



STATION 1

Figure 1 shows the breakdown parts of an aircraft oleo leg/strut. Sketch in good proportion the cross-section of the assembled component and label the major parts. (10 marks)

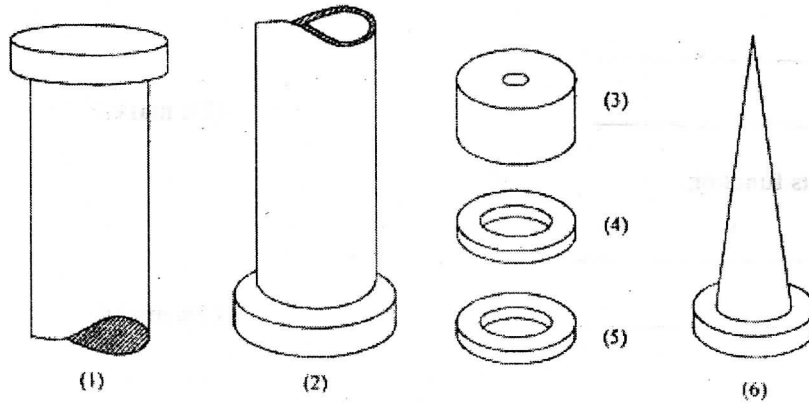


Figure 1

STATION 2

Using the tools, equipment and materials provided, make the drill drift as shown in figure 2. (10 marks)

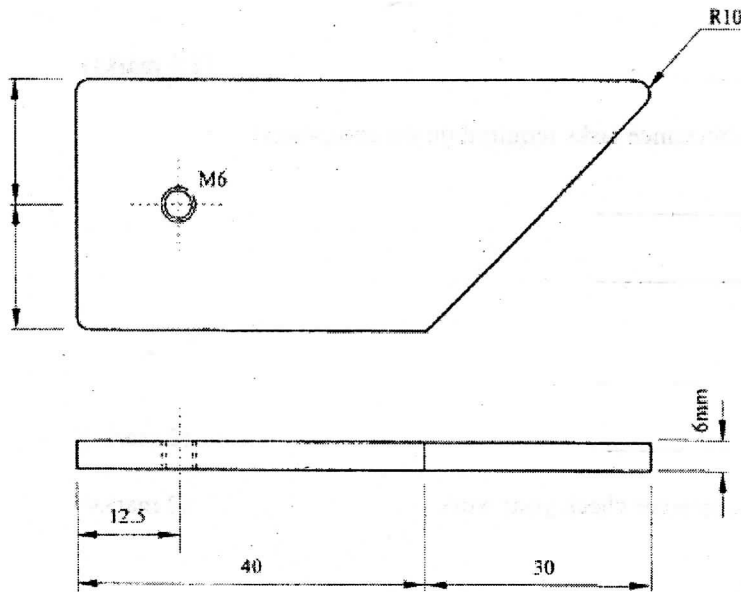


Figure 2

STATION 3

(a) Using the tools provided, dismantle the component placed on the bench. (1½ marks)

(b) Identify the parts painted:

(i) white: _____

(ii) red: _____

(iii) blue: _____

(1½ marks)

(c) Name the component and state its function.

Name: _____

Function: _____

(1½ marks)

(d) State the function of the :

(i) Spring

(ii) Lever labelled A

(iii) Lever labelled B

(1½ marks)

(e) State two common faults and two maintenance tasks required on the component.

Faults _____

Maintenance tasks _____

(2 marks)

(f) Assemble the component and let the examiner check your work.

(2 marks)

STATION 4

Study the set up provided and carry out the following tasks:

- (a) (i) Take and record the reading of the water level in pipes labelled A, B, C, D and E.

A _____
B _____
C _____
D _____
E _____

- (ii) State the reason behind your observations in a(i).

- (b) Operate the blower, take and record the reading of the water level in each pipe at: (3 marks)

- (i) low speed; (ii) high Speed

A _____
B _____
C _____
D _____
E _____

A _____
B _____
C _____
D _____
E _____

- (c) State two reasons behind your observations. (5 marks)

(i) _____

(ii) _____

- (d) State the principle behind your observation. (1 mark)

- (e) Relate the experiment to two aircraft systems. (½ mark)

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STATION 5

(a) (i) Spin the container marked **F** and state what happens to the water inside as the speed:

• increases

• decreases

(1 mark)

(ii) State the reason behind your observations in a (i).

