19001711

M.Sc. DEGREE (C.S.S.) EXAMINATION, JUNE 2019

Second Semester

Faculty of Science

Branch VI : Botany

PC 8—GENETICS AND BIOCHEMISTRY

(2012 Admission onwards)

Time : Three Hours   Maximum Weight : 30

I. Answer any *six* of the following in not less than 50 words (Weight 1 each) :

    1   Explain co-efficient of coincidence.

    2   What is *two* point cross ?

    3   What is polygenic inheritance ?

    4   What are co-dominant genes ?

    5   What is bottleneck effect ?

    6   What is inbreeding co-efficient ?

    7   Explain the following :

        (a) K_w.

        (b) pH.

        (c) pK_a.

    8   What are lectins ? What is its functions ?

                                                                                             $(6 \times 1 = 6)$

II. Answer any *seven* of the following in not less than 100 words (Weight 2 each) :

    9   Write notes on Proto-oncogenes.

    10 Mention the factors that alter allelic frequencies.

    11 Explain the structure of cellulose.

    12 Mention the structure of amino acids.

Turn over

13 Write notes on peptide bond.

14 What are the general characters of enzymes ?

15 Explain strain and distortion theory.

16 What is Line weaver-Burk plot ?

17 What is Bi-Bi mechanism ?

18 Write notes on Dixon plot.

$(7 \times 2 = 14)$

III. Answer any *two* of the following in not less than 250 words (Weight 5 each) :

19 Describe the biosynthesis of amino acids.

20 Give an account of the structure and role of Vitamin derived co-enzymes.

21 Explain the factors that alter allelic frequencies.

$(2 \times 5 = 10)$