### MODULE 2

### **SCIENCE FORM 2**

### PAPER 1

- What is the main function of the mucus which is secreted in the nasal cavity of the nose?
  - A) To dissolve chemical substance
  - B) To send electrical impulse to the brain
  - C) To stimulate the smell receptors
  - D) To trap dust particles
- 2. Which of the following is the correct pathway of the hearing mechanism?
  - A) Pinna  $\rightarrow$  oval window  $\rightarrow$  auditory Canal  $\rightarrow$  ossicles  $\rightarrow$  auditory nerve Cochlea  $\rightarrow$  brain
  - B) Pinna  $\rightarrow$  auditory canal  $\rightarrow$  cochlea  $\rightarrow$  oval window  $\rightarrow$  ossicles  $\rightarrow$ auditory nerve  $\rightarrow$  brain
  - C) Pinna  $\rightarrow$  eardrum  $\rightarrow$  ossicles  $\rightarrow$  oval window  $\rightarrow$  cochlea  $\rightarrow$  auditory nerve  $\rightarrow$  brain
  - D) Pinna  $\rightarrow$  cochlea  $\rightarrow$  oval window  $\rightarrow$ osicles  $\rightarrow$  auditory canal  $\rightarrow$  auditory nerve  $\rightarrow$  brain

- 3. The following information shows a type of response of a plant to a stimulus
  - Shoots grow towards the stimulus
  - It enables the plant to carry out photosynthesis
  - Roots grow away from the stimulus.

Which of the following is the response?

- A) Geotropism
- B) Phototropism
- C) Thigmotropism
- D) Hydrotropism
- 4. Which of the following food classed is very important for growing children?
  - A) Mineral salts
  - B) Carbohydrate
  - C) Protein
  - D) Fat
- 5. Identify the function of bile which is store in the gall bladder.
  - A) To determine excess amino acid into urea
  - B) It contains digestive enzymes for digestion
  - C) To emulsify the fat into smaller particle
  - D) To provide an acidic medium for biochemical reaction

- 6. Which of the following statements below is **incorrect**?
  - A) Digestion of roughage in the duodenum
  - B) Fat will be digested in the duodenum
  - C) Digestion of starch begins in the mouth
  - D) Absorption of digested food begins in small intestine
- 7.

• Has tap root system

10.

• Flowers petals in multiples of fives.

• Leaves with network veins

Which of the following plants have the characteristics as shown in the table above?

- A) Paddy plants
- B) Balsam plants
- C) Orchid plants
- D) Maze plants
- 8.



The diagram above shows tests for two classes of food. It is observed that red precipitate formed in test tubes *X* and *Y*. Therefore test tubes *X* and *Y* contain

- A) Protein and glucose
- B) Glucose and protein
- **C**) Starch and glucose
- **D**) **P**rotein and starch

9. Which of the following statements is not true about mammals?

- A) Mammals are cold blooded animals
- B) Mammals suckle their young
- C) Mammals reproduce through internal fertilization .
- D) Mammals are covered by fur or body hair.

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A sea anemone and hermit crab

The organisms above interact with other. Which pair of organisms below show the same type of interaction?

- A) A remora fish and a shark
- B) Hookworms and humans
- C) A rabbit and a tiger
- D) An alga and a fungus
- 11 What are the advantage of biological control?
  - I Save cost
  - II Dose not pollute the environment
  - III Use predators that can attack all animals
  - A) I and II only
  - B) I and III only
  - C) II and III only
  - D) I, II and III



- 12. What is the advantage of the interaction between living organism?
  - A) To ensure every living organisms has water to drink
  - B) To ensure that the environment will be destroyed one day
  - C) To ensure that the environment is in equilibrium
  - D) To ensure that extinction of certain species.
- 13. What is the purpose of adding chlorine into the water during purification?
  - A) To kill the microorganisms
  - B) To purify the water
  - C) To neutralize the water
  - D) To coagulate organic particles
- 14. Which is the following is not a physical property of water?
  - A) Odourless
  - B) Poor thermal conductor
  - C) Good conductor of electricity
  - D) Boils at 100 °C
- 15. Which of the following substance will change blue litmus paper to red?
  - A) Tooth paste
  - B) Lime water
  - C) Ammonia
  - D) Vinegar
- 16. Which of the following activities applies the principle of the air pressure?
  - A) Obtaining pure water from seawater
  - B) Using instant milk powder to make a drink of milk
  - C) Removing water from an aquarium using a siphon
  - D) Using baking powder to bake a fluffy sponge cake.

17. Which of the following is not an application of air pressure? Invertebrates

- A) Thermometer
- B) Syringe
- C) Siphon
- D) Spraying pump
  - 18. Which of the following explains the change that occurs when hot water is cooled in the refrigerator?
    - A) Distance between the molecule decrease
    - B) Kinetic energy increase
    - C) Mass of the molecules decrease
    - D) Size of the molecules decreases
  - 19. 200J of works was done to move a heavy load a distance of 0.5m. What was the force exerted on the stone?
    - A) 100 N
    - B) 200 N
    - C) 250 N
    - D) 400 N
  - 20. Which of the following does not create work but instead uses up a lot of energy?
    - A) Climbing a tree
    - B) Pushing a trolley
    - C) Pushing a concrete wall
    - D) Carrying a box full of sand

- 21. Which of the following is not true about gravitational force?
  - A) Gravitational force is a force that pulls all object towards the centre of earth
  - B) Gravitational force cause all objects to have weight
  - C) The earth's gravitational force is greater at poles than at the equator
  - D) The weight of an object increase as it moves away from the earth.
- 22. Which support system do invertebrates usually have?
  - A) Hydrostatic or internal skeletons
  - B) Hydrostatic or external skeletons
  - C) External and muscular skeleton
  - D) External and internal skeleton.
- 23. What is the function of a skeletal system?
  - I To enable the organism to move II To protect the soft internal tissues
  - III To give an organism its body shape
  - A) I and II only
  - B) I and III only
  - C) II and III only
  - D) I, II and III
- 23. Which of the following characteristics helps birds to fly easily in the sky?
  - A) Birds have very small bones
  - B) Birds have bones made up of calcium
  - C) Birds have hollow bones
  - D) Birds have soft bones
- 24. The centre of gravity of an object can be lowered by
  - A) Decreasing the height of the object
  - B) Decreasing the base area of the object
  - C) Making the object heavier at the top
  - D) Making the object lighter at the centre.

