2024/SEM/EVEN/09/26/LISB-653(B)/178

PG Even Semester Exam, 2024

Life Science & Bioinformatics

4th Semester

COURSE NO. LS-653 (B)

[Plant Biology- II]

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer all questions,

1. a. With the help of suitable model describe transcriptional modifications in eukaryotes. 9

   b. Describe the process of DNA-protein interaction in eukaryotes. 5

Or

2. a. What is DNA methylation? How DNA methylation regulate gene expression. 1+7=8

   b. With the help of suitable model describe the process of RNA interference. 6

Turn over

3. a. Write notes on key points of Hardy Weinberg Law. With the help of an example prove P + q =1 in a Hardy –Weinberg equilibrium. 3+6=9

   b. What do you mean by variation? Write about the components of genotypic variation. 1+4=5

Or

4. a. How genetic drift and genetic slippage affect the frequency of gene in a gene pool? 6

b. With the help of suitable model describe the process of self incompatibility in plants. 8

5. Write an account of Nanospore sequencing technology. Illustrate its advantages and limitations in genome sequencing. Add a note on its applications in plant genome sequencing. 7+4+3=14

Or

6. Write notes on following: 7x2=14

a. Real time PCR and its applications

b. RFLP and PCR RFLP

7. Illustrate citing examples how chloroplast targeted genetic engineering for improvement of plant trait and productivity is achived? 14

Or

8. Write short notes on: 5+3+6=14

a. Agrobacterium as plant genetic engineer.

b. Ethical considerations in plant genetic engineering.

c. GM-Mustard

9. Write short notes on: 7x2=14

a. ADMETox

b. Lipinski Rule of 5

Or

10. Discuss in detail the different steps involved in molecular Docking. 14

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