C 80675

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Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, MARCH 2020

(CUCSS)

Botany

BO 04 ET 14 03—GENETIC ENGINEERING

Time : Three Hours

Maximum : 36 Weightage

I. Answer the questions very briefly (Weightage 14 × 1 = 14 Grades : A, B, C, D, E) :

1 What is western blotting ?

2 What is an expression cassette ?

3 Define Codon.

4 What is Klenow fragment ?

5 Define Transgenesis.

6 Differentiate facultative gene and inducible gene.

7 What is bioremediation ?

8 Comment on cosmids.

9 Explain expression profiling.

10 What is drug targeting ?

11 Write a note on promotor site.

12 Explain molecular probes.

13 What is chimeric DNA ?

14 Differentiate microsatellites and minisatellites.

II. Answer any *seven* questions in not more than 100 words (Weightage 7 × 2 = 14 Grades : A, B, C, D, E) :

15 Briefly narrate how the production of hormones could be achieved through genetic engineering

16 Write a note on DNA microarrays.

17 Explain the importance of DNA fingerprinting in forensic science.

Turn over

18 Give an account on *Agrobacterium* mediated transformation.

19 Explain restriction mapping.

20 Briefly explain hybridoma technology.

21 Give an account on the importance of genetically engineered organisms in reducing environmental pollution.

22 Explain the principle of electrophoresis. Mention its applications.

23 Give an account on the delivery systems used in gene therapy.

24 Comment on enzymatic method of gene sequencing.

III. Answer any *two* questions in not more than 300 words (Weightage 2 × 4 = 8 Grades : A, B, C, D, E) :

25 Explain how a transgenic rice with improved water stress tolerance can be created.

26 Write an account on nanobiotechnology and its applications.

27 Explain PCR. Write about different types of PCR.

28 Explain gene expression in Eukaryotes.