K21U 0088

Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CBCSS – Reg./Supple./Improv.) Examination, April 2021
(2014 – 2018 Admissions)
CORE COURSE IN BOTANY/PLANT SCIENCE
6B11BOT/PLS – Genetics, Biostatistics and Evolution

Time : 3 Hours Max. Marks : 40

SECTION – A

Answer **all** :

1. The term 'gene' was introduced by
   a) Gregor Mendel
   b) Benzer
   c) Hugo De Vries
   d) Johanssen
2. In duplicate gene interaction the ratio will be
   a) 9:3:3:1
   b) 15:1
   c) 9:7
   d) 13:3
3. Genetic drift affects
   a) Smaller population
   b) Larger population
   c) Population with high diversity
   d) Independent of population characteristics
4. Analogous structure are
   a) Same structure with different function
   b) Different structure with same function
   c) Represents evolutionary rudiments
   d) None of these

(4×1=4)

SECTION – B

Answer **any eight** :

5. Explain *Neo Lamarckism* and its significance.
6. Briefly explain *directional selection* with suitable examples.
7. What is *co-dominance* ?

P.T.O.

8. Briefly explain *Urey Miller* experiment.
9. By citing examples, differentiate *sex linked inheritance* from *sex limited traits*.
10. How will you find central tendency in statistics ?
11. What are *lethal genes* ?
12. What is *peripatric speciation* ?
13. What is *chiasma* ? What is the significance of *chiasma* ?
14. How evolutionary trees are constructed ?
15. Explain *law of segregation*.
16. What is *regression* ?
17. What is *natural selection* ? Mention some examples.
18. Define Hardey-Weinberg principle.
19. What are autopolyploids ?
20. Define quantitative inheritance. **(8×2=16)**

SECTION – C

Answer **any four** :

21. Define epistasis. Give an example for recessive epistasis.
22. Explain bio-chemical evolution.
23. Explain the mechanism behind shell coiling in snails.
24. Explain Chi square test. Write its significance.
25. What is dispersion ? How will you find dispersion ?
26. Explain evidences of Organic evolution.
27. How pedigree is helpful in solving the genetical problems in a family ?
28. Explain micro and mega evolution. Briefly explain evolutionary forces which affect them ? **(4×3=12)**

SECTION – D

Answer **any one** :

29. Explain Darwinism. Discuss the limitations of this theory.
30. Explain Chromosome mapping. How mapping is important in genetics ?
31. With special reference to ANOVA explain the applications of statistical tools in biology. **(1×8=8)**

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