

Module 5 - Technology**SECTION A**

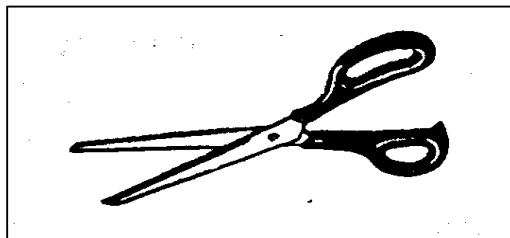
Answer all questions.

*Every question is followed by four answer **A, B, C** and **D**. Choose the correct answer. Then, blacken your answer on the answer sheet provided. The suggested time for this section is 45 minutes. If you are unable to answer a question, proceed to the next question.*

- 1 What is the meaning of complex machines?
 - A Machine that is difficult to use.
 - B Machine that is very expensive.
 - C Machine that has combination of more than one simple machine.
 - D Machine that has lots of usage.

- 2 The following are example of simple machine **except**
 - A bottle opener
 - B pen
 - C broom
 - D ice thongs

- 3 Diagram below shows a complex machine.

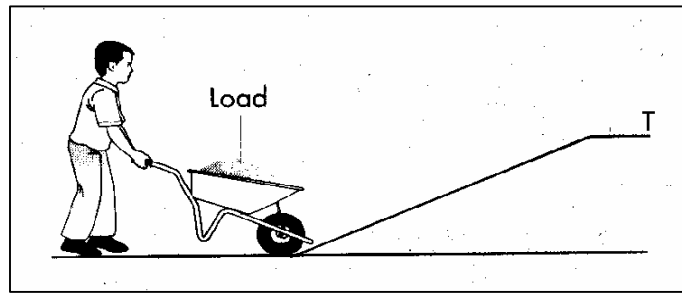


Which of the following is the correct combination of simple machine in the complex machine above?

- A Lever and wedge
 - B Lever and screw
 - C Inclined plane and wedge
 - D Gear and pulley

- 4 The following are examples of second class levers **except**
 - A bottle opener
 - B paper cutter
 - C wheelbarrow
 - D broom

- 5 Zul transfers the load to position T by using a wheel barrow, as shown.



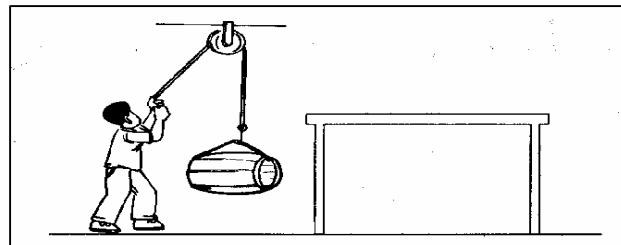
The simple machine that is being used based on

- A wheel and axle
 - B levers and inclined plane
 - C wheel and axle, gear and inclined plane
 - D wheel and axle, levers and inclined plane
- 6 Figure below shows an axe being used to split wood.



The axe is being used as

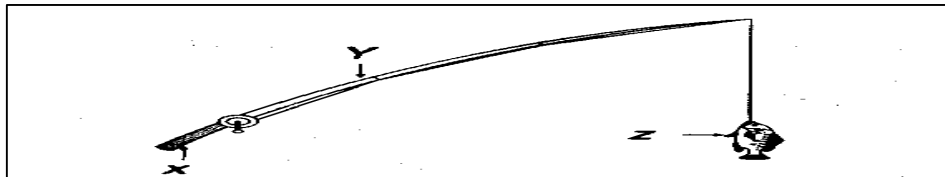
- A a lever
 - B a screw
 - C a wedge
 - D an inclined plane
- 7 Figure below shows a man lifting an object onto a platform.



What simple machine is he using to help him lift the object?

