

GENERAL CERTIFICATE OF EDUCATION (GCE) BOARD
General Certificate of Education Examination

0565 HUMAN BIOLOGY 1

JUNE 2021

ORDINARY LEVEL

Centre Number	http://www.gcerevision.com
Centre Name	
Candidate Identification Number	
Candidate Name	gcerevision.com

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:

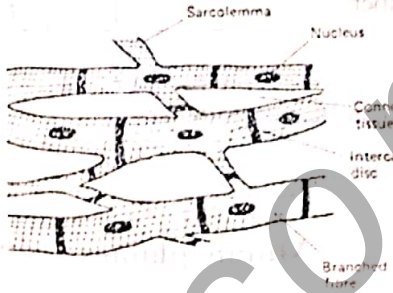
3. Check that this question booklet is headed "Ordinary Level – 0565 Human Biology 1"
4. Insert the information required in the spaces above.
5. Insert the information required in the spaces provided on the answer sheet using your HB pencil:

Candidate Name, Exam Session, Subject Code, Center Number and Candidate 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.
7. Calculators are not required.
8. Each question has FOUR suggested answers: **A, B, C** and **D**. Decide on which answer is correct. 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 that question later.
11. Do all 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. Identify the characteristic that makes man a mammal:
 - A Maintains a constant body temperature.
 - B Has an erect posture
 - C Has a four-chambered heart
 - D Has a bipedal gait
2. In a cell what is the function of the ribosomes?
 - A Package and store proteins
 - B Carry out intracellular digestion
 - C Site of protein synthesis
 - D Site of lipid synthesis
3. Active transport differs from simple diffusion in that:
 - A It moves molecules along the concentration gradient
 - B It moves molecules against the concentration gradient
 - C It selects substances to be transported
 - D It moves water molecules against the concentration gradient.
4. What type of epithelium is found in the lining of the small intestine?
 - A Squamous
 - B Stratified
 - C Cuboidal
 - D Columnar
5. What are the end products of fat digestion?
 - A Fattyacids and water
 - B Glycerol and galactose
 - C Fattyacids and glycerol
 - D Glycerol and glucose
6. Which of the following is a role of mitosis in humans?
 - A Halving the chromosome number
 - B Doubling the chromosome number
 - C Replacement of lost or damaged cells
 - D Formation of reproductive cells
7. Identify an enzyme found in intestinal juice:
 - A Lipase
 - B Pepsin
 - C Ptyalin
 - D Erepsin
8. Which of the following are components of the axial skeleton?
 - A Skull, vertebral column and ribs
 - B Skull, vertebral column and limbs
 - C Limbs, skull and ribs
 - D Limbs, ribs and vertebral column
9. The type of joint found between the bones of Skull is:
 - A Gliding
 - B Suture
 - C Pivot
 - D Hinge
10. The diagram below is that of which muscle type?
 

The diagram shows a cross-section of cardiac muscle tissue. It features several branching fibers (myocytes) with visible nuclei. The fibers are connected by intercalated discs, which are characteristic of cardiac muscle. Labels include: Sarclemma, Nucleus, Connective tissue, Intercalated disc, and Branched fibre.

(courtesy of AG Toole. Advanced level Biology, Letts).

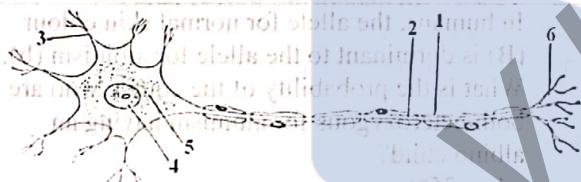
 - A Skeletal
 - B Cardiac
 - C Smooth
 - D Voluntary
11. Which reflex occurs when an object approaches the eye?
 - A Pupil reflex
 - B Blinking reflex
 - C Conditioned reflex
 - D Cranial reflex
12. Identify the correct hormone and function pair:
 - A Antidiuretic hormone ----- stimulates the reabsorption of water by the nephron
 - B Oxytosin ----- stimulates milk production by the breasts
 - C Progesterone -----stimulates the basal metabolic rate
 - D Thyroxine ----- stimulates the growth of the graafian follicles
13. Which reagent is used to test for the presence of protein in a food sample? .
 - A Benedict's solution
 - B Sudan III solution
 - C Fehling's solution
 - D Biuret's solution

