpose – mounting of starter motor, fuel/oil pumps
Secondary purpose – oil reservoir, housing of drive gears (2)

6.3
- Stators
- Rotors (2)

6.4
- Annular type
- Can type
- Annular can type (Any 1 × 1) (1)

[20]

QUESTION 7

7.1
- Tanks
- Fuel cap
- Fuel drain
- Lines
- Valves
- Pumps
- Filtering units
- Gauges
- Warning system
- Primer (10)

7.2 7.2.1 Log book – Record in which all data concerning an aircraft is recorded.

7.2.2 Maintenance manual –Instructions provided by manufacturer for maintaining all systems and components in an aircraft.

7.2.3 Structural repair manual – Information on how to repair primary and secondary structures.

7.2.4 Parts catalogue – Component breakdown into smallest parts of structures and equipment in disassembly sequence.

7.2.5 Overhaul manual – Step by step instructions of how components, should be repaired away from the aircraft.

(5)

[15]

TOTAL: 100