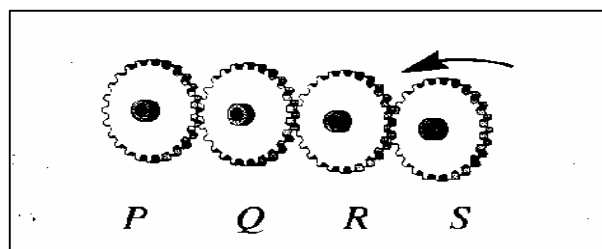
- A A gear
- B A pulley
- C A wedge
- D A screw

- 8 Which of the following statements best describes a complex machine?
- A It is made up of several simple machines.
 B It can do many things at the same time.
 C It is made up of two or more levers.
 D It consists of many moving parts.
- 9 Which of the following tools make use of the principle of the inclined plane?
- I A ramp
 II A ladder
 III A staircase
- A I and II only
 B I and III only
 C II and III only
 D I, II and III
- 10 Based on figure below, identify the parts which are labelled X, Y and Z.



	X	Y	Z
A	fulcrum	effort	load
B	load	fulcrum	Effort
C	effort	fulcrum	Load
D	load	effort	fulcrum

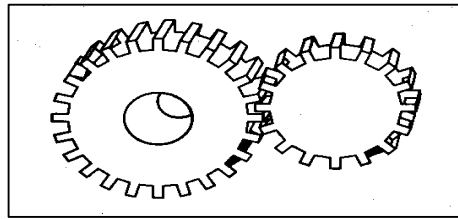
- 11 Figure below shows a gear system.



If gear S rotates in the direction of west, the direction for gear P, Q and R are

	P	Q	R
A	West	West	West
B	East	East	East
C	West	East	West
D	East	West	East

12 Figure below show one simple machine



Which of the following items contain the simple machine shown it?

- I Bicycle
- II Clock
- III Jack screw
- IV Pushcart

- A I and II only
- B II and III only
- C I, III and IV only
- D II and IV only

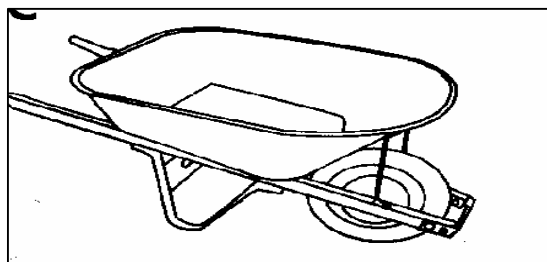
13 Which of the following is **not** the advantage of machines?

- A Help to travel.
- B Help to know the time.
- C Help to move heavy things.
- D Help to increase air pollution.

14 Which of the complex machine and its simple machine components is **not** matched correctly?

	Complex machine	Component
A	Wheelbarrow	Wheel and axle, lever
B	Bicycle	Wheel and axle, gears
C	Egg beater	Wedge, gear
D	Scissors	Lever, wedge

15 Figure below shows a wheelbarrow.



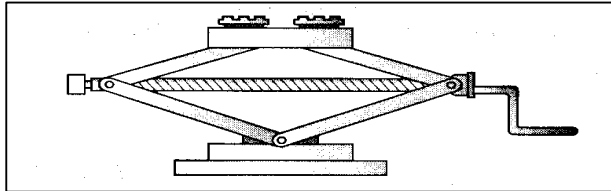
What is the usage of the wheelbarrow?

- A Fixes two objects together
- B Reduces frictional force
- C Cuts or separates
- D Carries or moves heavy object

16 Which of the following activity uses the principle of wheel and axle?

- A Using a claw hammer
- B Climbing up the stairs
- C Taking water from a well
- D Raising or lowering a flag

17 Figure below shows a tool which is used to lift up a car.



What is the simple machine found in the tool?

- A Pulley
- B Wedge
- C Screw
- D Wheel and axle

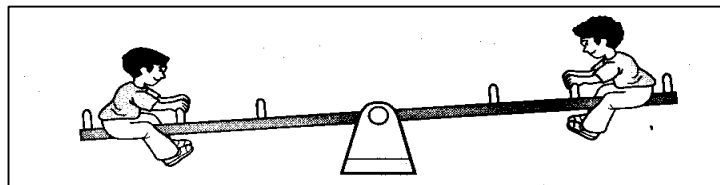
18 What are the similar simple machines that can an egg and wrist watch use?

