

GANPAT UNIVERSITY  
M.Sc. Second Semester Examination (C.B.C.S) April-May, 2012  
Subject: Biotechnology/Microbiology  
Paper: BTA 201 GMB : Genetics & Molecular Biology  
MBA 201 GMB : Genetics & Molecular Biology

Time: 3 hours

Total Marks: 70

Instructions:

1. Attempt any three questions from each section, of which question No. 4 and 8 are compulsory
2. Answer each section in separate answer book.

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**SECTION: I**

- Q-1 What is transcription? Write different steps involved in synthesis of RNA in eukaryotes. 14
- Q-2 Explain role of Ribosome, tRNA and activation of amino acids in protein synthesis. 14
- Q-3 Explain DNA amplification in detail. 14
- Q-4 Write short notes on : 07
- a) Various laws of heredity with suitable examples.
- OR**
- a) Different proteins and enzymes involved in DNA replication.

**SECTION: II**

- Q-5 What is gene regulation? Explain Lac. Operon in detail. 14
- Q-6 Discuss in detail about activation of proto-oncogenes with examples 14
- Q-7 What is extra chromosomal elements and discuss about plasmid and cosmid with suitable example. 14
- Q-8 Write short notes on : 07
- a) Genetic Councillng
- OR**
- a) Two metabolic disorders with its diagnosis and therapy

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**GANPAT UNIVERSITY**  
**M. Sc. Second Semester Examinations (C.B.C.S), April-May 2012**  
**(Biotechnology/Microbiology)**  
**Paper- BTA 202 BTM Biodiversity and Taxonomy of Microorganisms**  
**Paper- MBA 202 BTM Biodiversity and Taxonomy of Microorganisms**

**SECTION: I**

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- Q. 1** What are Biodiversity hotspots? Discuss factors promotes the occurrence of high biological diversity. Add a note on conservation measures of Biological diversity. (14)
- Q. 2** (a) Which methods are used for the classification of Bacteria? Discuss Numerical Taxonomy in detail. (07)  
(b) Mention various differential characteristics of Chlamydia and comment on its representative species. (07)
- Q.3** Describe in detail distinguishing features of organisms belonging to Pseudomonadaceae family. (14)
- Q.4** Describe in detail Characteristics and importance of Actinomycetes (07)  
**Or**  
Use of Fatty Acid Profiling for microbial identification

**SECTION: II**

- Q. 5** How growth is occurring in fungi? In what way fungal growth is different than growth of other eukaryotic organisms? Describe in detail Growth in Fungi. (14)
- Q. 6** (a) Reproductive strategies and economic importance of Protozoa (07)  
(b) Distinguishing features of Basidiomycotina (07)
- Q.7** Describe in detail: Structure, reproductive strategies and cultivation of Bacteriophage. (14)
- Q.8** Write a short note on Archaeobacteria (07)  
**Or**  
Write a short note on Reproductive strategies in Algae

**GANPAT UNIVERSITY**  
**M. Sc. Second Semester Examination (C.B.C.S) April-May 2012**  
**Subject: Microbiology/Biotechnology**  
**Paper BTA 203: BBE Bioprocess and Biochemical engineering**  
**Paper MBA 203: BBE Bioprocess and Biochemical engineering**

Time: 3 hours

Total Marks: 70

Instructions:

- 1) Attempt any three questions from each sections of which question No.4 and question No.8 are compulsory.
- 2) Answer each section in separate answer book.

**SECTION -I**

1. Discuss in detail about the strategies and methods used for improvement of industrially important strains 14
2. Write in detail about various carbon and nitrogen sources used in fermentation processes 14
3. Explain the kinetics of batch Sterilization process 14
4. Write a short note on Air lift fermentors 07

**OR**

Preservation of industrial strains

**SECTION -II**

5. Discuss the factors affecting KLa and oxygen transfer rate in industrial fermentation process 14
6. Explain filtration and centrifugation processes used for recovery of fermentation products 14
7. What is microbial growth kinetics? Discuss Fed batch culture kinetics and give applications of Fed batch cultivation. 14
8. Write a short note on Fermentation economics 07

