FUKIEN SECONDARY SCHOOL S1 First Term Examination (2020-2021) Integrated Science (1 hour)

Date: 15th January 2021 Time: 8:30a.m. – 9:30a.m.

Name:	
Class:	No.:

Instructions to students:

- 1. Write your name, class and class number on both the question paper and the answer sheets.
- 2. Answer ALL questions.
- 3. Write down all the answers on the answer sheets.
- 4. Hand in the question paper and the answer sheets at the end of the examination.
- 5. The total mark of the paper is 100.

I. Multiple Choice Questions (40 marks)

1 The photo below shows a fuel tanker truck. Which of the following safety precautions should be taken when handling the fuel?



- (1) Do not smoke.
- (2) Keep away from heat and flame.
- (3) Avoid shock.
- A (1) only
- B (3) only
- $C \hspace{0.5cm} (1) \hspace{0.1cm} \text{and} \hspace{0.1cm} (2) \hspace{0.1cm} \text{only} \hspace{0.1cm}$
- D (2) and (3) only

- 2 Which of the following conditions of the fire triangle is/are removed by using a wet blanket to put out a fire?
 - (1) Fuel
 - (2) Oxygen
 - (3) High temperature
 - A (1) only
 - B (2) only
 - $C \quad (1) \text{ and } (3) \text{ only} \\$
 - D (2) and (3) only



3 Which of the following can measure out 12.8 cm³ of water?



- 4 Which of the following safety precautions should be taken when we handle a chemical with the hazard warning symbol shown on the right?
 - (1) Keep away from heat and flame.
 - (2) Avoid breathing in the vapour.
 - (3) Wear protective gloves.
 - A (1) only
 - B (2) only
 - C (1) and (3) only
 - D (2) and (3) only
- 5 Which of the following can be tested by scientific method?
 - (1) Can a crystal bracelet bring luck?
 - (2) Can chewing gum help prevent tooth decay?
 - (3) Is refrigerator A more energy efficient than refrigerator B?
 - (4) Does salt dissolve faster than sugar in water?
 - A (3) only
 - B (1) and (2) only
 - C (2) and (3) only
 - D (2), (3)and (4) only



6 May thinks that green plants need sand for healthy growth. In order to test her idea, she sets up two pots of plants. One of them is shown below.



sand, soil and water

Which of the following should she use for the second pot of the plants?



7 The photo below shows a glass of drink.



Ice cubes are commonly added to drinks. As the ice melts, the drink is kept at a low temperature. Which of the following is the most probable temperature of the drink?

- A about -10 °C
- B about 0 °C
- C about 10 °C
- D room temperature

8 The diagram below shows a salt pan.



Salt is obtained when the water

- A condenses.
- B boils.
- C freezes.
- D evaporates.
- 9 In the picture below, Jenny is eating an ice lolly.



white mist

The white mist formed around the ice lolly is due to

- A melting.
- B evaporation.
- C condensation.
- D freezing.

10



Which of the following can be separated using the set-up shown above?

- A A mixture of salt and sand
- B A mixture of sand and water
- C A mixture of oxygen and water
- D A solution of sugar in water
- 11 The liquid which passes through the filter during filtration is called
 - A the residue.
 - B the microorganism.
 - C the filtrate.
 - D the distilled water.
- 12 Which of the following substance(s) can be removed by filtration?
 - (1) Soluble minerals
 - (2) Sand
 - (3) Microorganisms
 - A (1) only
 - B (2) only
 - $C \quad (1) \text{ and } (3) \text{ only} \\$
 - D (2) and (3) only
- 13 Which of the following is NOT a vital function of living things?
 - A Can grow
 - B Can breathe
 - C Can reproduce
 - D Can make food

- 14 Which of the following is the most important reason for biodiversity?
 - A Living things can be extinct.
 - B Biodiversity can give a wide variety of crops.
 - C Biodiversity ensures the sustainability of the natural environment.
 - D Biodiversity can increase the human population.
- 15 Which of the following statements about penguins are correct?



- (1) They have wings and feathers.
- (2) They breathe with lungs.
- (3) Their body temperature changes with the surroundings.
- (4) They live in polar regions.
- A (1) and (4) only
- B (3) and (4) only
- C (1), (2) and (3) only
- D (1), (2) and (4) only
- 16 Which of the following animals does NOT belong to the same group as the others?