- A Lever, wheel and axle
- B Gears, wheel and axle
- C Wedge, wheel and axle
- D Lever, wedge and pulley

19 Which of the following object does **not** use simple machine?

- A Knife
- B Vase
- C Pliers
- D Egg beater

20 Figure below shows a see-saw.



What is the simple machine found in the see-saw?

- A Gear
- B Lever
- C Wedge
- D Wheel and axle

21 What is the simple machine which is used to open the bottle of drink?

- A Wedge
- B Gear
- C Lever
- D Pulley

22 What must we do to lift easily a heavy load by using a lever?

- I Increase the distance of effort from the fulcrum
- II Increase the distance of load from the fulcrum
- III Decrease the distance of load from the fulcrum
- IV Decrease the distance of effort from the fulcrum

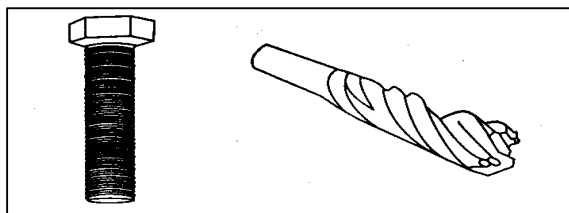
- A I and II only
- B I and III only
- C II and III only
- D III and IV only

23 Which of the following describe the benefit of having a bicycle?

- I Enable us to travel across the lake
- II Able to travel faster
- III Can carry lots of passengers at a time
- IV Can carry light goods

- A I and II only
- B II and III only
- C II and IV only
- D III and IV only

24 Figure below shows a screw and a drill bit.



Which of the following simple machines make use both the tools above?

- I Inclined plane
- II Pulley
- III Wedge
- IV Wheel and axle

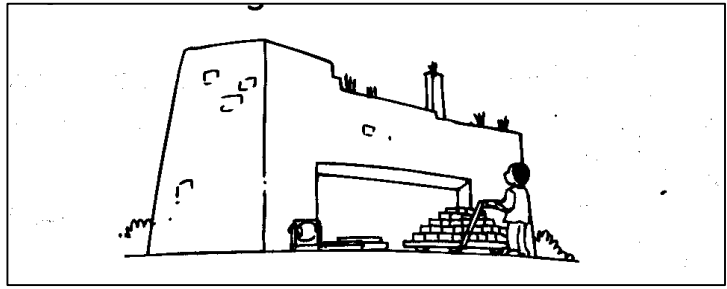
- A I and II only
- B I and III only
- C II and III only
- D III and IV only

25 Which of the following activities requires both the simple machine below?

- * Wedge
- * Lever

- A Cutting paper with scissors
- B Lifting heavy objects
- C Moving away heavy rocks
- D Slicing an onion

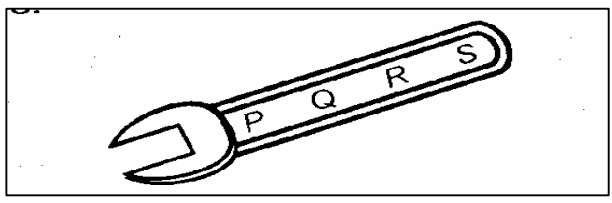
26 Figure below shows a construction worker trying to lift the brick to the top of the building.



How can he do it easily?

- A Using a ladder
- B Using a ramp
- C Using a pulley
- D Using a dear

27 Figure below shows a spanner used to loosen screws.



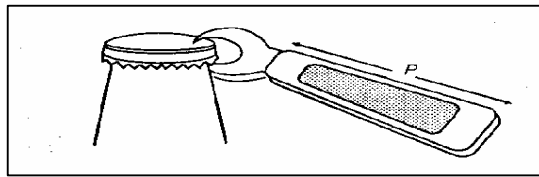
Which of the position above requires the biggest force to loosen a screw?

