

GANPAT UNIVERSITY
M.Sc. First Semester Examination (NEW COURSE) (C.B.C.S) Nov-Dec, 2014
Subject: Biotechnology/Microbiology
Paper: BTA/MBA 101 CMB Cell and 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.

Vishwanath

SECTION: I

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|-----|---|----------|
| Q-1 | Write in detail about ultra structure and functions of prokaryotic cells. | 14 |
| Q-2 | Write a short notes on:
a. Giant Chromosomes
b. Cell regulation | 07
07 |
| Q-3 | Write a short notes on:
a. Cell communication
b. Sex determination | 07
07 |
| Q-4 | Answer following questions
a. In which organelle extra nuclear DNA is found.
b. Prokaryotic cell does not possess what?
c. Ribosomes help in what?
d. Microtubule is involved in what?
e. Mitotic spindle is mainly composed of which protein?
f. Which typical stage is known for DNA replication?
g. A cell divides every one minute. At this rate of division it can fill a 100 ml of beaker in one hour. How much time does it take to fill a 50 ml of beaker? | 07 |

SECTION: II

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|-----|---|----------|
| Q-5 | List out the different proteins and enzymes involved in prokaryotic replication and write their role in detail. | 14 |
| Q-6 | Write a short notes on:
a. Difference between prokaryotic and eukaryotic transcription
b. Splicing | 07
07 |
| Q-7 | Write a short notes on:
a. Lac. Operon
b. Genetic load | 07
07 |
| Q-8 | Answer following questions
a. Write Full form of CstF and CPSF.
b. Which polymerase does not need a primer in order to function?
c. Which enzyme(s) can remove or insert supertwists into circular DNA.
d. Write the name of termination codon?
e. I ₁₃₁ is used in treatment of thyroid cancer? True/False.
f. Which cancer does not form a solid neoplasm?
g. Cancer of β lymphocytes is called what? | 07 |

-----END OF PAPER-----

GANPAT UNIVERSITY
M.Sc. First Semester Examination (NEW COURSE) (C.B.C.S) Nov-Dec, 2014
Subject: Biotechnology/Microbiology
Paper: BTA/MBA 102 BCE Biochemistry and Enzymology

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.

SECTION: I

Q-1	Explain in detail about Glycolysis with its regulation.	14
Q-2	Explain in detail about Biosynthesis of fatty acids (C16 Palmitic acid).	14
Q-3	Write a short note on (a) Law of Thermodynamics (b) Urea cycle	07 07
Q-4	a .Define Entropy b .Give name of Saturated fatty acids c . What is Chylomicron? d .Define Gluconeogenesis e .Give name of disorder for Nucleotide metabolism f .Give name of Aromatic amino acids g .Enlist any two enzymes involved in TCA cycle	01 01 01 01 01 01 01

SECTION: II

Q-5	Explain in detail about kinetics of single substrate-Enzyme catalyzed reactions	14
Q-6	Explain Mechanism of Allosteric enzyme with any one suitable example	14
Q-7	Discuss various methods used in immobilization of enzyme and give its applications	14
Q-8	a .Define Km b .Define Apoenzyme c .What is Receptor? d .Give name of Cofactors . e .Enlist methods used for enzyme purification f Define competitive enzyme inhibition g Give an examples of Multienzymes	01 01 01 01 01 01 01

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GANPAT UNIVERSITY

M.Sc. First Semester Examination (NEW COURSE) (C.B.C.S) Nov-Dec, 2014

Subject: Biotechnology/Microbiology

Paper: MBA/103/IAT Instrumentation and Analytical Techniques

Time: 3 hours

Total marks: 70

Instructions:

1. Attempt any three questions from each section No 4 and 8 are compulsory
 2. Answer each section in separate answer book.
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SECTION- I

