

**WASSCE INTEGRATED  
SCIENCE  
2014 JUNE  
OBJECTIVE TEST  
(WITH SUGGESTED ANSWERS)**

1. Gum-bleeding in humans is caused by the deficiency of

- A. vitamin A
- B. vitamin B
- C. vitamin C
- D. vitamin D

Answer: C

2. Linnaeus system of classification of living things is based on

- A. appearance and size
- B. natural relationships
- C. body size
- D. jointed system

B

3. A machine is classified as a first class level when the

- A. pivot is between the load and the effort
- B. load is between the effort and the pivot
- C. pivot is beyond the effort
- D. load is before the pivot and effort

A

4. The process by which various components of crude petroleum are obtained is known as

- A. catalytic cracking
- B. decomposition
- C. fractional distillation
- D. hydrogenation

C.

5. Which of the following signs is associated with parturition in a cattle?

- A. the belly becomes distended and drops
- B. the vulva becomes contracted

- C. difficulty in urination
- D. the udder becomes smaller

A

6. Under which of the following conditions will maize germinate? If they are placed on

- A. moist cotton in a test tube
- B. dry cotton in a test tube
- C. moist cotton in a test tube immersed in ice cubes
- D. cotton wool covered with water having oil at the surface

A

7. A wet piece of cloth dries faster when spread than folded because the

- A. temperature will be even in the cloth
- B. water will drop out of the cloth faster
- C. large surface area will aid evaporation of water
- D. water will be distributed evenly in the cloth

C

8. Fertilization in humans usually occurs in the

- A. ovary
- B. oviduct
- C. uterus
- D. vagina

B

9. In the preparation of local soap, the ash of plantain peels is added to the palm oil in order to

- A. thicken the oil
- B. give colour to the soap
- C. provide alkali
- D. give the soap a pleasant smell

C

10. Which of the following management practices ensure the raising of healthy chicks?

- I. Controlling of human traffic to the brooder house
- II. Debeaking chicks when they are two weeks old
- III. Ensuring good ventilation in the brooder house
- IV. Visiting older chicks first before the brooding chicks

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

C

11. Which of the following statements about a food web is **true**?

- A. The producers are soil micro-organisms
- B. Each consumer feeds on a particular organism
- C. The tertiary consumers are herbivores
- D. One organism may be fed upon by several others

D

12. In flowering plants, mineral salts are transported through the

- A. cambium
- B. phloem
- C. stomata
- D. xylem

D

*The diagram below is an illustration of laboratory apparatus. Use it to answer Questions 13 and 14.*



13. The apparatus illustrated is a

- A. stirring rod
- B. retort stand
- C. pair of tongs

D. test tube holder

D

14. The apparatus is used to

A. crush solids

B. hold objects in firm position

C. take small amounts of substances

D. hold a test tube during heating

D

15. Which of the following statements about fertilization in humans is **true**?

A. only one egg is fertilized at a time

B. it can occur at any time

C. many sperms fertilize the ovum

D. it always occurs inside the female

D

16. Which of the following statements about anaerobic respiration is **correct**?

A. Carbon dioxide and water are produced

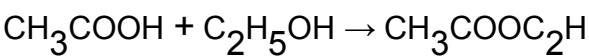
B. Oxygen gas is released

C. Oxygen gas is used up

D. Glucose is broken down

D

17. Consider the chemical equation below



This equation represents

A. an addition reaction

B. a neutralization reaction

C. an esterification reaction

D. a saponification reaction

C

18. Which of the following methods could be used to control waterlogging in soils?

A. drainage

B. irrigation

- C. leaching
- D. mulching

A

19. When an N-P-N transistor is used as a simple amplifier, the base-emitter junction is

- I. forward biased
- II. reverse biased
- III. neutral

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

A

20. Which of the following movements occur when the arm of a human is bent?

- A. biceps relaxes and triceps contracts
- B. biceps contracts and triceps relaxes
- C. both biceps and triceps relax
- D. both biceps and triceps contract

B

21. Tsetse fly is the vector of

- A. elephantiasis
- B. malaria
- C. river blindness
- D. sleeping sickness

D

22. A small metal block is 12 cm long, 6.0 cm high and 4.0 cm wide. If it has a mass of 1.5 kg, determine its density

- A.  $0.2 \text{ g cm}^{-3}$
- B.  $5.2 \text{ g cm}^{-3}$
- C.  $192.0 \text{ g cm}^{-3}$
- D.  $288.0 \text{ g cm}^{-3}$

B

23. Damage to the brain and spinal cord are usually permanent and irreversible because

- A. damaged nerve cells never heal
- B. path of the nerve impulse is much longer
- C. of the presence of chemicals in the brain
- D. of the inability of pain receptors to carry impulses

A

24. The following gases are constituents of air **except**

- A. carbon dioxide
- B. nitrogen
- C. oxygen
- D. Sulphur

D

25. The difficulty encountered by pigs in losing body heat through perspiration could be overcome by

- A. deworming the pigs
- B. using dry bedding in the sty
- C. providing fresh clean water in the sty
- D. avoid overcrowding of pigs in the sty

