



Junior Certificate Examination, 2011

Technology

Higher Level

Wednesday, 22 June
Afternoon, 2:00 - 4:00

Section A

Instructions:

1. Answer **Section A** (short answer questions). 100 marks
2. Answer either **(a) or (b)** from each question in **Section B**. 50 marks
3. Answer **one** question from **Section C**. 50 marks
4. Hand up this paper at the end of the examination along with answer sheets for **Section B and Section C**.

Centre Number

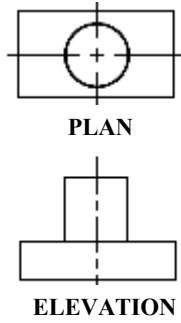
Examination Number

For Examiner	
Question	Mark
Section A	
Section B Q1 (a)	
(b)	
Q2 (a)	
(b)	
Section C Q3	
Q4	
Q5	
Q6	
Total	
Grade	

Write your examination number in the box provided on this page.

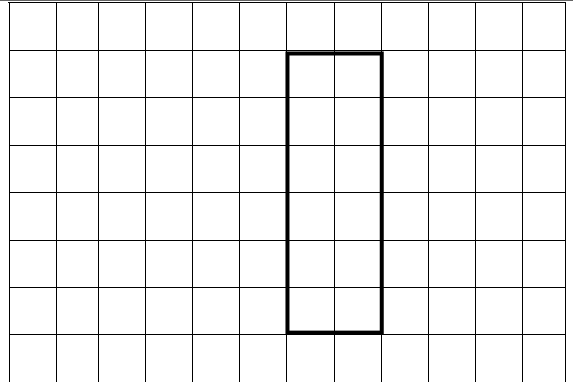
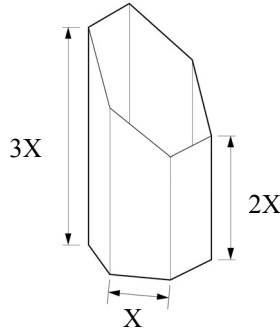
Section A Answer 25 questions from this section - all questions carry equal marks. **100 marks**

1. Name the type of drawing projection shown.



Projection: _____

2. Complete the development of the hexagonal container shown.



3. State **two** reasons why floppy disks are no longer in widespread use for data storage.



(i): _____

 (ii): _____

4. State **two** ways in which data on a computer can be protected from unauthorised access.



(i): _____

 (ii): _____

5. State the meaning of **each** of the safety signs shown.



(i)

(ii)

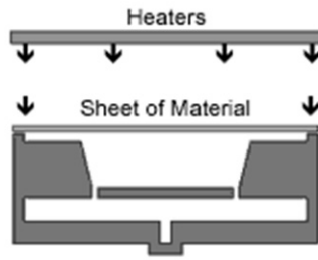
(i): _____

 (ii): _____

6. Name the plastic shaping process shown

and

explain why only a thin sheet of plastic can be used in the process.



Process: _____

Reason: _____

7. In relation to plastics, explain the term **thermoplastic**.

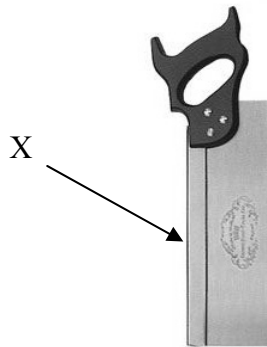


Thermoplastic: _____

8. Name the type of saw shown

and

explain the purpose of part X on the saw.



Saw: _____

X: _____

9. Name the tool shown

and

name a material which could be cut by the tool.



Name: _____

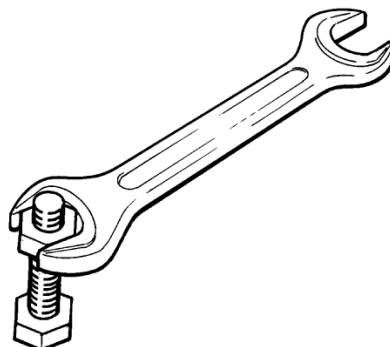
Material: _____

10. Indicate clearly on the sketch the location of:

(i) the fulcrum

and

(ii) the effort.



11. Name the electronic component shown

and

state the function of the component in a circuit.

