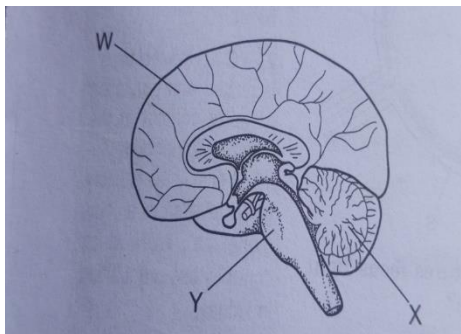




NAME					
SUBJECT	BIOLOGY	CLASS	SS3	DURATION	2HOURS

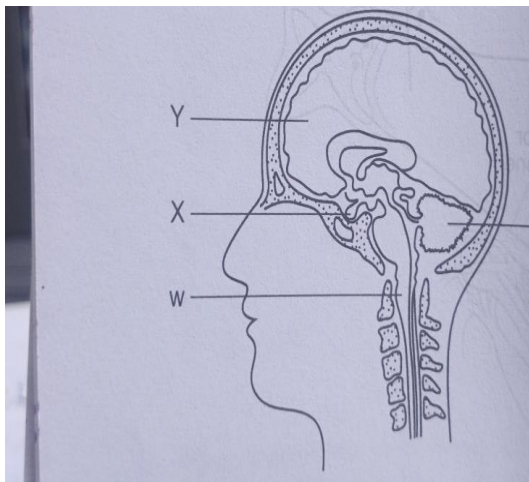
1. The diagram shows a section through the human brain



What are the function of the labelled regions?

	Memory	balance
A	W	X
B	W	Y
C	X	W
D	X	Y

2. The diagram shows a section through the brain

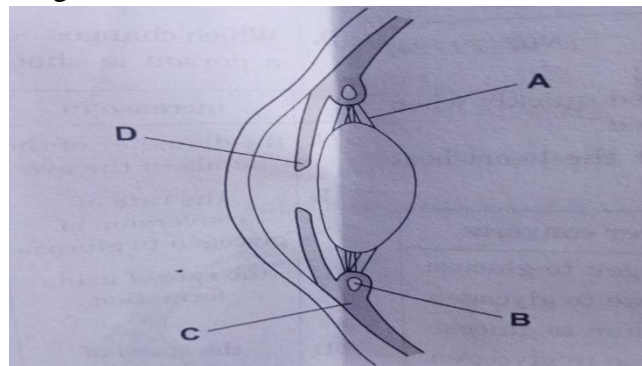


Which regions control balance , breathing & memory?

	balance	Breathing	memory
A	W	X	Z

3. The diagram shows a section through a human eye.

Which structure contains the muscles which contract to produce a focused image on the retina ?



4. Which part of the central nervous system controls the body's water balance ?

- A. Cerebellum
- B. Cerebrum
- C. Hypothalamus
- D. Medulla

5. Which of these is a sign of diabetes mellitus ?

- A. Lack of haemoglobin
- B. Raised blood glucose levels
- C. Reduced urine production
- D. Too much insulin

6. What is the effect of insulin?

- A. Decreased cell respiration
- B. Decreased absorption of glucose by cells
- C. Increased excretion of glucose
- D. Increased synthesis of glycogen

7. Two heterozygotes are crossed .Some of the offsprings show the recessive characteristics  
What is the probability that the offspring that show the recessive characteristics are homozygous ?  
A. 0.00  
B. 0.25  
C. 0.50  
D. 1.00
8. What causes sickle cell anaemia ?  
A. A change in the structure of a gene  
B. An iron – deficient diet  
C. Infection following a bite from a mosquito  
D. Loss of blood following an accident
9. A homozygous short –winged fly is crossed with a homozygous long-winged fly.  
Which phenotypic ration would result?  
A. 1 : 1  
B. 1: 2 :1  
C. 3: 1  
D. All similar
10. What determine the sex of a child ?  
A. Chromosome content of the ovum  
B. Chromosome content of the sperm  
C. Numbers of days between ovulation & fertilization  
D. Numbers of days between fertilization & implantation
11. Which statement is true of a dominant allele?  
A. It cannot undergo mutation  
B. It gives a greater chance of survival than a recessive allele  
C. It gives the same phenotype in heterozygous & homozygotes  
D. It is only responsible for male characteristics
12. In a rabbit the allele for black hair is dominant. A heterozygous black – haired rabbit is crossed with a heterozygous black – haired rabbit. Which phenotypic ratio would result?  
A. 1 : 1  
B. 1 : 2 : 1  
C. 3 : 1  
D. All similar
13. A gene is a unit of inheritance that controls the production of  
A. a chromosome  
B. an allele  
C. a protein  
D. DNA
14. Which of the following takes place during the process of detoxification in the liver ?  
A. Poisonous substance in the body are converted into harmless substances  
B. Fats & oils are broken into finer particles through emulsification  
C. Excess glucose in the blood are converted into glycogen & stored  
D. Worn out red blood cells are broken down
15. The cup-shaped part of the Bowman's capsule contains the  
A. Nephridium

