

GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate Of Education Examination

0565 HUMAN BIOLOGY 1

JUNE 2022

ORDINARY LEVEL

Centre Number	
Centre Name	
Candidate Identification Number	
Candidate Name	

Mobile phones are NOT allowed in the examination room.

MULTIPLE CHOICE QUESTION PAPER

One and a half hours

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

1. USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Before the examination begins:

3. Check that this question booklet is headed "ORDINARY LEVEL – 0565 HUMAN BIOLOGY 1".
4. Fill in the information required in the spaces above.
5. Fill in the information required in the spaces provided on the answer sheet using your HB pencil:
Candidate Name, Exam Session, Subject Code and Candidate Identification Number.
Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.

How to answer the questions in this examination:

6. Answer ALL the 50 questions in this Examination. All questions carry equal marks.
7. Non-programmable Calculators are allowed.
8. Each question has FOUR suggested answers: A, B, C and D. Decide which answer is appropriate. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.

For example, if C is your correct answer, mark C as shown below:

[A] [B] C [D]

9. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
10. Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
11. Do all your rough work in this booklet using the blank spaces in the question booklet.
12. At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.

Turn Over

1. How are humans different from other mammals?

- A Humans are heterodont
- B Humans are viviparous
- C Humans have pinnae
- D Humans have erect postures

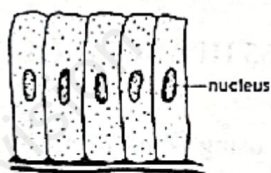
2. What is active transport?

- A Movement of substances from an area of low concentration to that of high concentration
- B Movement of solutes from an area of high concentration to that of low concentration
- C Movement of substances from an area of high concentration to that of low concentration
- D Movement of water from an area of low water potential to that of high water potential.

3. A cell organelle that plays a role in cell division is:

- A Lysosome
- B Ribosome
- C Nucleus
- D Golgi bodies

4. Identify the epithelium shown below.



(Courtesy of Roland Soper, GCSE, Human Biology).

- A Cuboidal
- B Columnar
- C Squamous
- D Transitional

5. A cell with 8 chromosomes undergoes mitosis. How many chromosomes will be found in each daughter cell?

- A 16
- B 4
- C 32
- D 8

6. A natural fibre which is good for the production of sport wears is:

- A cotton
- B wool
- C Silk
- D linen

7. Which type of muscle makes up the walls of blood vessels?

- A Cardiac muscle
- B Skeletal muscle
- C Smooth muscle
- D Striated muscle

8. Which of the following reduces friction at the joint?

- A Tendon and ligaments
- B Cartilage and synovial fluid
- C Ligaments and cartilage
- D Synovial fluid and tendons

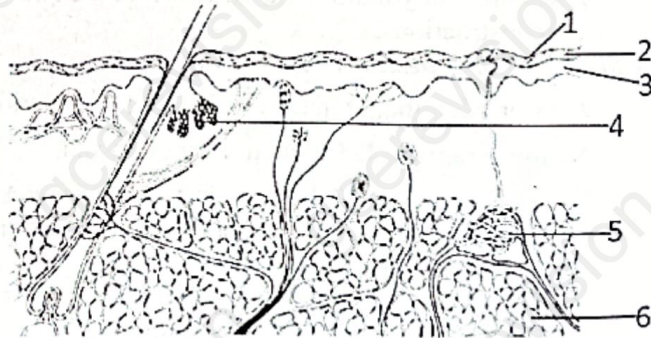
9. The chamber of the ear filled with fluid is:

- A Inner ear
- B Outer ear
- C Middle ear
- D Eustachian tube

10. The ions responsible for the conduction of nerve impulses along the neurone are:

- A Sodium and calcium
- B Potassium and calcium
- C Potassium and magnesium
- D Sodium and potassium

11. Below is the diagram of the skin.



(Courtesy of DG Macheans, Introduction to Biology).

Identify the part that regulates body temperature.

- A 5
- B 4
- C 6
- D 2

Questions 12-15 consist of two statements.

