Yashwantrao Chavan College of Science, Karad
B.Sc. – III
Paper XVI - Gene Biotechnology and Bioinformatics
Question Bank

Q 1) Answer the following questions choosing the correct alternatives given below them

1) The human genome contains approximately-------------

    a) 6 billion base pairs   b) 5 billion base pairs

    c) 3 billion base pairs   d) 4 billion base pairs

2) Proteomics refers to the study of -------------

    a)Set of proteins in a specific region of the cell

    b) Biomolecules

    c) Set of proteins

    d) The entire set of expressed proteins in the cell

3) The process of finding the relative location of genes on a chromosome is called ------------

    a) Gene tracking   b) Genome walking

    c) Genome mapping   d) Chromosome walking

4) NCBI introduced ------------a bibliographic retrieval system to entire MEDLINE database.

    a) BLAST   b) Entrez

    c) SRS   d) PubMed

5) Out of the following -------------technique detect single nucleotide polymorphism.

    a) RFLP   b) AFLP

    c) SSLP   d) SNP

6) -------------is literature database.

    a) PubMed   b) PubMed central

    c) 1 & 2   d) only b

7) HGP was started in -----------------

    a) 1990   b) 1991

    c) 1988   d) 1987

8) The commonly used vector in gene therapy to carry target gene into host cells is-----------

a) Bacteria   b) Fungi

c) Virus   d) Eukaryotic cell

9) The technique to distinguish the individuals based on heir DNA print patterns is called --

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a) DNA fingerprinting   b) DNA profiling

c) Molecular fingerprinting d) All of these

10) The term Bioinformatics was coined by -----------

a) J.D. Watson   b) Pauline Hogeweg

c) Margaret Dayhoff   d) Frederic Sanger

11) -----------is genome database

a) Gene bank   b) EMBL

c) DDBJ   d) All the above

12) Hybridization technique is used in -----------

a)Chromosome walking   b) Sequencing technique

c) Genetic marker   d) chemical degration

13) Germ cell therapy is used for------------

a) RBC   b) Stomach cells

c) Egg cells   d) Bone marrow cells

14) PIR stands for-----------

a) Protein informatics resource

b) Protein information resource

c) Protein informatics research

d) Protein information research

15) Molecular markers include -----------

a) RFLP   b) RAPD

c) AFLP   d)All of these

16) -----------is architectural domain structural protein database

a) MOTIF   b) CATH

c) MMDB   d) SCOPE

17) -----------of the following are not the application of bioinformatics

a) Drug designing

b) Data storage and management

c)understand the relationship between organisms

d) None of the above

18) Out of the following ----------technique detect single nucleotide polymorphism

a) RFLP   b) AFLP

c) SSLP   d) SNP

19) Molecular marker are used to construct -----------

a) chromosome maps   b) cytogenetic maps

c) physical maps   d) all of these

20) The process of finding the relative location of gene on a chromosome is called -----------

a) Gene tracking   b) Genome walking

c) Genome mapping   d) Chromosome walking

Q 2) Long Answer

1) Give brief account of DNA finger printing.

2) Explain chromosome walking

3) Write in detail about methods of gene transfer.

4)Human Genome Project

5)Antisense therapy

Q 3) Short notes

1) RFLP

2) Minisatellite

3) Gene targeting

4) Application of Gene Therapy

5) Gene Bank

6) Application of Bioinformatics

7)NCBI

8)PubMed central

9)DDBJ

10)RAPD

B.Sc. (Part-III) (Semester -VI) Examination, Oct. - Nov. 2023 (NEP -2020/CBCS)
BIOTECHNOLOGY (OPT/ VOC) (Paper XVI)
Gene Biotechnology and Bioinformatics
Sub. Code 81765

Day and Date –   **Total marks40**
Time-

Instruction: 1) All questions are compulsory.
                    2) Draw neat labeled diagrams wherever necessary
                    3) Figures to the right indicate full marks.

Q 1) Answer the following questions choosing the correct alternatives given below them   **08 Marks**

1) The human genome contains approximately ----------------

     a) 6 billion base pairs   b) 5 billion base pairs

     c) 3 billion base pairs   d) 4 billion base pairs

2) DNA finger printing relies on ----------------

     a) Difference in patterns of genes between individuals

     b) Difference in order of genes between individuals

     c) Difference in junk NA patterns between individuals

     d) All of these

3) The term Bioinformatics was coined by --------------

a) J.D.Watson   b) Pauline Hogeweg

c) Margaret Dayhoff   d) Frederic Sanger

4) Molecualr markers include ---------------

a) RFLP   b) RAPD

c) AFLP   d) all of these

5) HGP was started in -----------------

a) 1990   b) 1991

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6) Germ cell therapy if used for ---------------

a) RBC   b) Stomach cells

c) Egg cells   d) Bone marrow cells

7) -----------is literature database.

a) PubMed   b) PubMed central

c) 1 & 2   d) only b

8) Simple sequence repeats are --------------------.

a) 1-6 bp long sequences distributed along the chromosome

b) also called as micro satellites

c) Individual specific in number and position

d) All of the above

Q 2) Long Answer (Any 2)   16 Marks

1) Explain Chromosome jumping

2) Write principle, procedure and application of anti sense therapy.

3) Give brief account of Human Genome project (Goal and applications)

Q 3) Short notes (Any 4)   16 Marks

1) RAPD

2) Microsatellite

3) Chromosome walking

4) NCBI

5) PDB

6) NLM

(C)

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Q 1) Answer the following questions choosing the correct alternatives given below them   **08 Marks**

1) The technique to distinguish the individuals based on their DNA print patterns is called --------------------.

        a) DNA fingerprinting   b) DNA profiling

        c) Molecular fingerprinting d) All of these

2) Proteomics refers to the study of -----------------

        a)Set of proteins in a specific region of the cell

        b) Biomolecules

        c) Set of proteins

        d) The entire set of expressed proteins in the cell

3) Locations of quantitative genes on chromosomes are called ---------------

a) Qualitative trait loci   b) Qualitative trait loci

c) both a and b   d) none of these

4) NCBI introduced -----------------a bibliographic retrieval system to entire MEDLINE database.

a) BLAST   b) Entrez

c) SRS   d) PubMed

5) The process of finding the relative location of genes on a chromosome is called--------

a) Gene tracking   b) Genome walking

c) Genome mapping   d) Chromosome walking

6) Hybridization technique is used in ----------------

a) Chromosome waling   b) Sequencing technique

c) Genetic marker   d) Chemical degradation technique

7) Molecular markers are used to construct -----------------

a) Chromosome maps   b) cytogenetic maps

c) physical maps   d) all of these

8) PIR stands for -----------------

a) Protein informatics resource   b) Protein information resource

c) Protein informatics research   d) Protein information research

Q 2) Long Answer (Any 2)   16 Marks

1) Where gene therapy is used and explain about somatic gene therapy.

2) Explain the databases can be used for getting information regarding primary and secondary structure of protein.

3) Write about Genome database.

Q 3) Short notes (Any 4)   16 Marks

1) AFLP

2) Multilocus probes

3) Chromosome jumping

4) SRS

5) Advantages of HGP

6) PubMed