**OR**

Microprocessor based control of fermentation process

GANPAT UNIVERSITY  
M. Sc. Second Semester Examination (C.B.C.S.) April-May, 2012  
Subject : Biotechnology/Microbiology  
Paper: BTA 204 BCA Biostatistics and Computer Application  
Paper: MBA 204 BCA Biostatistics and Computer Application  
Paper: BIA 204 BCA Biostatistics and Computer Application

Time: 3 Hours

Total Marks: 70

Instructions:

- 1) Attempt any three questions from each section, of which questions No. 4 and 8 are compulsory
- 2) Answer each section in separate answer book.

SECTION-I

Q.1 What do you mean by measures of dispersion? Explain the standard deviation and variance (14)  
by giving suitable examples. Write merits and demerits of the same.

Q.2 Define frequency distribution. Explain various types of frequency distributions. (14)

Q.3 Write note on:

a) Goodness of fit (07)

b) Mean and mode (07)

Q.4 Explain 't' test (Test of significance) (07)

Or

Q.4 Explain various types of graphical presentations of data. (07)

SECTION-II

Q-5 a) "Development of Computer is continuous process". Justify the statement. (07)

b) What is 'System booting'? Explain it in detail. (07)

Q-6 a) Write a short note on "Boolean searching". (07)

b) Explain the term "Web server". Briefly describe about a 'common protocol',  
Which enable computers to talk with each other along with its applications? (07)

Q-7 Explain the search engine which is specifically designed for scientific information only.  
Mention the facilities provided by it for searching required information. (14)

Q-8 Define "Database". Explain types of biological databases based on content. (07)

OR

Q-8 Explain any seven DOS commands taking suitable examples. (07)

## GANPAT UNIVERSITY

M. Sc. Second Semester Examination (C.B.C.S.) April-May, 2012

Biotechnology/Microbiology/Bioinformatics

BTB 205: Language and Communication Skills – II

MBB 205: Language and Communication Skills - II

BIB 205: Language and Communication Skills - II

Total Marks: 70

Time: 3 hours

## Instructions:

- (1) Attempt any three questions from each section, of which question No. 4 and 8 are compulsory.  
 (2) Answer each section in separate answer book.

## SECTION - I

- Q:1 (A) Define 'Presentation' and discuss the steps of preparing an Oral Presentation. (07)  
 (B) Discuss the tips for successful Group Discussion. (07)
- Q:2 (A) Prepare a detailed note on the Characteristics of Successful Group Discussion. (07)  
 (B) Define 'Interview' and discuss the types of interviews. (07)
- Q:3 (A) List out and discuss the Pre-requisites of Successful Debate? (07)  
 (B) What are the six great helpers in preparing presentation? (07)
- Q:4 Discuss the components of Effective Oral presentation. (07)

OR

Discuss the characteristics and Strategies for Successful Job Interview.

## SECTION - I

- Q:5 (A) Differentiate the style and structure of an individual and committee report. (07)  
 (B) Prepare the draft of a notice, agenda and minutes of 2<sup>nd</sup> Meeting of Board of Directors of a Health Club. (07)
- Q:6 (A) Prepare a detailed note on the Tips that make your job application and Resume attractive. (07)  
 (B) Evaluate the significance of Technical Proposals in modern times. (07)
- Q:7 (A) Prepare the lay-out of and discuss the structure of a technical proposal. (07)  
 (B) Draft a Committee Report for submission to the Executive Committee of Radhika Oils Pvt. Ltd. on proposed set up of a production unit of the company at Kadi. (07)
- Q:8 Post-graduate Department of Gujarat University is looking for a qualified and experienced Associate Professor in Microbiology. Mr. Ronit Rot forwards his application with Resume for the said post. Draft the application with Resume. (07)

OR

Juvenile Drugs Pvt. Ltd is a small scale pharma company . The company management has purchased a group insurance policy for its employees but, the same is lost in transit. Ms. Sunidhi Shah, the HR officer, requests the insurance company to re-issue the policy document. Draft this letter of request.

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