В



С

D



Bat

Pigeon

Owl

17 Which graph below about the relationship between the body temperature of a bird and the temperature of its surroundings is correct?



18 Which of the following are the functions of vascular tissues?

- (1) Transport water
- (2) Protect the stem
- (3) Transport food
- A (1) and (2) only
- B (1) and (3) only
- $C \quad (2) \text{ and } (3) \text{ only}$
- D (1), (2) and (3)

19 Which of the following plants is/are seed plant(s)?









(3)

- A (3) only
- B (1) and (2) only
- C (2) and (3) only
- D (1), (2) and (3)
- 20 The diagram below shows a bird's foot.



structure for swimming

This bird most likely lives in

- A a forest.
- B a grassland.
- C a desert.
- D a lake.

II. Structured Questions (60 marks)

1 (a) Write **THREE** observations you can make when some ice cubes in a glass are melting.



(b) You wanted to find the temperature rise when solid A is added to the 100ml of the water in the cup. You measured the temperature of water every 30 seconds for 2 minutes. You were given the following apparatus.

Apparatus: Beaker x1, Solid A 10g, Instrument Z x1, measuring cylinder x1

- (i) You measured the temperature with instrument Z. Name instrument Z. (2 marks)
- (ii) Name the apparatus that you should use to mix solid A with water. (2 marks)
- (iii) When you finished the experiment, you got the following results.

At the beginning of the experiment, the temperature of water was 5°C. After 30 seconds, the temperature was 15°C. After 1 minute, the temperature was 28°C. After 1 minute 30 seconds, the temperature was 35°C. After 2 minutes, the temperature was 42°C.

Present your experimental results in the table provided. (4 marks)

(iv) Describe the results by referring to how the temperature changes with time.

(2 marks)

2 (a) In the box provided in the answer sheet, draw a sectional diagram of the following experimental setup. Water is inside both the beaker and the boiling tube. (3 marks)



(b) Complete the table in the answer sheet by writing the names of the apparatus and drawing their sectional diagrams. (4 marks)

(ii)





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3 Justin used the set-up below to simulate the Earth's water cycle.



a)	Is there any colour in Liquid X?	(1 mark)
b)	What is Liquid X? Explain how it is formed.	(4 marks)
c)	What can you put on top of the plastic sheet to increase the rate of collection of	Liquid X?
		(2 marks)

4 Ken is conducting an experiment to find out which container allows water to evaporate the fastest. He pours same amount of water into each of the four containers, P, Q, R and S, and places them in the same environment.



(a) Arrange the containers in increasing order of the rate of the evaporation of water.

- (b) Suggest **ONE** controlled variable in the experiment.
- (c) Ken tilted container P as shown in the diagram below.



Will the rate of evaporation of water be increased or decreased? Explain your answer.

(2 marks)

(1 mark)

5 The set-up below can be used to purify muddy pond water.



(a)	Give ONE mistake in the above set-up.	(2 marks)
(b)	Name processes P and Q that take place in the round-bottom flask and	condenser
	respectively.	(2 marks)
(c)	Name the above water purification method.	(2 marks)
(d)	Write TWO impurities in the muddy pond water that can be removed by the ab	ove set-up.

(2 marks)

6 The diagram below shows the classification of five different groups of animals.



(a) Match the groups P to T with these five animals: dolphin, goldfish, owl, frog, human.

(5 marks)

(b) Which group of vertebrates does P and R respectively belong to? (4 marks)

(5 marks)

(1 mark)

7 The set-up below is used to investigate how temperature affects the rate of dissolving of salt in water.



(a) Complete the variable table with the following variables.

Amount of water	Amount of salt
Temperature of water	Rate of stirring
Time taken for the salt to diss	olve completely

The table below shows the experimental results.

	Beaker X (20 °C)	Beaker Y (40 °C)
Time taken for the salt to	50	30
dissolve completely (seconds)	50	50

(b) In	n which beaker does salt have a higher rate of dissolving?	(1 mark)
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(c) State the conclusion of the experiment.

End of Question Paper