14. A correct comparison between arteries and veins is:
- | Arteries | Veins |
|----------------------------------|------------------------------------|
| A All transport oxygenated blood | A All transport deoxygenated blood |
| B Have thick muscular walls | B Have thin muscular walls |
| C Have larger lumens | C Have smaller lumens |
| D Have valves at intervals | D Do not have valves |

15. In the human digestive system, which structure absorbs water from undigested remains of food?
- A Ileum
B Stomach
C Colon
D Rectum

16. Select the gland with both endocrine and exocrine functions:
- A Pituitary
B Pancreas
C Adrenal
D Thyroid

17. The diagram below shows the structure of the Motor neurone:



(Courtesy of Lorna Chambers et al.,
HIGCSE Biology 3).

Which two numbered structures make up the Cell body?

- A 4 and 5
B 3 and 6
C 1 and 2
D 2 and 4

18. The term homeostasis refers to:
- A The maintenance of a constant body temperature
B The maintenance of the concentration of blood
C The maintenance of a constant composition of blood
D The maintenance of a constant internal and external environments

19. What role does blood play in the defense of the body against infection?
- A Red blood cells regulate body fluids
B White blood cells produce antibodies
C White blood cells produce antigens
D Red blood cells engulf pathogens

20. Which is the right order of arrangement of the Ossicles in the middle ear?
- A Incus, malleus and stapes
B Stapes, incus and malleus
C Malleus, stapes and incus
D Malleus, incus and stapes

21. Why is the mammalian circulation described as being double?
- A Blood circulates round the body in two separate systems
B The mammalian heart has four muscular chambers
C Blood passes twice through the heart for each complete circuit of the body
D Blood passes through the heart once for each complete circuit of the body

22. Why do most food chains consist of not more than or at most five trophic levels?
- A A lot of energy is lost at each trophic level
B Little energy is lost at each trophic level
C Organisms have different trophic levels
D Most animals feed on plants

23. Why do most Gynaecologists recommend that Pregnant women should not drink alcohol (beer)?

- A It slows down the birth process
B It causes cancer of the uterus
C It causes foetal alcohol syndrome
D It increases the weight of the baby

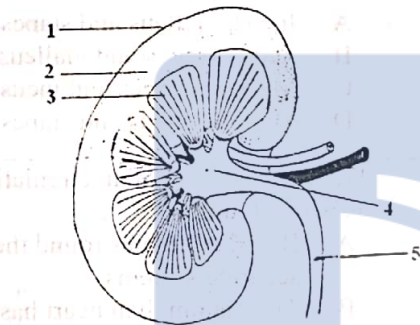
24. A person with type AB blood can safely receive a transfusion of :
- A Type AB blood only
B Type A, B, AB and O blood
C Type O blood only
D Type AB or type O blood

Turn Over

25. The process of fertilization in humans involves:
- Fusion of the egg and sperm cells
 - The swimming of the sperm cell to the egg cell
 - The fusion of the nuclei of the sperm cell and the egg cell
 - The fission of the nuclei of the egg cell and the sperm cell

26. What role does the liver play in homeostasis?
- It deaminates excess amino acids
 - It produces bile
 - It produces plasma proteins
 - It produces little heat

Question 27 and 28 refer to the diagram of the Longitudinal section of the human kidney Shown below:



(Courtesy of Lorna Chambers et al., HIGCSE Biology 3)

27. Identify the region numbered 2 in the diagram above:
- Capsule
 - Pelvis
 - Medulla
 - Cortex

28. The liquid which drains from the part Numbered 4 to that numbered 5 in the diagram above is called:
- Glomerular filtrate
 - Uric acid
 - Urine
 - Urea

29. A respiratory disorder resulting in the destruction of the lung aveoli is:
- Asthma
 - Pneumonia
 - Bronchitis
 - Emphysema

30. Which of the following takes place during expiration?
- The external intercostal muscles contract and the ribs move upwards and outwards
 - The internal intercostal muscles relax and the ribs move inwards and downwards
 - The external intercostal muscle relax and the ribs move downwards and inwards
 - The internal intercostal muscle contract and the ribs move upwards and outwards