C

26. Regular reflection of light occurs when the reflector is

- A. smooth with black surface
- B. smooth with shiny surface
- C. rough with black surface
- D. rough with white surface

B

27. The **main** advantage of sexual reproduction over asexual reproduction is that sexual reproduction

- A. is quicker than asexual reproduction
- B. provides more offspring than asexual reproduction
- C. brings about more variation than asexual reproduction
- D. takes place at all times

C

28. Maize is a cereal because it

- A. produces seeds
- B. has narrow leaves
- C. has large roots
- D. grows in marginal soil

B

29. Which of the following pairs of elements can combine to form an ionic compound?

- A. C and O
- B. Al and Mg
- C. H and S
- D. Cu and O

D

30. Which of the following characteristics can be used to distinguish between the same note played on a piano and an organ?

- A. beat
- B. loudness
- C. pitch
- D. quality

C

31. The relative proportion of various particle sizes in a given soil sample is called

- A. coarseness
- B. profile
- C. structure
- D. texture

D

32. An object placed between a converging lens and its principal focus produces an image which is always

- I. erect
- II. virtual
- III. real
- IV. magnified

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

C

33. Which of the following bones form the axial skeleton in mammals?

- I. Limb and limb girdles
- II. The vertebral column
- III. The skull
- IV. Ribs and sternum

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

D

34. The general formula for alkanes is

- A.  $C_nH_{2n}$
- B.  $C_nH_{2n-2}$
- C.  $C_nH_{2n+1}$
- D.  $C_nH_{2n+2}$

D

35. Transfusion of incompatible to a patient may lead to the

- A. formation of clots of blood
- B. production of antigens
- C. rupture of the red blood cells
- D. reduction in the number of white blood cells

A

36. Policies aimed at conserving natural resources should ensure that the

- A. resources of the country are exported for foreign exchange
- B. citizens of the country help to keep the environment clean
- C. resources to sustain the present and future generations are properly managed
- D. resources are managed such that every citizen can obtain a fair share of the national cake

C



37. Which of the following salts can cause temporary hardness of water?

- A.  $\text{CaSO}_4$
- B.  $\text{MgCl}_2$
- C.  $\text{Fe}_2(\text{SO}_4)_3$
- D.  $\text{Ca}(\text{HCO}_3)_2$

D

38. The frictional force between two bodies depends on the

- A. Area of the surfaces in contact
- B. Speed at which the bodies are moving
- C. Nature of the surfaces of the bodies in contact
- D. Moment of the bodies in contact

C

39. Mercury is used as a thermometer liquid because it

- A. has a low heat capacity
- B. is colourless
- C. does not vaporize
- D. has a high density

C

40. The skin of a mammal excretes

- A. salts and water only
- B. water and urea only
- C. water and carbon dioxide only
- D. salts, urea and carbon dioxide only

D

*The diagram below is an illustration of an agricultural tool. Use it to answer Questions 41 and 42.*



41. The tool illustrated is

- A. sickle
- B. shear
- C. rake
- D. mattock

C

42. The tool is used to

- A. lift and turn the soil
- B. turn compost heap
- C. uproot small stumps
- D. level and gather rubbish

D

43. Which of the following processes in living organisms take place by diffusion?

- I. Removal of waste products from plants and animals
- II. Absorption of mineral salts by plants from soil through root hair cells
- III. Digested food, mineral salts get into the blood stream from the ileum of a mammal
- IV. Absorption of water in the large intestine of mammals

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

C

44. The power rating of an electric stove is 750 W. Determine the current flowing through it if its resistance is  $15 \Omega$

- A. 7.07 A
- B. 50.00 A
- C. 62.50 A
- D. 6250.00 A

A

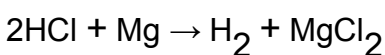
45. In a certain breed of cattle, black fur was dominant over white fur. Determine the

possible genotype of a cattle with black fur which produces a white calf.

- A. BB
- B. BW
- C. Bw
- D. Bb

D

46. Which of the following factors account for the rate of production of hydrogen in the reaction below:



- I. concentration of the acid
- II. surface area of the magnesium
- III. temperature
- IV. pressure of the atmosphere

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

C

47. A bell jar contains a ringing bell. As the air inside is pumped out, the sound intensity gradually decreases because

- A. a medium is needed for sound transmission
- B. the sound has turned into stationary waves
- C. the sound cannot pass through the solid bell jar
- D. the air inside the jar is heated

A

48. Which of the following activities are performed when a person is involved in an electric shock?

- I. using a dry material to put off the main source of electric supply
- II. covering the victim with extra clothing for warmth
- III. massaging the victim
- IV. administering artificial respiration to sustain the victim

- A. I and II only
- B. III and IV only

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

A

49. Dipping is an important husbandry practice in farm animal production because it

- A. control endoparasites
- B. prevents bacterial attack
- C. controls ectoparasites
- D. improves upon growth rate

C

50. A seed imbibes water through the

- A. Hilum
- B. Integument
- C. Micropyle
- D. Testa

C

**END OF PAPER**

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