- B. Glomerulus
  - C. Loop of henle
  - D. Nephron
16. Which of the following parts of the mammalian brain is involved in taking the decision to run rather than walk ?
- A. Cerebellum
  - B. Medulla oblongata
  - C. Mid – brain
  - D. Cerebrum
17. Which of the following parts of the tongue does not correspond to the taste indicated against it ?
- A. Tip – Sweet
  - B. Center – salt
  - C. Back - sour
  - D. Back – butter
18. Which of the following parts of the tongue does not correspond to the taste indicated against it ?
- A. Light
  - B. Pain
  - C. Heat
  - D. Cold
19. The brain & the spinal cord make up the
- A. Peripheral nervous system
  - B. Autonomic nervous system
  - C. Central nervous system
  - D. Somatic nervous system
20. The genetic make- up of an organisms described as its
- A. Phenotype
  - B. Genotype
  - C. Character
  - D. Chromosome
21. The following are the activities of the liver except
- A. Blockages of the tubules
  - B. Passing out useful materials of the body fluid with urine
  - C. Presence of large quantity of water in urine
  - D. Passing out hormones in urine
22. The pituitary is regarded as the master gland because
- A. It is located in the brain
  - B. Its secretion are the most numerous
  - C. Its secretion control other endocrine glands
  - D. It is the biggest endocrine gland
23. The human skin is regarded as a sense organ because it
- A. Separates the body from outside world
  - B. Protects the body from cold & heat
  - C. Regulates the water content of the body
  - D. Has an outer layer of dead cells
24. Which of the following statements best explains the meaning of homologous chromosomes ?
- A. Product of division of chromosomes
  - B. Two identical chromosomes from each parent
  - C. Chromosomes arranged on spindle fibre during cell division
  - D. Chromosomes are arranged on the equatorial plate of the cell
25. Which part of the brain is concerned with the regulation of the heart beat , body temperature & breathing rate ?

- A. Cerebellum
  - B. Medulla oblongata
  - C. Cerebrum
  - D. Olfactory lobes
26. Which part of the tongue is sensitive to sugar
- A. Tip
  - B. Back
  - C. Right side
  - D. Surface
27. Blood group & tongue rolling are examples of
- A. Continuous variation
  - B. Discontinuous variation
  - C. Variation due to environment
  - D. Adaptive variation
28. Which of the following is not a type of fingerprint ?
- A. Whorl
  - B. Compound
  - C. Simple
  - D. Loop
29. How many chromosomes are found in the human ovum ?
- A. 46
  - B. 23
  - C. 33
  - D. 13
30. If a black guinea pig of genotype BB, is crossed with a white guinea pig of genotype bb, what will be the phenotype of the F<sub>1</sub> generation?
- A. Half of the offspring would be black while the other half would be white
  - B. All the offsprings would be black
  - C. All the offspring would be grey
  - D. One – third of the offspring will be black
31. Which of the following diseases can be prevented by the application of the knowledge of heredity through marriage counseling?
- A. Sickle cell anaemia
  - B. Haemophilia
  - C. Diabetes mellitus
  - D. Colour blindness
32. Which of the following actions is not an example of a simple reflex action ?
- A. Knee jerk
  - B. Blinking of the eye
  - C. Withdrawal of hand from hot object
  - D. Reading a book
33. Which of the following determines a normal male offspring ?
- A. X
  - B. Y
  - C. XX
  - D. XY
34. Which of the following is not a continuous variation ?
- A. Height of the plant
  - B. Skin colour
  - C. Ability to roll the tongue
  - D. Length of fingers
35. An individual with blood group AB can receive blood from those in blood group(s)
- A. AB only
  - B. A and B only
  - C. B only
  - D. AB and O only
36. The maintenance of a constant internal environment of an organism is known as

- A. Homeostasis
- B. Moeorhesis
- C. Turgidity
- D. Diuresis

37. Which of these is not a hereditary variation ?

- A. Infant paralysis
- B. Blood group
- C. Sickle cell
- D. Colour of the hair

38. One of the applications of variation is in

- A. Determining the size & weight of individuals
- B. Determining paternity
- C. Conservation of wild life
- D. Sex determination

40 . which of the following is not a morphological variation ?