Read through the statements and then choose

- A) If both statements are true and the second explains the first
 B) If both statements are true but the second does not explain the first
 C) If the first statement is false and the second is true
 D) If both statements are false

- | | First statement | Second statement |
|----|---|--|
| 12 | The afferent arteriole which brings blood to the glomerulus is wider in diameter than the efferent arteriole which takes blood away | The blood in the glomerulus is under high pressure for ultrafiltration |
| 13 | The visible traits of an organism constitute its genotype | Albinism is a sex-linked recessive trait in humans |
| 14 | Photosynthesis uses O_2 and produces CO_2 | Autotrophs constitute the first trophic level of a food chain |
| 15 | The presence of protein in a food sample will give a red precipitate | $NaOH$ and copper II sulphate are used to test for the presence of proteins in a food sample |

16. Cells that play a role in bone formation are:

- A Osteoblasts
 B Osteoclasts
 C Osteocytes
 D Chondroblasts

17. When alleles express themselves equally in the phenotype, the condition is referred to as:

- A Sex linkage
 B Codominance
 C Incomplete codominance
 D Dominance

18. Identify the endocrine gland below which secretes a hormone that regulates blood sugar level.



(Adapted from DG Macheans, Introduction to Biology).

- A 3
 B 1
 C 4
 D 2

19. Which of these blood groups is a universal recipient?

- A Group A
 B Group B
 C Group AB
 D Group O

20. Immunity acquired through vaccination is known as:

- A Natural passive immunity
 B Artificial passive immunity
 C Natural active immunity
 D Artificial active immunity

21. An enzyme in the duodenum that acts on fats is:

- A Pancreatic lipase
 B Pancreatic amylase
 C Trypsinogen
 D Enterokinase

22. The structure which prevents food from entering the wind pipe (trachea) is the:

- A Epiglottis
 B Glottis
 C Tongue
 D Rings of cartilage

Turn Over

23. A Centre where old people are kept and taken care of is called:
 A Health care centre
 B Post-natal clinic
 C A geriatric home
 D Antenatal clinic

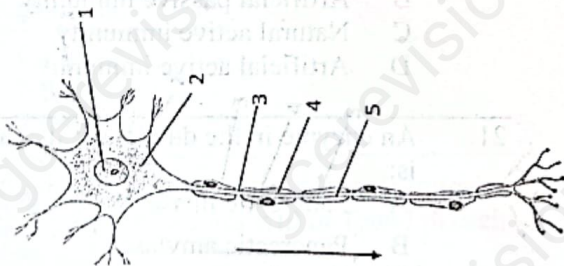
24. The causative agent of typhoid fever is:
 A Tubercule bacillus
 B Salmonella typhosus
 C Tryponema pallidum
 D Corynebacterium diphtheriae

25. Fraternal twins result from:
 A The release of two ova
 B One fertilized ovum
 C Cross fertilization
 D Failure of zygote to divide

26. The process by which the liver converts excess amino acids into urea is called:
 A Transamination
 B Desaturation
 C Detoxification
 D Deamination

27. Which component of cigarette smoke causes cancer?
 A Smoke
 B Tar
 C Nicotine
 D Carbon monoxide

28. The diagram below is that of the motor neurone.



(Courtesy of AG Toole *et al.*, Advance Level Biology Course Companion)

Which numbered structure carries impulses towards the muscle?

