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EXAMINATIONS COUNCIL OF ZAMBIA

GRADE SEVEN COMPOSITE EXAMINATION – 2017

Integrated Science

SUBJECT 4/1 60 MINUTES

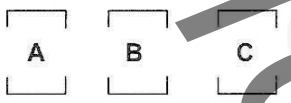
TD/INT3/G7/2017

1 Read these instructions carefully.

2 **Do not** turn this page before you are told. Your teacher will tell you when to turn this page to begin the questions.

3 There are **50** questions in this **Integrated Science Paper.** You will be given **exactly 60 minutes** to do the questions.

4 For each question, four answers are given, but only one of the four is right. Work out which is the **best** answer. Then, on your **answer sheet**, mark the box completely by shading the answer space of the letter of your choice. If you had chosen answer D for a question, you would show it like this:-



5 You must **shade** your answer spaces **completely** and **darkly** using an HB pencil. If you have to change your answer, you must rub out the shading **very neatly** before shading the new one. **use a clean rubber.**

6 When you have finished one page, go straight on without waiting to be told. If you have time left at the end of the question paper, use it to check your work carefully.

7 Look at your **ANSWER SHEET.** On the top left hand side are boxes which should have Examination Year, your School Number and Examination Number. It should also say **Subject 4, Paper 1.**

8 Look at your **ANSWER SHEET** again. At the bottom left hand side, it should have your Surname, Forename, Subject **Integrated Science**, Name of Primary School, and your Secondary School of Choice.

9 **Put up your hand now if:** You have any question.
You have the wrong answer sheet.

You will **not** be able to ask questions once the examination has begun.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD.
USE ONLY AN HB PENCIL FOR YOUR ANSWERS.

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This question paper consists of 15 printed pages.

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1 Which of the following is a way in which HIV/AIDS is transmitted?

A Eating food from the same plate with an infected person.

B Sharing a razor blade with an infected person.

C Sharing a bed with an infected person.

D Hugging an infected person.

2 Which of the following is **not** a planet?

A Sun

B Venus

C Mars

D Mercury

3 Study the list of metals below.

– Zinc

– Copper

– Steel

– Iron

Which metal is the best conductor of electricity?

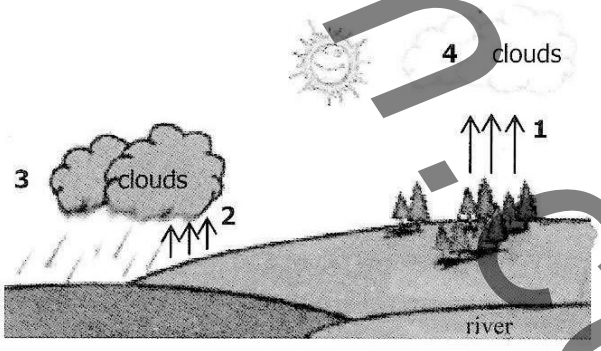
A Steel

B Copper

C Iron

D Zinc

4 The diagram below shows the water cycle in nature.



What process is taking place at **2**?

A Evaporation

B Condensation

C Precipitation

D Transpiration

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5 The table below shows the results obtained by learners during an experiment on drainage rates for four samples of soil.

Samples	Time for water to drain
1	30 minutes
2	20 minutes
3	10 minutes
4	5 minutes

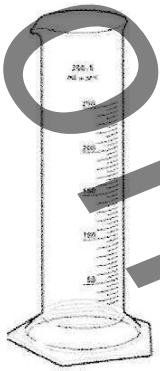
In which soil did the water drain fastest?

A 1
B 2
C 3
D 4

6 A person who smokes too much tobacco is likely to suffer from …

A Liver disease.
B Lung cancer.
C Kidney failure.
D Heart attack.

7 Study the apparatus shown below.



The apparatus is used to measure …

A mass.
B length.
C weight.
D volume.

