Solutions – 29

Class: XII   **Sub: Biological Science**   **Date: 08.07.2020**

Topic: Chapter 7 (Part 7) Mechanism of Evolution – Hardy Weinberg's principle of Equilibrium

F.M. : 15

Choose the correct option: **(1x15=15)**

1. According to the modern synthetic theory of Evolution, what is the unit of Evolution?
   a) Single individual   b)Population c) Community d) Biome
   Answer : Population (b)

2. A Mendelian population has the following characteristic :-
   a) Similar genetic constitution b) Random Mating c) No preferential mating d) All of these
   Answer : All of these (d)

3. In population genetics gene pool represents the sum total of all the genes present in a /an :-
   a) Individual b) Two mating individual c) Mendelian population d) All of these
   Answer : Mendelian population (c)

4. Random mating in a Mendelian population results in :-
   a)Genetic drift b) Free gene flow c) More variations d) Both (b) and (c)
   Answer : Both (b) and (c) (d)

5. Hardy and Weinberg proposed the principle of Equilibrium in the year :-
   a) 1908   b) 1901 c) 1933 d) 1809
   Answer : 1908 (a)

6. The proportion of an allele in relation to the total number of alleles of a gene present in a panmictic population is called :-
   a) Gene frequency b) Allele frequency   c) Genotype frequency d) Both (a) and (b)
   Answer : Both (a) and (b)   (d)

7. According to Hardy Weinberg's principle if no evolutionary forces operate on a population then the following remains constant :-
   a) Gene frequency   b) Genome c) Genotype frequency d) Both gene frequency and genotype frequency
   Answer : Both gene frequency and genotype frequency (d)

8. The equation for Hardy Weinberg can be mathematically written as (p and q are alleles of one another):-
   a) p-q=1   b) $p^2+2pq+q^2 = 1$ c) pxq=1   d) p/q=1
   Answer : $p^2+2pq+q^2 = 1$ (b)

9. The proportion of one type of genotype of a particular locus with respect to the total number of individual is :-
   a) Genotype frequency b) Genotype occurrence c) Genotype count   d) All of these
   Answer : Genotype frequency (a)

10. Variation in a panmictic population can be due to :-
    a) Point mutation b) Chromosomal aberrations c) Genomic mutation d) All of these
    Answer : All of these (d)

11. The process of immigration in a population under study results in :-
    a) Inflow of genes   b) Exit of gene flow c) Genetic drift d) None of these
    Answer : Inflow of genes (a)

12. The moving out of individuals from one population is called :-
    a) Immigration b) Emigration c) Divergence d) Convergence
    Answer : Emigration (b)

13. The mechanisms which reduce the chances of interbreeding in a population of species:-
    a) Isolation b) Adaptation c) Immigration d) All of these
    Answer : Isolation (a)

14. Isolation can be in the form of :-
    a) Reproductive b) Geographical c) Ethological d) All of these
    Answer : All of these (d)

15. Hardy-Weinberg's principle operates only on _____ type of population.
    a) Small b) Large and randomly mating c) Large with preferential mating d) Small and randomly mating
    Answer : Large with randomly mating (b)

Shaista Ahmed