- A P
- B Q
- C R
- D S

28 Which of the following simple machines comprises a V-shaped metal piece with a sharp edge?

- A Wheel and axle
- B Lever
- C Gear
- D wedge

29 Figure below shows a simple machine.



What type of simple machine is shown above?

- A Wheel and axle
- B Lever
- C Screw
- D Pulley

30 Why are complex machines capable of performing a more complex task?

- A Because they consist of several simple machines working together
- B Because they are more expensive
- C Because they are harder to make
- D Because they can work more quickly

SECTION B

The time suggested for this section is 30 minutes. If you are unable to answer a question, proceed to the next question. Answer all questions.

1 The Figure 1 shows a set of gear (bevel gears) used in an investigation.

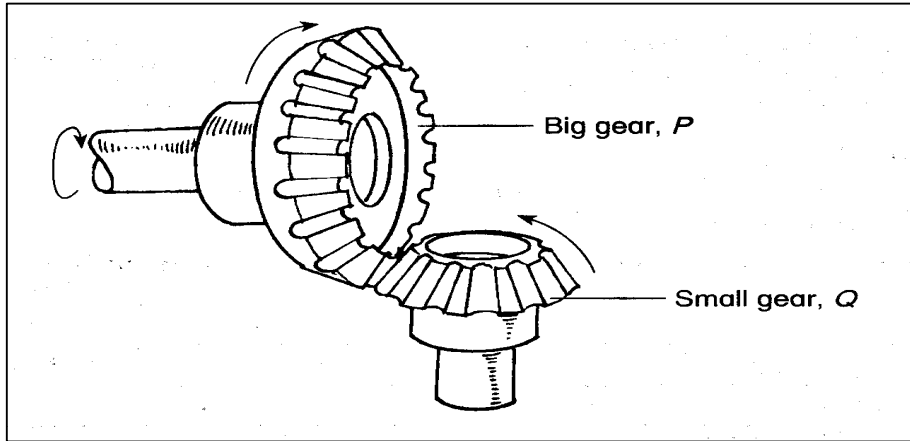


Figure 1

The big gear, P is turned once and the number of turns of the small gear, Q is counted. The investigation is repeated using different big gear each having a different number of teeth. The results are shown in the table below.

Number of teeth in gear P	Number of turns of gear P	Number of turn of gear Q
24	1	2
36	1	3
72	1	4

a) What is the aim of the investigation?

_____ (1 mark)

b) From the result obtained, describe how the number of turn of the small gear, Q changes.

_____ (1 mark)

c) In the investigation, state

i) what is being changed : _____

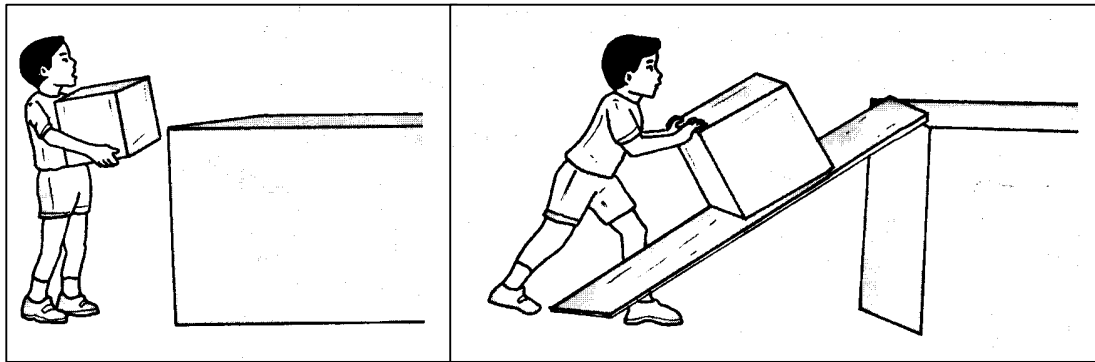
ii) what is being measured : _____

(2 marks)

d) What can you conclude from the result of the experiment?