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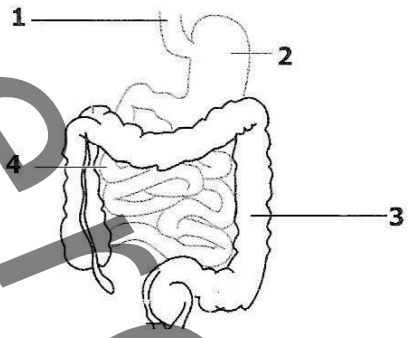
8 Study the diagram of the digestive system below.



In which **two** parts of the digestive system are food and water absorbed?

A 1 and 2
B 3 and 4
C 1 and 3
D 2 and 4

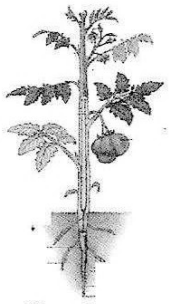
9 Which of the following living things has a head, body and eight legs only?

A Insect
B Worm
C Spider
D Virus

10 To which groups of animals do a tortoise and duck belong?

	Tortoise	**Duck**
A	Reptile	Bird
B	Bird	Reptile
C	Fish	Amphibian
D	Amphibian	Fish

11 A chart was displayed at the gate of a clinic to encourage the community to eat such vegetables as shown below.


Tomato

Spinach

Cabbage

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Which of the following is the importance of having the above vegetables in a diet?

A Protect the body against diseases.

B Provides energy to the body.

C Provides proteins to the body.

D Protects the body from parasites.

12 Which of the following lists describes health risks associated with early sexual debut?

A Cervical cancer, Gonorrhea, Syphilis and TB.

B Syphilis, teenage pregnancy, TB and HIV.

C HIV, teenage pregnancy, Syphilis and cervical Cancer.

D Teenage pregnancy, Gonorrhea, Cervical Cancer and TB.

13 A family eats the following meals each day.

Breakfast: – Bread, butter and black tea

Lunch: – Rice with sugar

Super: – Nshima with vegetables

What deficiency disease are the children in the family likely to suffer from?

A Marasmus

B Goiter

C Kwashiorkor

D Scurvy

14 Which of the following is an advantage of using chemical fertiliser?

A It is cheaper.

B It pollutes underground water.

C It releases nutrients into the soil quicker.

D It kills useful organisms in the soil.

15 A farmer kept all his animals in a small paddock. What challenges is the farmer likely to have?

A Difficult to protect them.

B Out break of disease.

C They failed to have young ones.

D They do not interact well.

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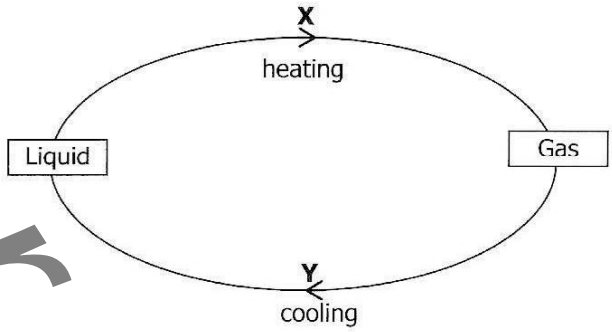
16 Study the diagram below carefully.



What are the processes **X** and **Y**?

	X	**Y**
A	Condensation	Evaporation
B	Evaporation	Condensation
C	Precipitation	Transpiration
D	Transpiration	Precipitation

17 A certain hospital recorded many cases of blindness from one area. The males in that area were advised to eat more food rich in …

A Vitamin A.

B Vitamin B.

C Vitamin C.

D Vitamin D.

18 To raise one side of a motorcar when changing a punctured tyre, the driver uses a …

A wheel and axle.

B screw-jack.

C roller.

D pliers.

19 A tsetse fly normally attacks …

A pigs.

B chickens.

C goats.

D cattle.

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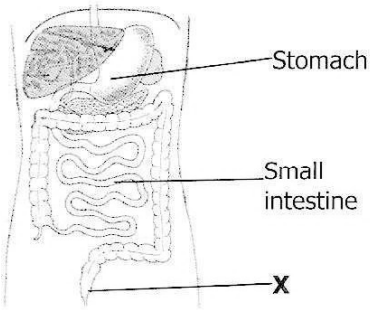
20 Study the diagram of the digestive system below.