- 25. The stability of an object depends on the
- I base area
- II mass of the object
- III position of the centre of gravity
- A) I and II only
- B) I and III only
- C) II and III only
- D) I, II and III
- 26. Which of the following methods does not increase stability?
- A) Giraffes spread their legs wider
- B) Elephants have short legs
- C) An old man using a walking stick
- D) Giraffes have long necks





In the lever system shown in the above diagram, the mass of load P is more than the mass of load Q. What must be done so that loads P and Q are balanced?

- A) Add more load to P
- B) Move F closer to P
- C) Reduce the load of Q
- D) Move F closer to Q
- 28. Which of the following pairs of class of lever and tools is correctly paired?

Class of levers	Tool
I First	A nutcracker
II Second	A wheelbarrow
III Third	A fishing rod

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

29.

Paper cutter
Wheelbarrow

Which of the following tolls is in the same class of levers as the tools above?

- A) Ice tongs
- B) Bottle opener
- C) Pliers
- D) Fishing rod



The figure shows object X and Y each positioned 10cm and 5cm from the fulcrum. If the system remains in balance what is the value of X?

A) 35 N

B) 65 N

C) 70 N

D) 140N

## ANSWER

## MODULE 2

# SCIENCE FORM 2

## PAPER 1

1.	A	16. C
2.	C	17. A
3.	В	18. A
4.	C	19. D
5.	C	20. C
6.	A	21. D
7.	В	22. B
8.	A	23. C
9.	A	24. A
10.	D	25. B
11.	. A	26. D
12.	C	27. B
13.	. A	28. C
14.	. B	29. B
15.	. D	30. B

# MODULE 2 SCIENCE FORM 2 PAPER 2

1. Table 1 shows the calorific value of some food items that Jacob ate for lunch.

Food	Calorific value per 100g (kJ)
Chicken rice	475
Nasi lemak	492
Fried mee	595
Tose	154
White bread	1012
Butter	3007
Milk	276

Table 1

a) Give the definition of a balanced diet.

b) Why is balanced diet important? Give two reasons.

c) State two factors that affects a person's needs for a balanced diet.

d) Raju had 20g of white bread, 5 g of butter and 30 g of milk for breakfast. Calculate the total calories in his meal.



The above chart shows the classification of food classes.

- (a) (i) What is food class X.
  - (ii) State **two** functions of food class *X*.
- (b) Give **two** examples of carbohydrates.
- (c) Which of the food classes is the main energy supplier for us?
- (d) (i) What food should a person suffering from constipation eat more of?
  - (ii) How does the food class in d(i) help to relieve constipation?



Dilute hydrochloric acid is added into the solution in the conical flask as shown in the figure above until the solution turns green.

- (a) What is the characteristic of the solution in the conical flask
  - (i) before the solution turns green?
  - (ii) at the point when the solution starts to turn green?
- (b) What process occurs when hydrochloric acid is dropped into the sodium hydroxide solution?
- (c) Name the method used in the experiment.
- (d) Write a chemical reaction in words for the above reaction.



The above figure shows a long balloon filled with water to study the hydrostatic skeletal system of animals.

- (a) What is represented by
  - (i) the balloon and water?
  - (ii) the water in the balloon?
- (b) Why does the water in the balloon squirt out when the balloon is pricked with a needle?
- (c) What is the function of this skeletal system in an invertebrate?
- (d) Name **two** types of invertebrates that have the above skeletal system.

# ANSWER MODULE 2 SCIENCE FORM 2 PAPER 2

1.a) A balanced diet consists of carbohydrates , proteins , fats, vitamins, minerals,fiber, and water taken in right quantity to meet the daily requirement of the body.

- b) it provides energy for works and movement
  - It is important for growth
- c) Age and body size
- d) 20 g of white bread =  $20 \times 1012 \text{ g}$

$$100 \text{ g} = 202.4 \text{ kJ}$$
5 g of butter
$$= 5 \text{ X } 3007 \text{ g} = 150.4 \text{ kJ}$$
30 g of milk
$$= 30 \text{ X } 276 \text{ g} = 100 \text{ g} = 82.8 \text{ kJ}$$

Total calories in his meal = 202.4 + 150.4 + 82.8 = 435.6 kJ

- 2. a) (i) Proteins
  - (ii) builds new cells; repairs damaged tissues
  - (b) Rice and bread/potatoes
  - (c) Carbohydrates
  - (d) (i) Food rich in fibre
    - (ii) Fibres help the movement and elimination of faeces from the anus

- 3. a) (i) Alkali (ii) Neutral
- (b) Neutralisation
- (c) Titration
- (d) Sodium hydroxide + hydrochloric acid  $\rightarrow$  sodium chloride + water
- 4. a) (i) Hydrostatic skeleton
  - (ii) Body fluid
- (b) Water in the balloon exerts pressure on the wall of the balloon.
- (c) Gives support and shape
- (d) Earthworms and caterpillars

5.



- (b) Between the fulcrum and the load
- (c) The effort and load act in opposite directions
- (d) Ice tongs and broom/hoe

Distance; Effort; Distance