31. What happens when a human being experiences severe cold?
- The superficial blood vessels dilate and shivering occurs
 - The superficial blood vessels constrict and the sweat glands become active
 - The superficial blood vessels constrict and shivering occurs
 - The superficial blood vessels constrict and the body's metabolic rate slows down

32. In the structure of the human skin, where is the dark-brown pigment that determines skin colour produced?
- Cornified layer
 - Malpighian layer
 - Dermal layer
 - Granular layer

33. In humans, the allele for normal skin colour (B) is dominant to the allele for albinism (b). What is the probability of the couple who are both heterozygous for albinism having an albino child?
- 25%
 - 50%
 - 100%
 - 75%

34. Identify two natural fibres that can be used to make clothes:
- Linen and polyester
 - Wool and nylon
 - Cotton and terylene
 - Silk and cotton

35. In the hospital, emergency cases are first handled in the:
- Surgical unit
 - Emergency unit
 - Operating unit
 - Laboratory

Question 36-38 consist of two statements.

Choose A if both statements are true and the second statement is correct explanation of the first statement

Choose B if both statements are true but the second statement is not a correct explanation of the first statement.

Choose C if the first statement is true but the second statement is false.

Choose D if both statements are false.

	First statement	Second statement
36.	Natural passive immunity can last for a life time.	Natural passive immunity is acquired after an infection. A B C D
37	Malaria is an endemic disease	Malaria is always present in the community affecting many people. A B C D
38	Haemophilia is a sex-linked hereditary disease	Haemophilia is caused by either a recessive gene or a dominant gene on the X chromosome. A B C D

39. The testicles of the human males are suspended in the scrotal sacs because:
- It provides optimum temperature for sperm production
 - The sperms are easily expelled from the penis during ejaculation
 - Sperm production requires very high temperature
 - There is not enough space in the pelvis to house the testicles internally

40. Which one of these pollutants is correctly matched with its effect on the environment?
- Chlorofluorocarbons----- production of Acid rain
 - Crude sewage ----- causes Eutrophication
 - Sulphurdioxide ----- depletes the ozone Layer
 - Carbonmonoxide ----- leads to global warming

41. An immediate first aid measure that can be used to save the life of an electrocuted person is to:
- Immediately call the electricity company
 - Immediately pull him out from the electricity source with the hands
 - Immediately switch off the electricity supply
 - Immediately pull him out from the electricity source with an iron rod

42. A biological advantage for exclusively breastfeeding a baby for the first six months of life is to:
- Bring about a close relationship between the mother and the baby
 - Protect the baby against mechanical injury
 - Protect the baby against infections
 - Save money that is used in buying artificial milk

43. Identical twins result from:
- Fertilization of one egg cell by two different sperm cells
 - Fertilization of two egg cells by the same sperm cell
 - Fertilization of two egg cell by two different sperm cells
 - Fertilization of one egg cell by a single sperm cell

44. In the life cycle of the pork tape worm the fertilized eggs develop into hexacanth embryos called:
- Oncospheres
 - Cysticercus
 - Bladder worm
 - Cercaria

45. Identify a fungal disease from the list below:
- Chlamydia
 - Mumps
 - Athlete's foot
 - dysentery

46. The group of drugs which slow down the activities of the central nervous system is called:
- Sedatives
 - Depressants
 - Hallucinogens
 - Narcotics

Turn Over

47. Which is the best method for disposing non-biodegradable waste?

- A Composting
- B Pulverization
- C Incineration
- D Recycling

48. What is the importance of adding chlorine to water during the sterilization step of water purification?

- A To kill pathogens in the water
- B To remove particles of inorganic matter
- C To speed up the settling of fine particles
- D To remove organic matter from water

49. The genotype of an organism is the:

- A Visible traits of the organism
- B Gene composition of the organism
- C Effects of environmental factors on the organism
- D Heterozygous state of the organism

50. Identify one role of a non-governmental Organization:

- A Fights against human right abuses
- B Trains juvenile delinquent children
- C Carries out evangelization in communities
- D Rehabilitates convicts

STOP

GO BACK AND CHECK YOUR WORK