What happens at **X**?

A Food is digested.

B Nutrients are absorbed.

C Water is absorbed.

D Undigested food is stored before elimination.

21 A cow produces 15 litres of milk per day. After it was attacked by parasites, the milk production came to 11 litres a day. The effect of this parasite reduced the milk yield by …

A 3 litres.

B 4 litres.

C 11 litres.

D 26 litres.

22 A learner in a certain school appeared restless most of the time and often picked up fights. The most likely cause of this behaviour is …

A tiredness.

B drug abuse.

C foolishness.

D hatred.

23 Some learners tested some leaves with patches of green and white colour for starch. Only the green patches in all the leaves turned blue/black when iodine solution was added. This showed that for starch to be formed, there is need for …

A light.

B carbon dioxide.

C water.

D chlorophyll.

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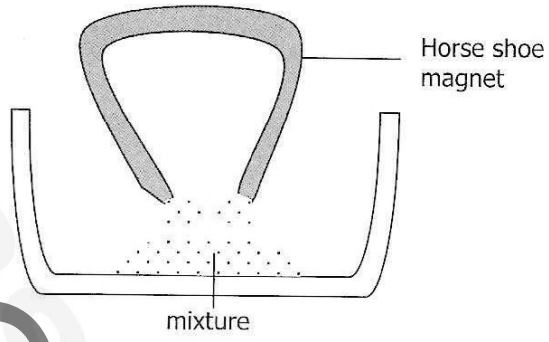
24 The experiment below demonstrates a separation of a mixture using a magnet.



Which of the following mixtures was being separated?

A Coarse and fine sand
B Heavy solids and water
C Iron fillings and sand
D Salt and water

25 Which of the following pairs consists of a metal and a non-metal?

A Aluminium and Copper
B Zinc and carbon
C Hydrogen and oxygen
D Nitrogen and carbon dioxide

26 Which one of the following statements describes the process of photosynthesis?

A Starch + oxygen $\xrightarrow[\text{chlorophyl l}]{\text{light}}$ carbon dioxide + water

B Carbon dioxide + water $\xrightarrow[\text{chlorophyl l}]{\text{light}}$ starch +oxygen

C Starch + water $\xrightarrow[\text{chlorophyl l}]{\text{light}}$ carbon dioxide + oxygen

D Carbon dioxide + oxygen $\xrightarrow[\text{chlorophyl l}]{\text{light}}$ starch + water

27 What is the percentage of nitrogen and oxygen in the air?

	Nitrogen	**Oxygen**
A	1%	0.03%
B	0.03%	1%
C	21%	78%
D	78%	21%

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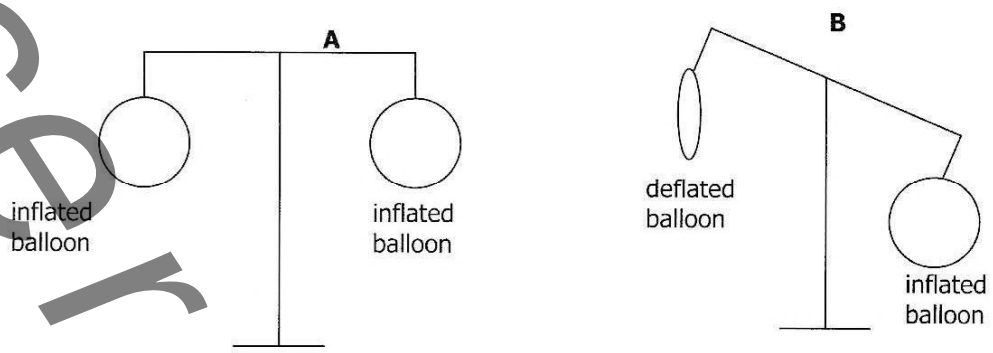
28 Study the diagram below.



Before the balloon was deflated

After the balloon was deflated

The diagram above shows that air …

A is invisible.
B occupies space.
C exerts pressure.
D has weight.

