TOM NEWBY SCHOOL EXAMINATION

Subject	**NATURAL SCIENCE**	**Examiner/s**	**MR HUDSON, MRS FOURIE**
Date	**9 JUNE 2015**	**Total marks**	**100**
Session	**2**	**Duration**	**2 HOURS**
Grade	**7**	**Moderator**	**MRS FOURIE**
Special instructions/ Equipment	Redraw the tables if asked for table format.		

This Exam has been compiled using notes and information contained in the Tom Newby School book. The marking memorandum has been compiled accordingly. While alternative responses will be given due acknowledgement, the official memorandum will be considered a priority document to ensure uniformity of marking. Up to 10% of the total mark allocation may be deducted for spelling and grammatical errors, except in the case of Language papers, where deductions are made according to a memorandum.

NAME: _____ CLASS: 7 _____

INSTRUCTIONS:

1. Answer all questions on the A4 lined paper provided.
2. Read the questions carefully before writing.
3. Rule off after each question/ section.
4. Where required you must redraw the tables.
5. Look carefully at the mark allocation.
6. Set out your work very neatly.
7. Do your best and good luck! Think before you INK!

SECTION A – QUESTION 1 - MULTIPLE CHOICE

Read the sentence/ statement and choose the correct answer. Write only the correct letter next to the number, e.g. 1 c

1. All of life on Earth exists in an area known as the ….
   a) Hydrosphere
   b) Litosphere
   c) Biosphere
   d) Atmosphere (1)

2. Seeds that are dispersed by being eaten by animals are….
   a) light and dry
   b) contained in a sweet, fleshy fruit
   c) explosive
   d) surrounded by hooks and barbs (1)

3. An organism that has a soft body, a muscular foot and a shell is a ….
   a) mollusc
   b) mammal
   c) arthropod
   d) amphibian (1)

4. Which of the following are classified as invertebrates?
   a) snakes, birds and fish
   b) ants, crabs, spiders and snails
   c) crabs, ants, snakes and bees
   d) birds, bees, butterflies and ants (1)

5. An example of variation that is inherited is ….
   a) a tattoo
   b) tanned skin
   c) eye colour
   d) body piercings (1)

6. Plants that produce cones and have naked seeds are called ….
   a) angiosperms
   b) monocotyledons
   c) gymnosperms
   d) dicotyledons (1)

7. Arthropods are animals that have ….
   a) an exoskeleton
   b) an exoskeleton and six jointed legs
   c) six jointed legs and two pairs of wings
   d) an exoskeleton and jointed legs (1)

8. The best method to separate a mixture of sand and iron nails is ….
   a) filtration
   b) magnetism
   c) evaporation
   d) sieving (1)

9. During respiration ….
   a) food is produced
   b) energy is needed
   c) growth occurs
   d) energy is released (1)

10. A pollen grain has two sacs filled with air. It is probably carried by….
   a) birds
   b) wind
   c) insects
   d) water (1)

[10]

QUESTION 2- TRUE OR FALSE

Say if the following sentences are TRUE or FALSE. Write only TRUE or FALSE next to the correct number, e.g. 1 TRUE

1. Fertilisation is the process where the use of specific techniques like injections, condoms and pills, prevent pregnancy.

2. Puberty is a stage in your physical development when your body changes from a child to an adult.

3. The bladder protects and contains the testes.

4. Boiling point is when a solid turns into a gas, at a high temperature.

5. Flexibility is a measure of how easy it is to bend a material.

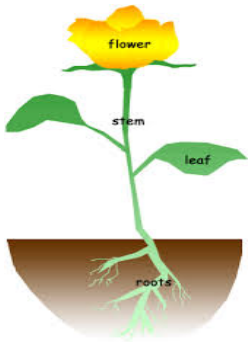
6. Reptiles are warm-blooded organisms that are found in almost every habitat and environment in the world except for the Antarctic.

7. The biosphere is a group of different areas where life exists on earth.

8. Soil is abiotic (non-living) and is essential for plant growth.

9. If one substance is magnetic and the other is not, a magnet may be used to separate the mixture.

10. Strong materials will bend, break, shatter or deform when subjected to external forces.



[10]

QUESTION 3- FILL IN THE MISSING WORD/ WORDS:

Use the words provided in the word bank to complete the following sentences. Write only the missing word. Do not rewrite the whole sentence.

Chlorine contraceptive prevention measure cement bricks gas pollination variation inheritance stigma ovary concrete
Fertilisation excretion consumption reptile plastic cling wrap
Foil amphibian mixture solute solvent molluscs
Crustaceans newspaper movement growth soluble

1. The part of a flower that contains the ovules is called the _____ (1)
2. Gas at room temperature is called _____ (1)
3. _____ is very heavy and is not water-tight. (1)
4. A _____ is a characteristic that is passed down from parents to their young. (1)
5. The process that transfers pollen to the stigma of the flower is called _____. (1)
6. A device or method that is used to prevent pregnancy is called a _____. (1)

7. _____ means when all living things produce waste which must be removed from the body. (1)
8. A/ An _____ has /have smooth, naked skin and undergoes metamorphosis. (1)
9. _____ is too thin and cannot hold a specific shape. (1)
10. A _____ is not a pure substance. (1)

[10]

