70 BIOLOGY ESSAY QSNS

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70 BIOLOGY ESSAY QUESTIONS

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

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1 Describe how fruits and seeds are suited to their mode of dispersal (20mks)

2.(a) What is natural selection? (2mks)

(b) Describe how natural selection brings about adaptation of a species of a living organism to its environment. (18mks)

3. Describe the role of the liver in homeostasis. (20mks

4. (a) **State three** reasons why transport is necessary in animals. 3mks

(b) **Describe** how the mammalian heart is adapted to its function 17mks

5 . Describe the events that take place from the time a pollen grain lands on the stigma of the flower up to the time the seeds form. (20mks)

6. Discuss the adaptations of the mammalian skin to its function. (20mks)

7. a) Explain the meaning of each of the following as used in evolution.

i) Natural selection (3mks)

ii) Struggle for existence (3mks)

b) Discuss the evidences of organic evolution (14mks)

8. a) Briefly describe the circulation of blood in a mammalian heart. (6mks)

b) Discuss the pumping mechanism of the heart. (14mks)

9. Describe the role played by growth hormones in growth and development in plants. (20mks)

10. a) Describe how insect pollinated flowers are adapted to pollination (10mks)

b) Explain how seeds and fruits are adapted to wind and animal dispersal (10mks)

11. Explain how a finned fish is adapted to locomotion in water (20mks)

12. Describe how various factors regulate population growth in an ecosystem. (20mks)

13. a) Describe how the structure of the eye is adapted to its function. (16mks)

b) Identify two defects of the eye and how they can be rectified. (4mks)

14. Describe how the following types of plants are adapted to their habitats:

a) Mesophytes (10mks)

b) Halophytes (5mks)

c) Hydrophytes (5mks)

15. Discuss the adaptations of the human eye to its functions (20mks)

16. a) Describe how the heart beat is controlled and maintained (10 marks)

b) Describe the structure and function of thrombocytes (10 marks)

17. a) Define the term secondary thickening (2mrks)

b) Briefly describe how secondary thickening occurs in woody plants (14mrks)

c) i) State **two** ways in which growth in plants is different from that in animals (2mrks)

ii) State how ecdysis affects the growth of insects (2mrks)

18. (a) Explain the role of Auxin in Geotrophic response in plants (5 marks)

(b) Describe other roles of hormones in the growth and development of plants(15 marks)

19. a) Describe how xerophytes are adapted to living in their habitat. (10mks)

b) Explain how an upright position is maintained in herbaceous plants. (10mks)

20. (a) Describe the mechanism of inhalation in man. (10mks)

(b) Using photosynthesis theory explain the mechanics of opening of stomata. (10mks)

21. Discuss the adaptations of the reproductive system of a male mammal to its function (20 Marks)

22. Explain how abiotic factors affect plants. (20mks)

23. (a) Name and state the functions of the cellular components of mammalian blood. (7marks)

(b)What are the functions of the blood plasma in mammals? (13marks)

24. Explain how a bony fish is adapted for movement in its habitat. (20marks)

25. Describe how water moves from the soil to the leaves in a tree. (20mks)

26. Explain the role of human skin in:

(a)Thermo regulation. (14mks)

(b) Protection (6mks)

27. Describe the role of hormones in human female menstrual cycle. (20 marks)

28. (a) Explain why plants lack elaborate excretory organs like those found in animals. (3mks)

(b) Name **five** methods of excretion in plants. (5mks)

(c) State any **six** excretory products in plants and give economic uses. (12mks)

29. (a) Explain how plants can eliminate metabolic waste products. [8 marks]

(b) Explain why plants have less specialized excretory organs as compared to animals. [5 marks]

(c)How is the kidney adapted to perform its function? [7 marks]

30. (a) What is meant by the term digestion (2mks)

(b) Describe how the mammalian small intestine is adapted to its function (18mks)

31. (a) Explain the economic importance of plant excretory products. (10 marks)

(b) Describe the adaptations of the lungs to their function.