(1 mark)

(iii) Relate the observations in a(i) to an aircraft in flight.

(2 marks)

(b) Study the set up marked **G** and perform the following tasks:

(i) Displace the weight from the centre to stopper and release it. Record the time it oscillates from start to rest with the weights at position **H** and **J**.

H _____ **J** _____ (2 marks)

(ii) State the reasons behind your observations in b(i).

(1 mark)

(iii) Relate your observations in b(i) to an aircraft in flight.

(1 mark)

(iv) State the effect of the observation in b(i) to an aircraft in a turn.

(2 marks)

STATION 6

(a) Determine and record the value of the resistors marked P, Q and R.

P _____

Q _____

R _____

(1½ marks)

(b) Connect the components provided as shown in the circuit diagram in figure 3. Let the examiner check your work.

(3½ marks)

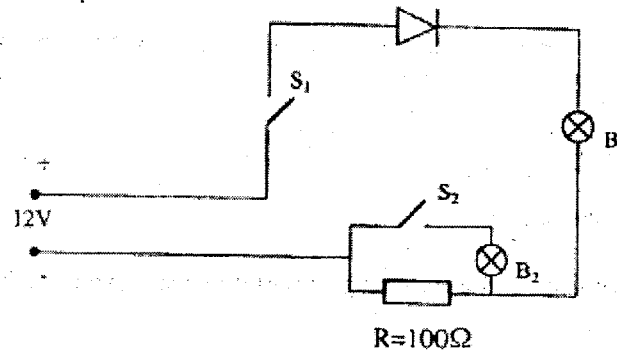


Figure 3

- (i) Select switch S_1 to ON position and state what happens. (1 mark)
- (ii) Select switch S_2 to ON position and state what happens. (1 mark)
- (iii) Change the direction of component D and state what happens. (1 mark)
- (iv) State the reason behind your observations. (½ mark)
- (v) Identify the component labelled D. (½ mark)
- (vi) State two applications of the circuit in an aircraft. (1 mark)

STATION 7

(a) State the message conveyed by the posters marked **K, L, M** and **N**.

K
L
M
N

(2 marks)

(b) State the meaning of the aerodrome markings labelled **P** and **Q**.

P
Q

(1 mark)

(c) Demonstrate to the examiner the marshalling signal to indicate each of the following:

- (i) remove the chock
- (ii) shutdown no. 1 engine
- (iii) everything is okay
- (iv) insert the ground locking pins.

(2 marks)

(d) Identify and state the use of each of the following aircraft document extracts labelled **R, S, T** and **U**.

R _____
S _____
T _____
U _____

(4 marks)

(e) State the use of each of the materials marked **V** and **W**.

V _____
W _____

(1 mark)

- (ii) the inside diameter of the part labelled **Y**
- (iii) outside diameter for the part labelled **Y**
- (iv) depth of the part labelled **Z**
- (v) the groove painted black
- (vi) the radius of the area painted white

(6 marks)

(b) Name and state the use of the tools labelled A, B and C.

A _____

B _____

C _____

(3 marks)

(c) State the accuracy of the tool labelled A.

(1 mark)

STATION 9

(a) Study and record the readings on the instrument labelled A.

(1 mark)

(b) Identify the principle of operation of instruments labelled B, C and D and state the system where each is used.

Principle

System

B _____

C _____

D _____

(3 marks)

(c) Identify the instrument labelled E and F and state the instrument group for each.

Instrument

Group

E _____

F _____

(2 marks)

(d) Identify four system faults indicated by instruments labelled G and H.

G _____

H _____

(2 marks)

(e) State two common errors for instrument labelled J.

(2 marks)

STATION 10

(a) Identify each of the items numbered 1, 2, 3 and 4 and state one use of each.

| ITEM | USE |
|------|-------|
| 1 | _____ |
| 2 | _____ |
| 3 | _____ |
| 4 | _____ |

(4 marks)

(b) Using the tools and equipment provided, perform the following tasks on the aircraft control cable setup:

- (i) Measure and record the diameter of the cable.
- (ii) Determine and record the size of the riser.
- (iii) Determine and record the tension on the cable.
- (iv) Inspect and record the condition of the cable.
- (v) State one practical application of this system on an aircraft.

(6 marks)