

INTEGRATED SCIENCE 1

1. The space occupied by matter is its

- A. area
- B. mass
- C. volume
- D. weight

2. Which of the following structures contain cellulose?

- A. Cell wall
- B. Cell membrane
- C. Chloroplast
- D. Mitochondrion

3. Which of the following activities are cultural practices used in tomato cultivation?

- I. Pest control
- II. Pricking out
- III. Fertilizer application

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

4. The farming system that makes effective use of available soil nutrients in a growing season is

- A. crop rotation
- B. land rotation
- C. mixed cropping
- D. mixed farming

5. Which of the following members in a food chain will receive the least energy?

- A. Lizard
- B. Grass
- C. Grasshopper
- D. Hawk

6. Digestion of fats and oils in humans starts in the

- A. colon
- B. gullet
- C. mouth
- D. duodenum

7. What is the chemical symbol for silver?

- A. Ag
- B. Au
- C. Si
- D. S

8. The process by which gas changes to liquid is known as

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

9. Which of the following substances is acidic?

- A. Wood ash
- B. Salt-petre
- C. Bee stings
- D. Bicarbonate of soda

10. The basic unit of life is the

- A. cell
- B. nucleus
- C. organ
- D. tissue

11. Useful materials in food that provide growth and repair of worn out tissues are called

- A. carbohydrates
- B. vitamins
- C. proteins
- D. fats

12. In human reproduction, the sperm fertilizes the female egg to form the

- A. zygote
- B. follicle
- C. ovary
- D. ovum

Use the information below to answer questions 13 to 15

A solid X reacted with a liquid Y to form a salt and water only. A portion of liquid Y turned blue litmus paper red. Solid X did not dissolve when a portion of it was placed in water and stirred.

13. Solid X could be said to be

- A. an acid
- B. an alkali
- C. a base
- D. a salt

14. Liquid Y is

- A. an acid
- B. an alkali
- C. a base
- D. a metal

15. If red litmus paper is placed in liquid Y, the colour of the paper will

- A. remain the same
- B. change to blue
- C. change to purple
- D. become brighter

16. The type of soil which becomes water-logged after rainfall is made up of a large amount of

- A. silt
- B. sand
- C. gravel
- D. clay

17. Ringworm is a disease which attacks the

- A. skin
- B. lungs

- C. liver
- D. kidneys

18. The most appropriate practice to adopt when growing vegetables in the dry season is

- A. watering
- B. transplanting
- C. pest control
- D. fertilizer application

19. Which of the following organisms improves soil fertility?

- A. Caterpillar
- B. Millipede
- C. Nematode
- D. Rat

20. The introduction of natural enemies to control pests on a field is a

- A. physical control method
- B. cultural control method
- C. chemical control method
- D. biological control method

21. A body has a density of 30 g cm^{-3} and volume of 6 cm^3 . Determine the mass of the body.

- A. 180.0 g
- B. 24.0 g
- C. 5.0 g
- D. 0.2 g

22. The force which tends to pull an object in a circular motion towards the centre of the circle is called

- A. centripetal force
- B. electrostatic force
- C. gravitational force
- D. magnetic force

23. The swollen shoot disease of cocoa is caused by

- A. fungus
- B. virus
- C. bacteria
- D. protozoa

24. The instrument used to measure atmospheric pressure is called

- A. a thermometer
- B. a force meter
- C. a barometer
- D. an anemometer

25. The systematic name of NO_2 is

- A. nitrogen oxide
- B. nitrogen (I) oxide
- C. nitrogen (II) oxide
- D. nitrogen (IV) oxide

26. Which of the following simple machines is a second class lever?

- A. Bottle top opener
- B. Claw hammer
- C. Fishing rod
- D. Pair of pliers

27. A cylindrical metal has radius 7 cm and height 2cm. Determine the volume of the cylinder. [Take $\pi = 22/7$]

- A. 44 cm³
- B. 107 cm³
- C. 308 cm³
- D. 1078 cm³

28. Which of the following statements are true of compounds?

- I. They are homogenous
- II. Their constituents are present in fixed ratio by mass
- III. Their constituents keep their individual properties

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

29. Which of the following factors contribute to early parenthood?

- I. Illiteracy
- II. Poverty
- III. Peer pressure
- IV. Lack of parental care

- A. I and II only
- B. II and III only
- C. III and IV only
- D. I, II, III and IV

30. Which of the following statements about the negative use of Science and Technology is correct? It

- A. promotes good health
- B. promotes easy communication
- C. enable humans to use less energy in working
- D. creates things that are dangerous to the environment

31. Which of the following nutrients is needed by plants in small quantities?

- A. Calcium
- B. Iron
- C. Potassium
- D. Magnesium

32. Which of the following statements about shadow formation is correct? It shows that light rays can

- A. be diffused
- B. travel in a straight line
- C. be refracted
- D. be reflected

33. The colour of the neutral wire in an electrical circuit is

- A. blue
- B. brown
- C. green
- D. yellow

34. A metal displaces 5.0 cm³ of water when it is totally immersed. If the mass of the metal is 35.0 g, calculate its density

- A. 7.0 g cm⁻³
- B. 30.0 cm⁻³

- C. 40.0 cm^{-3}
- D. 175.0 cm^{-3}

35. Which of the following physical properties of water are correct? Water

- I. is a colourless liquid
- II. is a universal solvent
- III. boils at 100°C at standard atmospheric pressure
- IV. has a density of 5 kg cm^{-3} at 4°C

- A. I and II only
- B. II and III only
- C. I, II and III only
- D. II, III and IV only

36. The relative proportions of the different particle sizes in a soil sample refer to soil

- A. temperature
- B. texture
- C. structure
- D. porosity

37. Which of the following chemical equations is balanced?

- A. $\text{K} + \text{O}_2 \rightarrow \text{K}_2\text{O}$
- B. $\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$
- C. $\text{Na} + \text{Cl}_2 \rightarrow \text{NaCl}$
- D. $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$

38. Heat is transferred along an iron bar by

- A. absorption
- B. conduction
- C. convection
- D. radiation

39. The second stage in the life of a mosquito is the

- A. egg
- B. imago
- C. larva
- D. pupa

40. The function of the platelets in the circulatory system of humans is to

- A. transport oxygen
- B. transport carbon dioxide
- C. defend the body
- D. clot the blood