- A 1
 B 3
 C 4
 D 5

29. The monthly process in humans that releases an egg from the ovary is called:
 A Ovulation
 B Menstruation
 C Implantation
 D Gestation

30. Which of these blood components is biconcave in shape and lacks a nucleus?
 A thrombocytes
 B Lymphocytes
 C Erythrocytes
 D Monocytes

31. The structures used by an adult tapeworm to attach itself onto the walls of the host's small intestine are the:
 A Rostellum and suckers
 B Hooks and suckers
 C Proglottids and hooks
 D Hooks and rostellum

32. In the carbon cycle the process that converts carbon from fossil fuel to carbon dioxide is:
 A Respiration
 B Decomposition
 C Combustion
 D Fossilization

33. At what stage of the purification process of water is alum or iron III chloride added to water?
 A Sedimentation
 B Screening
 C Filtration
 D Chlorination

34. The hormone responsible for maintaining the lining of the uterus during pregnancy is called:
 A Luteinizing hormone
 B Follicle stimulating hormone
 C Progesterone
 D Prolactin

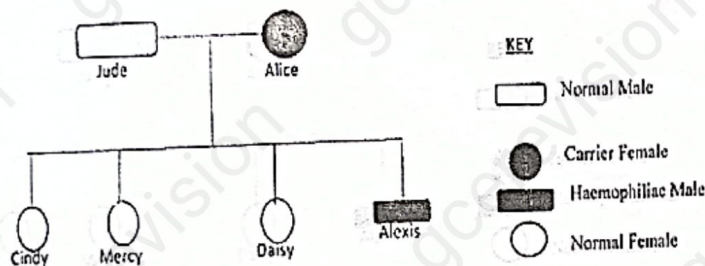
35. The term homeostasis refers to:
 A The maintenance of a constant body temperature
 B The maintenance of a constant composition of blood and tissue fluid
 C The maintenance of the water content of the body fluids
 D The maintenance of a constant external environment

36. Choose the structure of the skin that is sensitive to heat and cold.
- Hair plexus
 - Meissner's corpuscle
 - Free nerve endings
 - Pacinian corpuscle

37. Which of the following occurs during Expiration?
- The intercostal muscles relax
 - The intercostal muscle contract
 - The volume of the thorax increases
 - The volume of the thorax remains the same

38. Identify the blood vessels below that have valves in them.
- Capillaries
 - Arterioles
 - Veins
 - Venules

39. The pedigree below illustrates the sex-linked recessive trait known as haemophilia in a family.



What is the genotype of Alice?

- $X^H X^H$
- $X^H Y$
- $X^h Y$
- $X^H X^h$

40. A disease condition in which the body does not have enough red blood cells is:
- Haemophilia
 - Anaemia
 - Artherosclerosis
 - Thrombosis

41. A cold compress (ice pack) is applied on the affected joint of a victim of a dislocation as a first aid measure to:
- Keep bones in position
 - Prevent bleeding
 - Prevent tearing of muscles
 - Reduce pain and inflammations

42. Which enzymes are contained in intestinal juice?

- Ptyalin, trypsin and lipase
- Maltase, lipase and erepsin
- Ptyalin, lipase and pepsin
- Erepsin, sucrase and ptyalin

43. Identify one cause of miscarriage in human females.

- Consumption of prescribed drugs
- Insufficient secretion of oestrogen
- Excessive cigarette smoking
- Insufficient secretion of progesterone

44. A disease which spreads worldwide affecting many people at a time is known as a/an:

- Pandemic
- Endemic
- Sporadic
- Epidemic

45. What determines sex in humans?

- Alleles
- Genes
- Autosomes
- Heterosomes

46. Identify one hazard of ultraviolet radiation in humans.

- Obesity
- Miscarriage
- Deafness
- Skin cancer

47. Which class of food is responsible for growth and repair of body tissues?

- Proteins
- Vitamins
- Minerals
- Carbohydrates

48. In conditions of high salt concentration in the blood:

- No ADH is secreted by the pituitary gland
- ADH is secreted by the pituitary gland
- More salts are absorbed along the nephron
- Less water is absorbed along the nephron

Turn Over

49. An important rule of good hygiene is to:
- Exercise the body once in a while
 - Bathe immediately after exercising the body
 - Trim finger and toe nails regularly
 - Taking drugs regularly

50. A benefit of a playground to the community is:
- A place for the perpetuation of violence
 - A place for the training and practice of games
 - A place for the organizing of religious crusades
 - A place for the lodging of drug addicts

GO BACK AND CHECK YOUR WORK