MIC 602.1 **Reg. No. ……**

CREDIT BASED SIXTH SEMESTER B.Sc. DEGREE EXAMINATION
APRIL 2010

MICROBIOLOGY

GENETICS AND BIOINFORMATICS

Time: 3 Hrs **Max. Marks: 70**

Note: Draw diagrams wherever necessary.

PART – A

I. Answer any TEN of the following. **1x10=10**

a) DNA Gyrases
b) Initiation Codon
c) Bioinformatics
d) DNA Analysis
e) Griffith
f) Genome Annotation
g) PBR 322
h) DNA Repair
i) Cloning
j) Base pair substitution
k) LAC 1
l) Protein chips

PART – B

Answer any TWO complete questions from each unit.

UNIT – I

II. a) Discuss the types of RNA and their biological significance. **06**
b) Describe Watson and Crick Model of DNA. **04**

III. a) Explain the properties of genetic code. **06**
b) Write a note on transcription. **04**

IV a) Explain the mechanism of transduction in Bacteria. **06**
b) Write a note on frame shift mutation. **04**

UNIT – II

V. a) Explain the vectors involved in genetic engineering. **06**
b) Write a brief note on insulin. **04**

VI. a) Define and classify restriction endonucleases. **06**
b) Write a brief note on isolation of DNA. **04**

VII. a) Discuss the applications of genetic engineering, in agriculture. **06**
b) Write a note on potential hazards of genetic engineering. **04**

UNIT – III

VIII. a) Discuss about biological sequences. **06**
b) Give a brief account of proteomics. **04**

IX. a) Give an account of types of protein micro array. **06**
b) Write a brief note on history of Bioinformatics. **04**

X. a) Give an account of DNA chips production. **06**
b) Explain databases of Genomics. **04**

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>HC 602.1 **Reg. No.....**

CREDIT BASED SIXTH SEMESTER B.Sc. DEGREE EXAMINATION - APRIL 2011
MICROBIOLOGY GENETICS
AND BIOINFORMATICS

Duration: 3 Hours **Max Marks: 70**

Note: Draw diagrams wherever necessary.

PART A

I. Answer any TEN of the following: **1x10=1**

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Answer anv TEN of the

1. Initiation Codon
: Nucleotide
3. Polymerisation
4. Cloning
5. Mutation
6. Transformation
7. Gene
8. Transduction
9. Operon
10 Plasmids
11 Nucleases
12 Protein chips

PART-B

Answer any TWO complete questions from each unit.

UNIT-I

a) Explain Watson and Crick Model of DNA with a suitable diagram. 06
b) Write a note on Conjugation. 04

III. a) Explain the properties of genetic code. 06
b) Write a note on mRNA. 04

IV. a) Give a brief account of isolation of Biochemical Mutants. 06
b) Write a note on Translation. 04

UNIT-II

a) Define and classify restriction endonucleases. 06
b) Write a note on recombinant vaccines. 04

a) Describe the importance of genetir engineering in medical sciences. 06
b) Write a note on Shot Gun Method. 04

\TL a) Write briefly on principles of genetic engineering. 06
b) Write a note on Bacteriophage. 04

UNIT-HI

Vin. a) Discuss about DNA sequencing. 06
b) History of Bioinformatics. 04

DC. a) Describe briefly on cDXA. 06
b) Write a short note on Daia Bases of Proteomics. 04

a) Give a brief account on DNA Chip Production. **06**

b) Write about different types of Protein Chips. 04

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MIC 602.1 **Reg. No. ……**

CREDIT BASED SIXTH SEMESTER B.Sc. DEGREE EXAMINATION
APRIL 2012

MICROBIOLOGY

GENETICS AND BIOINFORMATICS

Time: 3 Hrs **Max. Marks: 70**

Note: Draw diagrams wherever necessary.

PART – A

I. Answer any TEN of the following. **1x10=10**

a) Plasmids
b) Bioinformatics
c) Okazaki Fragments
d) Super Bug
e) DNA
f) Genome Annotation
g) t RNA
h) Operon
i) DNA Microarray
j) Termination Codon
k) pBR 322
l) Reverse Transcriptase

PART – B

Answer any TWO complete questions from each unit.

UNIT – I

II. a) Describe Watson and Crick model of DNA. **06**
b) Write a note on Transformation. **04**

III. a) Explain the process of Translation. **06**
b) Write short note on nonsense mutation. **04**

IV a) Explain the Lac operon concept. **06**
b) Write short note on DNA Repair. **04**

UNIT – II

V. a) Explain the Shot Gun method for Isolation of DNA. **06**
b) Write brief note on insulin. **04**

VI. a) Discuss the cloning strategy. **06**
b) Write short note on Safeguards of Genetic Engineering. **04**

VII. a) Explain the classification of restriction enzymes with suitable examples. **06**
b) Write note on Recombinant Vaccines. **04**

UNIT – III

VIII. a) Give an account of DNA chips production. **06**
b) Write a note on subfields of Genomics. **04**

IX. a) Explain the chain termination method for DNA analysis. **06**

b) Write a brief note on history of Bioinformatics. **04**

X. a) Give a brief account on Proteomics. **06**
b) Write a note on biological sequences. **04**

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MIC 602.1 **Reg. No. ……**

CREDIT BASED SIXTH SEMESTER B.Sc. DEGREE EXAMINATION APRIL 2013

MICROBIOLOGY

Genetics and Bioinformatics

Time: 3 Hrs **Max. Marks: 80**

Note: Draw Diagrams wherever Necessary

PART – A

I. Answer any Ten of the following. 2x10=20

a) Pendant
b) t RNA
c) Bacteriophage
d) DNA Chips
e) Operator Gene
f) Genome Annotation
g) Restriction Enzymes
h) Klenow Fragments
i) Okazaki Fragments
j) Cosmids
k) Complementary Base Pairing
l) Nif Genes

