13. What are ESTs and SAGE ? Describe the different steps involved in the development of EST and SAGE data for a plant species.

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(201217) Roll No. 1693538

M. Sc.(Biotech.)-III Sem.

NP-3341

M. Sc. (Biotechnology) Examination,

Dec. 2017

Genomics and Proteomics

[(H-304) M. Sc. (Biotech.)]

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Answer all the *five* questions. Each question carries 2 marks. Very short answer is required. 2×5=10

1. What are gene families ?

2. What is gene polymorphism ?

3. Write down the uses of EST libraries.

4. What is antibody microarray ?

5. What is microsatellite ?

Section-B

(Short Answer Questions)

Answer any *two* questions out of the following three questions. Each question carries 5 marks. Short answer is required. 5×2=10

6. Explain the role of functional genomics in Cancer treatment.

7. What are the distinguishing features of yeast chromosome ?

8. What is the difference between orthologous genes and paralogous genes ?

Section-C

(Detailed Answer Questions)

Answer any *three* questions out of the following five questions. Each question carries 10 marks. Answer is required in detail. 10×3=30

9. Describe the process of proteome analysis by 2D electrophoresis and mass spectrometry.

10. Define DNA microarrays. How can you construct DNA microarrays with the help of PCR technology. Write down the possible major applications of DNA microarrays.

11. Define drug efficacy. Discuss about the effectiveness of any drug with given suitable examples.

12. What is transcriptome ? Describe the different methods of transcriptome analysis.

G (Printed Pages 3)

(21218) Roll No. 1709356452

M.Sc. (Biotech.)-III Sem

NP-3341

M.Sc. (Biotechnology) Examination, Dec. - 2018

Genomics and Proteomics

[(H-304) M.Sc. (Biotech.)]

Time : 3 Hours] *[Maximum Marks : 50*

Note : Attempt questions from **all** sections as per instructions

Section-A

(Very Short Answer Questions)

Note : Answer **all** the **five** questions. Each questions Carries **2** marks. Very short answer is required. 2×5=10

1. Write a short note on proteomics and drug development. 2
2. What is toxicogenomics? 2

P.T.O.

3. Write a note on protein chips. 2

4. What is DNA-Protein interactions? 2

5. What do you mean by image analysis? 2

Section-B

(Short Answer Questions)

Note: Answer any **two** questions from this section. Each question carries **5** marks. Short answer is required. 5×2=10

6. Provide genetic evidences for mitochondrial and chloroplast genomes resembling prokaryotic origin. 5

7. Discuss the applications of gene maps in genetic improvement of plants. 5

8. Discuss the yeast two hybrid system and its applications. 5

Section-C

(Detailed Answer Questions)

Note: Answer any **three** questions from this sections. Each question carries **10** marks. Answer is required in detail. 10×3=30

9. Discuss the significance of proteomics research and describe the method of proteomes analysis. 10

10. Discuss in detail the use of microbial genomes in industry and agriculture. 10

11. How do physical maps differ from genetic maps and why? Describe briefly methods for physical mapping of molecular markers or DNA sequences. 10

12. Write detailed notes on the following : 10
    (a) Phylogenetics
    (b) T- DNA insestion
    (c) Multiprotein complex and their analysis.

13. Write detailed note on: 10
    (a) Use of pharmacogenomics
    (b) Approaches of proteomics and cancer research

A

(21119) Printed Pages : 3

Roll No. .....

M.Sc. (Biotech.)-III Sem.

NP-3341

M.Sc. (Biotechnology) Examination, November-2019

GENOMICS AND PROTEOMICS

[(H-304) M.Sc. (Biotech.)]

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt questions from **all** sections as per instructions.

Section–A

Very Short Answer Questions

Note : Answer **all** the **five** questions. Each question carries 2 marks. Very short answer is required.

5×2=10

1. Write a note on DNA chips. 2
2. Comment in brief on genome evolution. 2
3. What are personalized medicines. 2
4. Comment upon TILLING. 2
5. Write in brief on SALDI. 2

Section–B
Short Answer Questions

Note : Attempt any *two* questions from this section. Each question carries 5 marks. Short answer is required.

6. Write a detail note on insertion mutagenesis. 5

7. Comment upon Human Genome Project in detail. 5

8. How do physical maps differ from genetic maps and why? 5

Section–C
Detailed Answer Questions

Note : Answer any three questions from this section. Each question carries 10 marks. Answer is required in detail.

9. Give a critical account on genome sequencing. Discuss whole genome shotgun approach of genome sequencing. 10

10. What is comparative genomics and how does it resolve co-linearity and synteny between two related genomes ? Discuss it using the examples of grass genomes including cereal and millet genomes. 10

11. Write detailed note on the following : 5 each
    (a) Mass Spectrophotometery
    (b) Approaches of proteomics study

12. Explain with the help of suitable examples, the applications of proteomics. 10

13. Write in detail on : 5 each
    (a) 2D PAGE for proteomics
    (b) Yeast two hybrid system

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(20221) Roll No. 1909352270 65

M.Sc.(Biotech.)-III Sem.

NP-3340

M.Sc. (Biotechnology)

Examination, Dec. - 2020

Animal Biotechnology and Immunology

(H-303)

M.Sc. (Bio-Tech.)

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt questions from all Sections as per instructions.

Section - A

(Very Short Answer Questions)

Note : Attempt all questions. Each question carries 2 marks. Very short answer is required. 2×5=10

1. Organ culture
2. ELISA

P.T.O.

3. Passive immunity

4. Vaccines

5. Types of Antibodies.

Section - B

(Short Answer Questions)

Note : Attempt any **two** questions. Each carries 5 marks. Short answers are required. 5×2=10

6. Describe major historic developments leading to concept of animal tissue culture and establishment of Animal Biotechnology.

7. Give an account of MHC.

8. Write notes on-

   (a) RIA

   (b) T cell cloning

Section - C

(Detailed Answer Questions)

Note : Attempt **three** questions. Each carries 10 marks. Long answers are required. 10×3=30

9. Write and essay on antigen-antibody reaction.

10. Describe **in vitro** fertilization in detail and give its applications.

11. Write notes on

    (a) AIDS

    (b) Interferons

12. Write notes on:

    (a) Genetic control of immune response.

    (b) Genetic manupulation of Immunoglobins

13. Write notes on

    (a) Secondary Lymphoid Organs

    (b) Auto immune diseases.

2. What is clone by clone sequencing?

3. What is shotgun sequencing?

4. What is the use of SNP in pharmacogenomics?

5. What are protein chips?

Section - B

(Short Answer Questions)

Note : Answer any **one** question from this section. Each question carries 10 marks. Short answer is required.

1×10=10

6. Write a detail note on MALDI.

7. Comment upon Drug toxicology.

8. Genome sequencing.

Section - C

(Detailed Answer Questions)

Note : Answer any **two** questions from this section. Each question carries 15 marks. Answer is required in detail.

2×15=30

9. Describe in detail about yeast two hybrid system and their applications.

10. Describe the role of proteomics in cancer research.

11. Write note on

    (a) Genetic maps

    (b) Physical maps

    (c) Transcript maps

    (d) Functional maps

12. Write a detail note on

    (a) Arabidopsis genome

    (b) Human genome