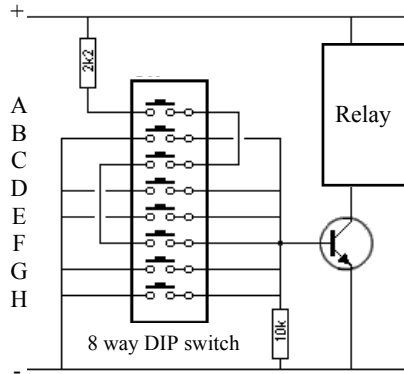


Name: _____

Function: _____

12. The relay, in the circuit shown, will only operate when a certain set of switches are closed.

Indicate if the switches listed should be 'open' or 'closed' to activate the relay.



SWITCH	OPEN	CLOSED
A		
C		
E		
G		

13. State the units used to measure:

(i) Current

and

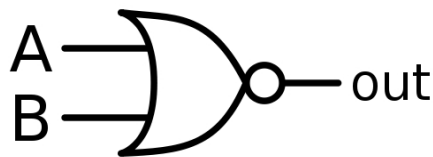
(ii) Potential Difference.



Current: _____

Potential Difference: _____

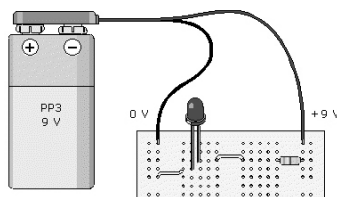
14. Complete the truth table for the logic gate shown.



Truth Table

A	B	out
1	1	
0	1	

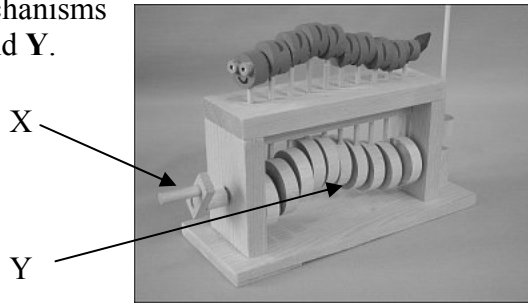
15. Assuming all components are in working order, give **two** reasons why the LED in the circuit shown might not light.



(i): _____

(ii): _____

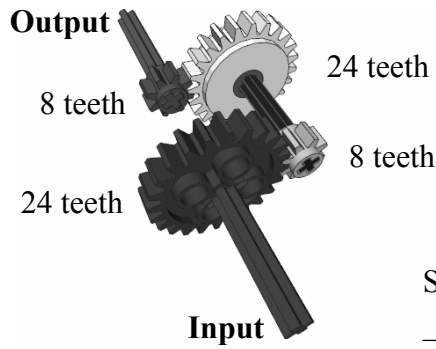
16. Name the mechanisms shown at **X** and **Y**.



X: _____

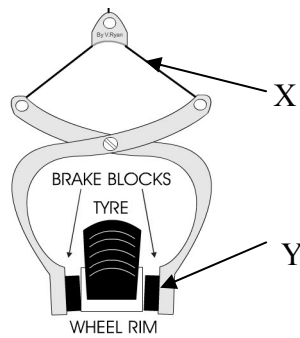
 Y: _____

17. If the input shaft is turning at 180 RPM, calculate the speed of the output shaft.



Speed: _____

18. Name the forces acting at **X** and at **Y** on the bell-crank mechanism shown.



X: _____

 Y: _____

19. State **two** advantages of the pulley and belt system shown over a chain and sprocket system.



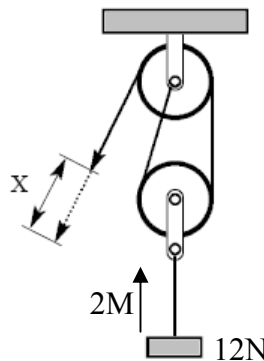
(i): _____

 (ii): _____

20. How much effort is required to lift the 12 N load shown?

and

how many metres of rope **X** will have to be pulled to lift the load 2 metres?



Effort: _____

 Metres: _____

21. Name **two** safety features found in modern cars.



(i): _____

(ii): _____

22. State **two** energy conversions taking place when an electric motor is running.



(i): _____

(ii): _____

23. State **two** safety precautions which should be observed when using a jig saw.



(i): _____

(ii): _____

24. Name the technology which allows 'SatNav' devices to determine a location.



Technology: _____

25. State **two** ways in which technology has changed the music industry in recent years.



(i): _____

(ii): _____

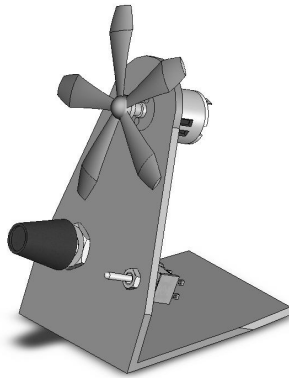
26. State **two** reasons why it is important to invest in renewable energy.