PART – B

Answer any two complete questions from each unit

UNIT – I

II. a) Explain the process of conjugation in Bacteria. **06**
b) Write a note on the structure of DNA. **04**

III. a) Explain the LAC Operon Concept. **06**

b) Write a note on the enzymes involved in DNA replication. **04**

IV. a) Give an account of the Frame Shift Mutation. **06**

b) Write a note on DNA Repair. **04**

UNIT – II

V. a) Explain the Hybridisation Technique for Isolation of DNA. **06**

b) Write a note on Antirabies Vaccine. **04**

VI. a) Discuss the various vectors used in Genetic Engineering. **06**

b) Write a note on Transgenic Plants. **04**

VII. a) Explain the Potential Hazards and Safeguards of Genetic Engineering. **06**

b) Write a brief note on Super Bugs. **04**

UNIT – III

VIII. a) Explain the Sanger's Method of DNA Analysis. **06**

b) Write a note on Biological Databases. **04**

IX. a) Explain the method of formation of cDNA. **06**

b) Write a note on types of Proteomics . **04**

X. a) Explain the production of DNA Microarray. **06**

b) Write a brief note on Biological Sequences. **04**

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CREDIT BASED SIXTH SEMESTER B.Sc. DEGREE EXAMINATION - APRIL 2014

MICROBIOLOGY

BACTERIAL GENETICS

Duration: 3 Hours **Max Marks: 80**

Note: Draw diagrams wherever necessary.

PART A

I. Answer any TEN of the following: 2x10=20

a) Base Analogues
b) tRNA
c) Genetic Engineering
d) Super Bugs
e) Codon
f) Intragenic Mutation
g) mRNA
h) Neutral Mutation
i) RNA Primer
j) Mutagenic Agents
k) Cosmids
l) Nif Genes

PART-B

Answer any TWO complete questions from each unit

UNIT-I

II.	a)	Explain the Lac Operon concept.	06
	b)	Write a note on types of DNA.	04
III.	a)	Explain the various enzymes involved in DNA Replication.	06
	b)	Write a note on functions of rRNA.	04
IV.	a)	Explain the process of Translation.	06
	b)	Write a note on Generalized Transduction.	04

UNIT-II

V.	a)	Explain the types of Macrolesions produced in DNA.	06
	b)	Write a note on Spontaneous mutation.	04
VI.	a)	Explain the process of isolation of biochemical mutants by Replica Plating Technique.	06
	b)	Write a note on mutations caused by Radiations.	04
VII.	a)	Explain the types of mutations caused by agents that modify bases.	06
	b)	Write a note on Missense mutation.	04

UNIT-III

VIII.	a)	Explain the potential hazards and safeguards of Genetic Engineering.	06
	b)	Write a note on Vectors used for Cloning.	04
IX.	a)	Explain the production of Transgenic plants by Recombinant DNA Technology.	06
	b)	Write a note on the Principles of Genetic Engineering.	04
X.	a)	Explain the Reverse Transcriptase method of DNA isolation.	06
	b)	Write a note on Insulin.	04

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MIC 602.3 **Reg. No……**

Reg. No. .....

CREDIT BASED SIXTH SEMESTER B.Sc. DEGREE EXAMINATION APRIL 2015

MICROBIOLOGY – VIII

Bacterial Genetics

Duration: 3 Hours **Max Marks: 80**

Note: Draw diagrams wherever necessary.

PART A

I. Answer any <u>TEN</u> of the following: **10×2=20**

m) Super Bugs
n) Gyrases
o) Insulin
p) Genetic Engineering
q) Translocation
r) Eco RI
s) Okazaki Fragments
t) Induced mutation
u) Operon
v) Intragenic Mutation
w) Transcription
x) Thymine Dimers

PART-B

Answer any TWO complete questions from each unit:

UNIT-I

II. a) Explain the semiconservative method of DNA replication. **06**
b) Write a note on gene expression. **04**

III. a) Explain the process of Transformation in Prokaryotes. **06**
c) Write a note on structure of tRNA. **04**

IV. a) With a neat labelled diagram explain the Watson and Crick model of DNA. **06**
b) Write a note on Genetic Code. **04**

UNIT-II

V. a) Explain the types of mutation produced by Base Analogues and Alkylating Agents. **06**
b) Write a note on mutation rate. **04**

VI. a) Explain the process of isolation of Biochemical mutants by Replica Plating technique. **06**
b) Write a note on Frame Shift mutation. **04**

VII. a) Explain the types of mutation based on Base Pair substitution. **06**
c) Write a note on DNA repair. **04**

UNIT-III

VIII. a) Explain the terminal transferase method for splicing and insertion of DNA. **06**
c) Write a note on Hosts used for Cloning. **04**

IX. a) Explain the shot gun method for isolation of DNA. **06**

	b)	Write a note on transgenic plants.	**04**
X.	a)	Explain the various vectors used in genetic engineering.	**06**
	b)	Write a note on anti rabies vaccine.	**04**

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