

FORM SIX MONTHLY TEST OCTOBER, 2020
BIOLOGY 2

TIME: 3 HOURS

INSTRUCTIONS

- (i) This paper consists of six (6) questions
- (ii) Answer any five (5) questions. each question carries 20 marks
- (iii) Except for diagrams that must be in blue or black ink
- (iv) Write your full name in every page of your answer sheet.

ANSWER ANY FIVE (5) QUESTIONS

1. (a) Arthropoda is the most successful group distributed in almost all habitats from terrestrial to aquatic environment. Briefly explain ten (10) adaptations of arthropod to their environment.
(b) (i) Classify the following organisms to class level. Earth worm, Ascaris and Snake.
(ii) Explain five adaptations of roundworm to their mode of life
(iii) Provide five points to support that snake belongs to the phylum which you have named in 1 b(i) above.
2. (a) Briefly explain how aldosterone and juxtaglomerular complex are involved in control of osmoregulation
(b) Explain four common kidney problems in human.
3. Explain phases of mitosis in human, (diagrams necessary)
4. (a) Explain how each of the following contribute to the process of evolution
 - (i) Adoptative radiation
 - (ii) Comparative biochemistry
(b) (i) Darwin's and Lamack's theory of organic evolution tried to explain the role of environment to the organic evolution. The modern theory (Neo-Darwinism) is the best theory. Re explain the Neo-Darwinism theory of organic evolution (3 points)
(ii) State short comings of Lamark's theory of evolution (3 points)
5. (a) Explain five properties of genetic code
(b) Describe the process of Transcription in eukaryotes.
6. In white Leghorn fowl, plumage colour is controlled by two sets of genes, including the following
W (white dominant) over w(colour)
B (black dominant) over b(black colour)
The heterozygous F1 genotype is white. Account for this type of gene interaction (show clearly)