(i): _____

(ii): _____

27. State **two** reasons why a completed task project (such as the desk fan shown) should be evaluated.



(i): _____

(ii): _____

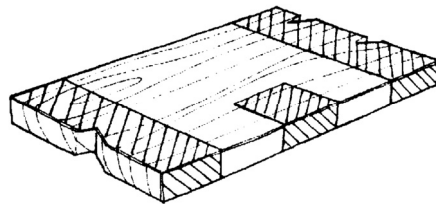
28. In relation to manufactured boards, explain the terms **MDF** and **Veneer**.



MDF: _____

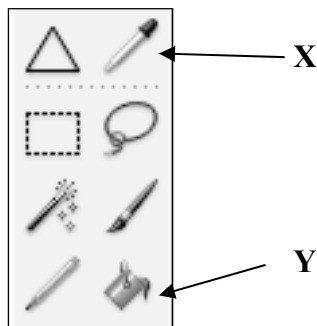
Veneer: _____

29. Explain the meaning of the hatched lines in the sketch shown.



Meaning: _____

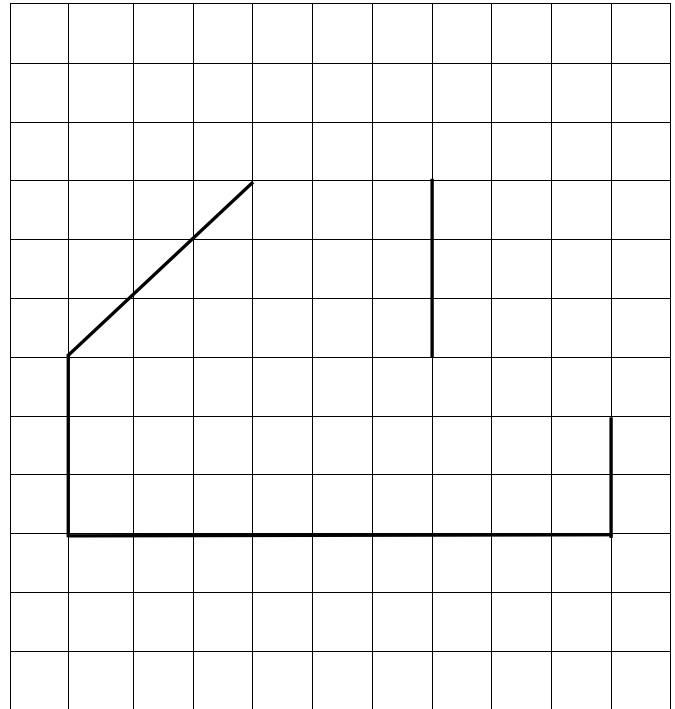
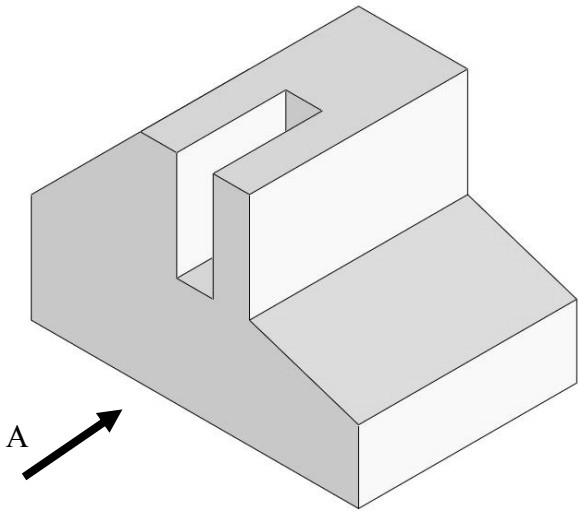
30. Explain the function of the symbols **X** and **Y** shown, found in a graphics application menu.



X: _____

Y: _____

31. Complete the elevation of the object shown when viewed in the direction of arrow A.



32. Locate the second vanishing point VP2 and complete the perspective of Box 2.