1. Write an explanatory note on conductometric and potentiometric titrations (14)
2. (a) Explain the scanning modes in AFM. (07)
(b) Explain differential centrifugation. (07)
3. Write in detail: Principle and instrumentation and applications of NMR. (14)
4. (i) Define: buffer (01)
(ii) What is meant by phase contrast? (01)
(iii) What is meant by cation exchanger? (01)
(iv) Define: sedimentation coefficient. (01)
(v) What is meant by capacity factor? (01)
(vi) What is meant by buoyant density? (01)
(vii) Give the reason for using quartz cuvette for ultraviolet spectroscopy. (01)

GANPAT UNIVERSITY
M.Sc. First Semester Examination (C.B.C.S) Nov-Dec, 2014
Subject: Biotechnology & Microbiology
Paper: BTA/MBA 104 Biostatistics and Research Methodology

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.

SECTION I

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- | | | |
|-----|--|----------|
| Q.1 | Write note on
a) Mean, mode and median
b) Binomial distribution | 07
07 |
| Q.2 | Describe various methods of graphical and diagrammatic presentation | 14 |
| Q.3 | What is coefficient of correlation? Explain scattered diagram method and Pearson's product moment method. | 14 |
| Q.4 | Write Short answer question (each Q carry one marks)
a) Define biostatistics.
b) What is regression?
c) Define standard deviation.
d) What is null hypothesis?
e) Define central tendency.
f) What is degree of freedom ?
g) Give importance of tabulation of data. | 07 |

SECTION II

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|-----|--|----|
| Q.5 | Define Research and enlisted and discuss various type of research | 14 |
| Q.6 | Discuss how to collect data & various type of sample design | 14 |
| Q.7 | Enlisted various type of experimental design and discuss any one | 14 |
| Q.8 | Write Short answer question (each Q carry one marks)
a.) Define thesis
b.) Difference between abstract and conclusion
c) How to write review paper
d) Write format of reference
e) Extraneous variable
f) Difference between formal and informal experimental design
g) Define independent variable | 07 |

END OF PAPER

GANPAT UNIVERSITY

M.Sc. First Semester Examination (NEW COURSE) (C.B.C.S) Nov-Dec, 2014

Subject: Biotechnology/Microbiology

BTB 105 LCS/MBB 105 LCS: Language and Communication Skills-I

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.

SECTION: I

Q-1	What is Communication? Discuss 'oral' and 'written' communication in detail.	14
Q-2	Discuss 'socio-psychological barriers' to communication.	14
Q-3	Attempt the following: 1) Discuss types of Listening. 2) Discuss modes of Listening.	14
Q-4	Total seven short one word answer questions 1. List out semantic barriers to communication. 2. List out three main types of non verbal communication. 3. What is auditory symbol in the sense of non verbal communication? 4. List out components which constitute body language. 5. Define 'preposition' as a part of speech with example. 6. What is an interjection? Give Example. 7. Identify the part of speech represented by the underlined word. "She wrote assignment <u>very</u> accurately.	07

SECTION: II

- Q-5 Attempt the following: 14
- 1) What is Reading? Discuss different reading strategies?
 - 2) Write a note on Indented form of Layout and Modified block form of layout with significant diagrams.
- Q-6 Attempt the following: 14
- 1) Discuss paralanguage aspects of effective speaking.
 - 2) Discuss significance of written communication for professionals.
- Q-7 Attempt the following: 14
- 1) Write a letter of inquiry to the dealer of scientific equipments inquiring about availability and price of 50 microscopes for your college laboratory.
 - 2) Write a letter of order to the dealer of scientific equipments ordering 50 microscopes for your college laboratory.
- Q-8 Answer the following in one sentence each: 07
1. Define the term 'Reading'.
 2. Give full form of 'SQ3R' with reference to reading.
 3. Which form of the layout is conventional in business letters?
 4. In which form of layout inside address comes at last?
 5. List out different adjustment policies.
 6. List out parts of a business letter.
 7. List out constituents of effective writing.

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