29 The following are signs and symptoms of a disease:

1 Headache
2 High temperature
3 Vomiting
4 Painful joints

Which disease has the signs and symptoms above?

A Malaria
B Cholera
C Typhoid
D Measles

30 Which of the following is an agent of pollination?

A Petals
B Wind
C Gas
D Stigma

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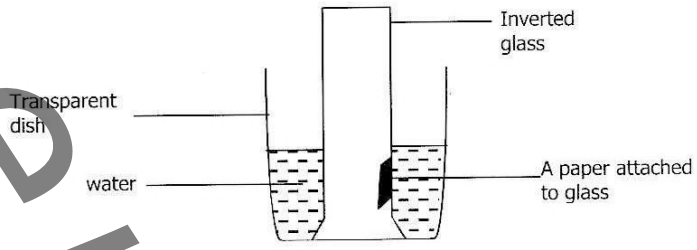
31 Study the diagram below.



The paper remained dry and water did not enter the glass because air ...

A is lighter than water.
B exerted pressure on the paper.
C occupied space in the glass.
D has the same weight as water.

32 Study the process below showing how copper is extracted and refined.

Drilling and blasting ⟶ **X** → Floatation ⟶ **Y** ⟶ Exporting

Which **two** processes are presented by **X** and **Y**?

	X	**Y**
A	Smelting	Concentration
B	Electrolysis	Crushing
C	Concentration	Smelting
D	Crushing	Electrolysis

33 Study the list of properties below

1 Poor conductors of heat
2 Poor conductors of electricity
3 Do not reflect light
4 Can easily break

Which of the following has the above properties?

A Aluminium
B Chalk
C Copper
D Zinc

34 If one throws a stone up it always comes down due to the ...

A force of wind.
B weight of stone.
C vacuum in space.
D force of gravity.

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35 During a class discussion students brought out the following points:

1 Contracting STIs
2 Suffering from cervical cancer
3 Getting infected with HIV/AIDS
4 Teenage pregnancy

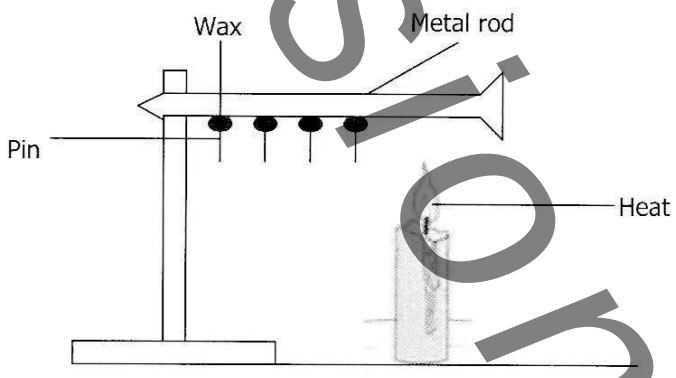
Which of the following activities is associated to the above health risks?

A Substance abuse
B Early sexual debut
C Physical changes at puberty
D Infectious diseases

36 Which of the following correctly represents the composition of blood?

A Red blood cells, urea, plasma and lactic acid.
B White blood cells, red blood cells, lactic acid and platelets.
C Urea, platelets, white blood cells and plasma.
D Plasma, platelets, red blood cells and white blood cells.

37 During a Science lesson, learners set up an experiment as shown below.



What were the learners investigating?

A Conduction of heat in solids
B Expansion of metals when heated
C Melting of wax when heated
D Pins get burnt when heated

38 Which of the following nutrients are correctly paired with their functions.

	Nutrient	**Function**
A	Vitamin D	Healthy gums
B	Vitamin C	Strong bones
C	Iron	For red blood cells
D	Iodine	Good eye sight

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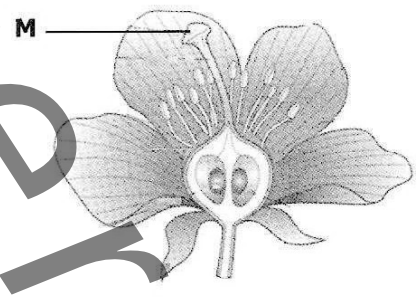
39 The diagram below represents a flower.