_____ (1 mark)

2 Yusof is carrying out an investigation.



Situation 1

Situation 2

The result of the investigation:

1. Ali finds it hard to lift the load to a higher place.
2. Ali finds it easier to move the load to a higher place by pushing it on an inclined plane

a) Give an explanation for your observation.

i) Situation 1 : _____

ii) Situation 2: _____

(2 marks)

b) State,

i. what is changed: _____

ii. what is observed: _____

(2 marks)

c) Yusof found out that it is easier to move a load when the inclined plane has a gentle slope. Predict how does effort change when the slope becomes gentle?

(1 mark)

3 Figure 3 shows two types of pulley.

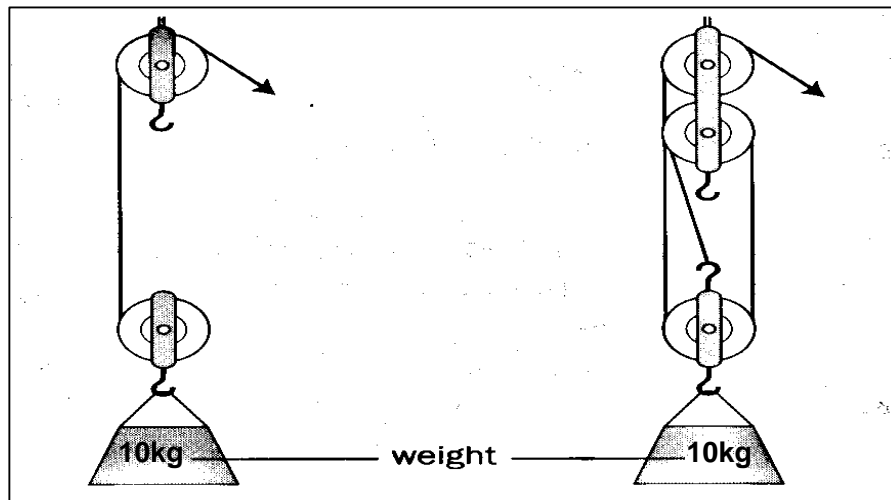


Figure 3

a) State one observation in figure 3.

(1 mark)

b) If four pulley are used, predict the changes of effort which we need to lift the weight.

(1 mark)

c) Based on the investigation, state the following:

i. what is kept the same : _____

ii. what is being measured: _____

(2 marks)

d) Write your conclusion on this simple machine.

(1 mark)

4 Figure 4 shows one of the ways to lift a heavy box.

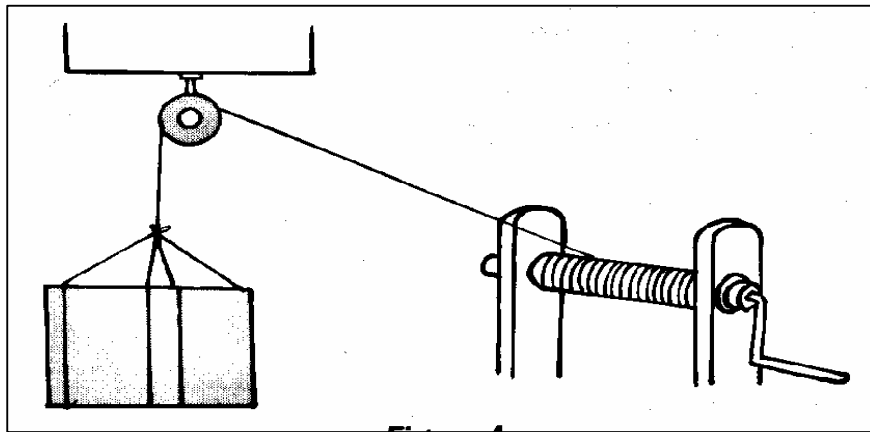


Figure 4

a) State two principles of simple machines that are used in figure 4.

- i. _____
 - ii. _____
- (2 marks)

b) Give two effects that are done by the simple machines towards the force applied as shown in figure 4.

- i. _____
 - ii. _____
- (2 marks)

c) Write one conclusion that can be made from the observation in figure 4.

(1 mark)

END OF QUESTIONS PAPER