- A. Shape of nose
- B. Colour of skin
- C. Colour of eyes
- D. Ear lobe

41. which of these is not a function of the kidney ?

- A. Production of urine
- B. Maintenance of acid-base balance in the body
- C. Osmo-regulation
- D. Removal of urea

42. which of the following organ is concerned with detoxification of harmful compounds ?

- A. Kidney
- B. Lungs
- C. Gall bladder
- D. Liver

43. Hypermetropia is corrected by the use of

- A. Concave lenses
- B. Convex lenses
- C. Cylindrical lenses
- D. Contact lenses

44. which of the following traits may not be important in marriage counselling ?

- A. Sex – determination
- B. Sickle – cell anaemia
- C. Rhesus factor
- D. Colour of skin

45. During blood transfusion , agglutination could be prevented if a patient having blood group O is given blood group

- A. AB
- B. A
- C. O
- D. B

46. Which of the following statements is **true** about blood grouping ?

- A. Group AB can donate blood to all other groups
- B. Group O are universal recipients
- C. Group A has A antigen in its plasma
- D. Group O has no antigens

47. Which of the following variations is applicable to a weight lifter?

- A. Continuous variation
- B. Discontinuous variation
- C. Hereditary variation
- D. Acquired variation

48. The character that expresses itself in the presence of the contrasting character is

- A. Hybrid
- B. Allele
- C. Recessive
- D. Dominant

49. The structure of the ear that is responsible for balancing is the

- A. Semi- circular canals
- B. Pinna
- C. Auditory nerves
- D. Fenestra

- A. The spleen
- B. The kidney
- C. Large intestine
- D. Small intestine

50. Which of the following organs in human is responsible for removal of excess water?

## THEORY

### PAPER 2– ESSAY [40 marks]

Question number 1 is compulsory. Answer any four questions from the section

1(a) The gene responsible for the production of different types of flowers has two allele. One allele (T) is dominant to the other allele (t)

A plant with flowers of the pin type has a homozygous recessive genotype

A plant with flowers of the thrum type has a heterozygous genotype

(i) Use the letter T & t to show the genotype of each of the following :

A plant with flowers of the pin type ..... [2marks]

A plant with flowers if the thrum type ..... [2marks]

(ii) A plant with flowers of the pin type was successfully pollinated by a plant with flowers of the thrum type

Complete the genetic diagram shown below & state the likely ratio of the new plants being produced with flowers of the pin & thrum types.

		plant with flowers of the pin type	
	gametes		
plant with flowers of the thrum type		.....	.....
		.....	.....

Ratio of new plants with flowers of the pin and thrum types.

[6marks]

2. (a) Name three main parts of the human brain

[3marks]

(b) State the functions of the following :

- i. Cerebrum
- ii. Hypothalamus
- iii. Medulla oblongata

[3marks]

(c) List two organs of a higher plant that can respond to stimulus

[4marks]

WAEC 2003

3. (a) What is a hormone ?

[2marks]

(b) Outline the role played by adrenaline in an emergency

Situation

[2marks]

(c) In a tabular form, list four differences between hormonal coordination & nervous

Coordination

[2marks]

(d) Name two animal hormones & two plant hormones

[4marks]

WAEC 2006

4. (a) What is variation ?

[2marks]

(b) State three advantages of variation within a species

[3marks]

(c) In a tabular form, outline four differences between continuous & discontinuous

Variations

[2marks]

(d) Explain the following terms :

- i. Sex-linked characters
- ii. Co-dominance
- iii. Hybrid vigour

[3marks]

WAEC 2009

5. (a) What is homeostasis ?

[1mark]

(b) List four organs of the human body that take part in homeostasis

[2marks]

(c) Describe in details the functions of the kidneys [4marks]

(d) Name three kidney diseases, their effects & remedies [3marks]