The function of the part labelled **M** is to …

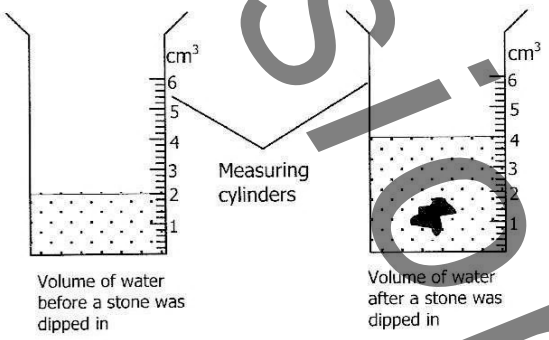
A receive sunlight.

B receive pollen grains.

C produce pollen grains.

D produce ovules.

40 A grade 7 learner carried out the following investigation to find the volume of a stone.



What was the volume of the stone?

A 1cm^3

B 2cm^3

C 3cm^3

D 4cm^3

41 A farmer planted sections of potato tubers and had a good harvest. What method of propagation did the farmer use?

A Vegetative

B Seed

C Stem

D Suckers

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42 Which of the following simple machines are used to split or cut things?

A Lever
B Wedge
C Screw
D Pulley

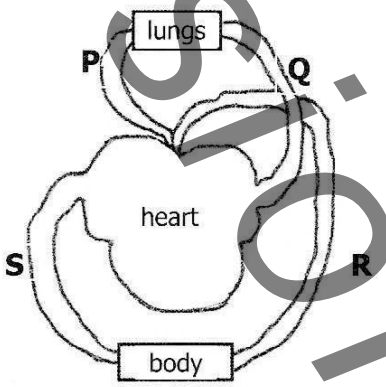
43 At a hydro electric power station energy is converted from one form to another. Which of the following shows the correct energy changes?

A Chemical → potential → electrical
B Kinetic → potential → chemical
C potential → chemical → electrical
D potential → kinetic → electrical

44 Which of the illicit drugs listed below is taken into the body by injection?

A Heroin
B Dagga
C Mandrax
D Glue

45 The diagram below shows double circulation in human beings.



Blood leaving the heart moving to the body flows through the blood vessel ...

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

46 The social challenge most of the people living with HIV/AIDS have is ...

A having no access to ARTS.
B poor community work performance.
C rejection by friends and relatives.
D spending a lot of time thinking of death.

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47 A learner performed an experiment as shown.

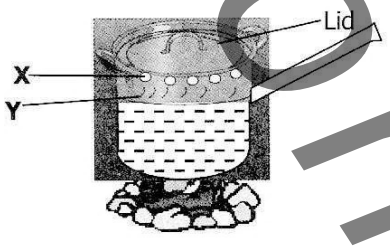
The learner poured equal amount of water in all the funnels. The soil **3** is …

A sand.
B loam.
C clay.
D all soil.

48 A builder was asked to include some pipes when constructing a latrine. This was to …

A allow germs out.
B allow air in.
C remove dust.
D remove warm air.

49 The diagram below shows water being boiled in a pot.



Describe what is happening at point **X** and **Y.**

	X	**Y**
A	Evaporation	Boiling
B	Evaporation	Condensation
C	Condensation	Evaporation
D	Condensation	Boiling

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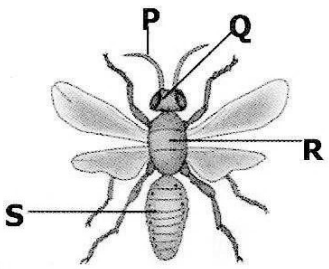
50 The diagram below shows an insect.



What are the parts marked **P**, **Q**, **R** and **S**?

	P	Q	R	S
A	Head	Antennae	Abdomen	Thorax
B	Antennae	Head	Thorax	Abdomen
C	Abdomen	Thorax	antennae	Head
D	Antennae	Head	Thorax	Abdomen

STOP! PLEASE CHECK ALL YOUR WORK CAREFULLY.

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