QUESTION 4

MATCH THE COLUMNS

Match the statement in Column A with the term in column B. Write only the number and the letter of your choice on your answer sheet, e.g. 4G

COLUMN A	COLUMN B
1. External fertilisation	A. Cephalothorax, abdomen, compound and /or simple eyes.
2. Fish	B. Have jointed legs and an exoskeleton
3. Arthropods	C. Everything around us is made up of …..
4.Stamen	D. Melts at about 800 º C
5.Matter	E. The fusion of egg cells and sperm cells outside the mother's body.
6.Melting point	F. When a substance like ice melts and changes from a solid to a liquid.
7.Arachnids	G. Cold-blooded, aquatic organisms that live in fresh or salt water.
8.Salt	H. Male part of a flower, made up of the anther and a filament.
9.Magnets	I. Made up of only one type of particle.
10.Pure substance	J. Used in recycling to recover substances or to attract iron.

[10]

SECTION B - ANALYSING PICTURES AND OR IMAGES OF ANIMALS QUESTION 5.1

Analyse the following pictures / images. Fill in the missing answers in a table format on your lined paper. Give information relating to the images given.

PICTURE A

PHYLUM	(½)
CLASS	(½)
RESPIRATION METHOD	(½)
MOVEMENT	(½)
WARM OR COLD-BLOODED	(½)
REPRODUCTION METHOD	(½)

PICTURE B

PHYLUM	(½)
CLASS	(½)
RESPIRATION METHOD	(½)
MOVEMENT	(½)
WARM OR COLD-BLOODED	(½)
REPRODUCTION METHOD	(½)

PICTURE C

PHYLUM	(½)
CLASS	(½)
RESPIRATION METHOD	(½)
MOVEMENT	(½)
WARM OR COLD-BLOODED	(½)
REPRODUCTION METHOD	(½)

QUESTION 5.2

Answer the following question.

All crustaceans have a) _____(½) legs and b) a hard, shell-like _____(½).

[10]

QUESTION 6.1 - PLANTS

Tabulate three differences between monocotyledonous and dicotyledonous plants. (6)

MONOCOTYLEDONOUS	DICOTYLEDONOUS
1)	1)
2)	2)
3)	3)

QUESTION 6.2

Describe and explain the function of each of the following parts of a flower:

a) Anther
b) Filament
c) Stigma
d) Ovary

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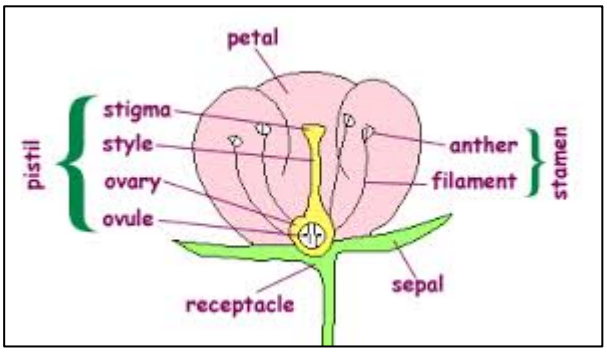

(4)

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QUESTION 7 - HUMAN REPRODUCTION

1. Describe the function of the testes. (2)
2. How many sperm are needed to fertilise an egg? (1)
3. Two eggs were released during ovulation. If a woman had sexual intercourse, suggest what might happen. (1)
4. In plants the egg cells are fertilised after pollination. Write a short paragraph to explain how the male sperm reaches the egg cells in a female. (3)
5. Explain shortly what menstruation means and how long a menstrual cycle is. (3)
6. What do we call the developing baby during the different stages of pregnancy? How many months is a woman pregnant? (4)
7. Define the following terms:
   a) Puberty (1)
   b) Fertilisation (1)
8. Explain why a pregnant woman should eat a healthy diet and not take drugs or drink alcohol. (2)
9. What are the fertilisation stages in humans from sexual intercourse to pregnancy? (2)

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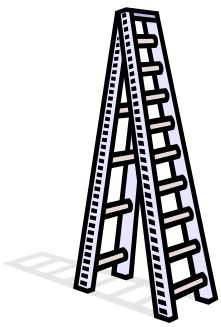
QUESTION 8 - MATTER AND MATERIAL

8.1 Explain briefly using the images below, what would happen if the object was made out of the incorrect properties. (5)

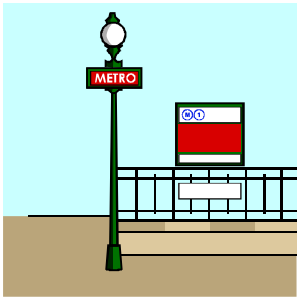
A) If a ladder was made of rubber



B) If a knife was made of glass

C) If a bucket was made of wire mesh

D) If a lamp post was made out of cardboard



E) If a soccer ball was made of iron

8.2 Which materials would be suitable to make each of the objects above(A, B, C, D, E)? (5)

8.3 Name any three methods of how mixtures can be separated. (3)

8.4 Explain briefly how you would separate the following mixture: Sugar, water and alcohol (2)

8.6 What is ink chromatography? Give a short definition. (2)

8.7 What can forensic scientists find out through chromatography? (2)

8.8 What is the apparatus called that we use for distillation? (1)

[20]

GRAND TOTAL: [100]