

June 2010

1. Write short notes on

- (a) Binomial system of nomenclature**
- (b) Reasons for classification**
- (c) Biological classification systems**
- (d) Taxonomic hierarchy (5 x 4mks)**

2. (a) Discuss the role of extra embryonic membranes in the development of the foetus.

(b) What are the functions of the placenta?

(c) Explain how drinking of alcohol by a pregnant woman may harm the unborn baby. (7, 5, 8 mks)

3. (a) Describe fully how mammalian blood picks up and transports respiratory gases.

(b) Describe the part played by hormones and the nervous system in controlling heartbeat

4. (a) Define pollution

(b) Describe briefly the hazards of water and air pollution

(c) Describe the health hazards that can be posed by an illegal dumping ground in Cameroon.

6. (a) (i) What are recombinant DNA molecules?

(ii) Illustrate the process by which recombinant DNA molecules are usually constructed.

(b) (i) What problems may arise if you were trying to produce a eukaryotic protein in a bacterial cell?

(ii) How can some of these problems be solved? (10, 10 mks)

7. (a) Explain the following terms, (i) Photosynthesis (ii) Compensation point (iii) A limiting factor

(b) Briefly explain how three named factors can be limiting in the process of photosynthesis

(c) Distinguish between C3 and C4 plants.

(6, 8, 6mks)

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8. (a) Explain the meaning of the following terms as used in genetics (i) Homogametic (ii) Autosomes (iii) Sex-linked traits

(b) (i) A normal woman has a colour blind daughter. What is her genotype and that of her husband with respect to this gene? Explain your answer.

(ii) Could this couple have a normal daughter and a normal son? What are the probabilities? Explain your Answer ,giving reasons.

(c) Why is X-linkage more common than Y-linkage in humans?