



UNIVERSITY OF THE PUNJAB

Fifth Semester – 2019

Examination: B.S. 4 Years Program

Roll No. in Fig.

Roll No. in Words.

PAPER: Evolution

MAX. TIME: 15 Min.

Course Code: ZOOL-308 Part-I (Compulsory)

MAX. MARKS: 10

Signature of Supdt.:

Attempt this Paper on this Question Sheet only.

Please encircle the correct option. Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the right answer, cutting and overwriting is not allowed. (1x10=10)

1. What's the difference between genetic drift and change due to natural selection?
(A) Genetic drift does not require the presence of variation.
(B) Genetic drift does not involve competition between members of a species.
(C) Genetic drift never occurs in nature, natural selection does.
(D) There is no difference.
2. Of the following, which characterize a population in Hardy-Weinberg equilibrium?
(A) large population size
(B) No mutation
(C) absence of gene flow
(D) All above
3. Which of the following are difficult to explain in terms of natural selection?
(A) Male peacocks evolve tail feathers that would appear to make them more rather than less vulnerable to predators.
(B) Male deer evolve antlers that are not used to defend themselves against predators.
(C) A bird issues a warning cry that puts it at greater risk of being noticed by a predator.
(D) Some traits appear to have no adaptive value.
4. Disruptive selection occurs when
(A) the environment controls which organisms will survive.
(B) the extremes of the population have a lesser chance to survive
(C) the extremes of the population have a better chance to survive
(D) the organisms on one extreme of the population have a better chance to survive
5. A modern day example of evolution and natural selection is:
 - i. The evolution of humans
 - ii. The evolution of car designs
 - iii. The evolution of antibiotic-resistant bacteria.
6. Primitive atmosphere was ____ with no free molecular oxygen.
 - a. Oxidizing
 - b. Reducing
 - c. Dry
 - d. mild

P.T.O.



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PAPER: Evolution

Course Code: ZOOL-308 Part – II

MAX. TIME: 2 Hrs. 45 Min.

MAX. MARKS: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short answers to the following questions.

(2x10=20)

- i. Differentiate between Directional selection and disruptive selection.
- ii. Define Macroevolution.
- iii. What is Neutral selection?
- iv. How polymorphism is maintained in population when natural selection is working on it?
- v. Describe reasons of genetic load in population.
- vi. Differentiate between migration and founder effect.
- vii. What is progenesis?
- viii. What is Hamilton's rule of genetic relatedness?
- ix. Why group selection is a weak force?
- x. What is theory of Lamarck about Evolution.

Answers all the following questions briefly.

(3x10=30)

Q3. Describe causes of imperfect adaptations in detail. (10)

Q4. What is Linkage disequilibrium and discuss its causes in detail. (10)

Q5. What is unit of Selection? Individual or Gene. Discuss in detail (10)