'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 6th Semester Examination, 2022

CC14- ZOOLOGY

Time Allotted: 2 Hours | Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

1. Answer any ***five*** of the following: 1×5 = 5

   (a) According to Darwinian concept, struggle for existence is a consequence of _____. (Fill in the blank)

   (b) Ethological isolation is a type of _____ isolating mechanism. (Fill in the blank)

   (c) Mention the characteristics of hot dilute soup.

   (d) Define polyploidy citing example.

   (e) What is convergent evolution?

   (f) What do you mean by blastogenic variations?

   (g) What is Founder's effect?

   (h) Define median.

GROUP-B

2. Answer any ***three*** of the following: 5×3 = 15

   (a) Write a note on Biological species concept. Distinguish between allopatric and sympatric speciation.

   (b) Write a short note on Lamarckism.

   (c) Describe Stanley Miller and Harold Urey's experiment. Mention the energy sources of primitive Earth. 4+1

   (d) What is meant by point mutation? Elucidate the basic concept of neutral theory of molecular evolution. 1+4

   (e) In one experiment, a random sample of 15 *Anabas scandens* were obtained from a fish pond and their body weight (in grams) were measured as enumerated below. Calculate their arithmetic mean.

Body weight	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	10-10.9
No. of fishes	1	2	4	3	3	2

GROUP-C

3. Answer any ***two*** of the following: 10×2 = 20

(a) What is coacervate? Elucidate different steps of biochemical origin of life on earth. 2+8

(b) Discuss Darwin's theory of natural selection and origin of species. Comment on its present status. 8+2

(c) What is Hardy-Weinberg equilibrium? Derive the equation from a real population. State the factors that disrupt the equilibrium. 2+5+3

(d) The total number of eggs laid by insects of a species in a single batch were as follows. Calculate the standard deviation from this data.

No. of eggs	8	9	10	11	12	13	14	15
No. of insects	3	4	4	4	5	3	3	2

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