32. Describe the process of fertilization in a flowering plant. (20 marks)

33. Describe the structure and functions of the various parts of the human ear. (20 marks)

34. (a) Describe one method which can be used to measure growth rate of a single leaf plant (6 mks)

(c)Describe secondary thickening in flowering plants. 14 mks

35. a) State two factors which increase the rate of mutation. 2 mks

(b) Describe the various types of chromosome mutations and their effects in human beings. (18mks)

36. Describe the functions of the various components of the mammalian blood. (20mks)

37. Describe the following stages of photosynthesis. (20 mks)

a. Light stage (10mks)

b. Dark stage (10mks)

38. Describe the adaptations of a dicotyledonous stem to its functions. (20mks)

39. Describe the economic importance of members in the kingdom fungi giving appropriate examples where possible. (20mks)

40. (a) Described how the structure of the heart is adapted to it's function. (10mks)

(b) Describe how the schistosoma is adapted to it's parasitic mode of life. (10mks)

41. *a)* How is the structure of mammalian gaseous exchange system adapted to its functions. (10marks)

b) Describe the mechanism of opening and closing of the stomata using the photosynthetic theory. (10marks)

42. a) What assumption are made when using the captured recapture method in estimating population of animals. (5mks)

b) Describe how you would use the capture – recapture method to estimate the population of fish in the school pond. (15mks)

43. Describe the structure and function of the various parts of the mammalian brain. (20mks)

44. Discuss the various evidences which show that evolution has taken place. (20mrks)

45. a) Describe how urea is formed (5 marks)

b) Describe the path followed until it is eliminated from the body (15 marks)

46. (a) Describe the adaptation of floating water lily leaf to its photosynthetic function. (10mks)

(b) Describe the activities that take place in the chloroplast of growing plants. (10mks)

47. (a) What is reflex action? (lmk)

(b) Describe what happens in the nervous system of a person who withdraws a finger from avery hot object. (14mks)

(c) Explain what happens to a young growing seedling when exposed to unidirectional source of light. (5mks)

48. (a) Outline the characteristics of the meristematic tissues. (5mks)

(b) Explain how different meristematic tissues contribute to growth higher plants. (l5mks)

49. a) Describe how semicircular canals perform their functions (8 marks)

b) Describe how the cervical, lumbar and sacral vertebrae are suited to their functions (l2 marks)

50. a) State four characteristics of gaseous exchange surfaces. (4 marks)

b) Explain the theories for opening and closing of the stomata (16 marks)

51. a) Explain the factors that affect the rate of transpiration in plants. (l2mks)

b) Describe different ways in which plants respond to different stimuli. (8mks)

52. Explain how various environmental factors affect the rate of transpiration in plants. (20 mks)

53. (a) State the meaning of the following terms.

(i) Digestion (2mks)

(ii) Ingestion (2mks)

(b) Describe the process through which a piece of ugali undergoes in man from the time of ingestion up to the time of absorption. (16mks)

54. Describe how the skin regulates the body temperature in humans. (20mks)

55. Describe causes and methods of controlling water pollution. 20 Mrks

56. a) Describe the characteristics and functions of the three types of muscle found in the mammalian body. (11mks)

b) Explain how the various components of blood are adapted to perform their functions. (9mks)

57. (a) State four characteristics of gaseous exchange surfaces. (4mks)

(b) Describe the mechanism of gaseous exchange in a mammal. (l6mks)

58. (a) What is meant by the term digestion? (2mks)

(b) Explain the role of bile in the digestion of food. (4mks)

(c) Describe the digestion of protein in the human body. (l4mks)

59. Describe how gaseous exchange takes place in terrestrial plants. (20mrks)

60. Explain how the various activities of man have caused air pollution. (20mks)

61. a) What are enzymes? (2mks)

b) State the properties of enzymes (6mks)

c) Discuss the factors that affect the rate of enzyme – catalysed reactions (12mks)

62. A student ate lean meat for break fast, Explain fully how the meal eventually becomes part of the body tissue. (20mks)

63. (a) With aid of a large labeled diagram describe the process of fertilization in a flowering plant. (14mks)

(b) How does the process above differ from that in Bryophytes. (6mks)

64. Describe the structure and functions of various organelles in a mature animal cell. (20 marks)

65. a) Explain how the tracheal system in arthropods is adapted for gaseous exchange (10mks)

b) Explain the mechanism of opening and closing of the stomata using photosynthetic theory

66. a)State **three** aspects of light that are important in photosynthesis. (3mks)

b)Describe how the leaves of plants are adapted to carry out photosynthesis. (17mks)

67. (a) Describe the dentition of carnivorous mammals and their adaptation to the mode of Feeding (10mks)

(b) Explain the different forms of chromosomal mutation (10mks)

68. (a) Explain the conditions necessary for germination in seeds. (12 marks)

(b) Describe the role of the following hormones in growth and development of plants.

i) Auxins (4 marks)

ii) Gibberellins (4 marks)

69. a) what is meant by the following terms

i) excretion

ii) secretion

iii) Egestion

iv)homeostasis

(b) Explain how the osmotic pressure in the human blood is maintained at normal level. (12 marks)

(c)Describe how the oxygen in the alveolus reaches the red cells. (4 marks)

70. (a) Describe the various mechanism of fruit and seed dispersal.

(b) Describe the various events that occur in a flower after fertilization.