

Roll No.

Total No. of Pages : 01

Total No. of Questions : 05

**B.Com. Hons./B.Sc.(Hons.)N&D/B.Sc.(AI&ML)/
BT/FD/G&WD/IT/MLS/B.Voc. (Beauty Therapy and
Asthetics)/BTTM/BBA(SIM)/BBA
BAJMC/BHMCT/BCA (Sem.-1)**

ENGLISH

Subject Code : BTHU103-18

M.Code : 75085

Date of Examination : 04-01-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. All questions are **COMPULSORY**.
2. Q1, Q2 and Q3 carry **TEN** marks each.
3. Q4 and Q5 carry **FIFTEEN** marks each.

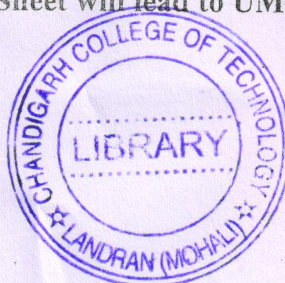
1. What is Communication? Explain in detail the types and modes of Communication.
2. How is Verbal Communication different from Non- verbal Communication? How important is the non-verbal communication in conveying the ideas and instructions?
3. Big cities in the States are the worst choice for living. The funny thing is that you have to pay dearly for the advantage of living in a city where it can be very difficult to buy your own house. Large cities are too large to control; they impose their living conditions on the people who inhabit them. City-dwellers are obliged to adopt an unusual way of life. Furthermore, it seems impossible to avoid the rush hour; wherever you go roads are blocked with cars and streets are filled with people. In addition, crimes are more in cities which are full of places you would be afraid to visit. Can anyone doubt that the country is where a man truly belongs?

In FOUR sentences, summarise and paraphrase the following passage in an answer to the following question:

Why do some people refuse to live in big cities?

4. Write a letter to an applicant for the post of Chief Accountant to present himself for a personal interview.
5. You, as a marketing manager have been given the responsibility of conducting and preparing a market research to know the market potential of a new product which your company is intending to launch in the market in near future. Prepare a draft report.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



DEL-2024

Total No. of Pages : 04

Total No. of Questions : 11

B.Com (Honours)/B.A. (JAMC)/BHMCT (UGC)/B.Sc.Honours (Microbiology)/B.Sc. - Honours (Nutrition and Dietetics)/B.Sc. (AI&ML)/B.Sc. (BT/FD/TT/G&WD)/ML/S/O/T/Radiotherapy Technology/B.Voc. (Child Caregiver)/BT/MT/BA/BB/ASIM)/BCA (Sem-1)
HUMAN VALUES, DE-ADDICTION AND TRAFFIC RULES
Subject Code : HYPE101-18

M.Code : 93322

Date of Examination : 14-01-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Section-A is compulsory ONE mark each.
3. Section-B contains FIVE questions of FOUR marks each attempt all questions.
4. Section-C contains FIVE questions of SIX marks each attempt all questions.

SECTION-A

$$(10 \times 1 = 10)$$

1. Fill in the blanks / True / False :

- i) Right understanding + = Mutual prosperity.
 सही समझ + = पारस्परिक समृद्धि
 ठीक भास + = आपसी भुलहानी
- ii) Animal order in nature contains and
 प्रकृति में पशु आदेश में और होता है ।
 वृद्धवत् द्विच पशु आदेश द्विच अडे तुंदा है ।

आत्म-अध्ययन शिक्षा के लिए प्रक्रिया है।

ਸਵ-ਆਧਾਨ ਸਿੱਖਿਆ ਲਈ ਪ੍ਰਕਿਰਿਆ ਹੈ।

iv) To be in a state of liking is

नस्व क हिसाब से एक अवस्था में होना नह

ਪਸੰਦ ਦੇ ਹਿਸਾਬ ਵਲੋਂ ਇਕ ਦਸ਼ਾ ਵਿੱਚ ਹੋਣਾ ਹੈ।



v) Physical facilities are necessary but for humans

भौतिक सुविधाएँ मनुष्य के लिए आवश्यक हैं, लेकिन हैं।

ਭਾਤਕ ਸਮੂਲਤਾ ਮਨੁੱਖ ਲਈ ਜ਼ਰੂਰੀ ਹਨ, ਲੇਕਿਨ ਹਨ

vi) The value "care" is related with body.

मूल्य "ध्यान" शरीर के साथ संबंधित है।

ਮੁੱਲ ਪਿਆਨ ਸਰੀਰ ਦੇ ਨਾਲ ਸੰਬੰਧਤ ਹੈ।

vii) There is no self-regulation in nature.

प्रकृति में कोई आत्म नियमन नहीं है।

ਕੁਦਰਤ ਵਿਚ ਕਈ ਆਤਮ ਨਿਯਮਤਾ ਨਹੀਂ ਹੈ।

viii) Developing ethical competence in individual ensures professional ethics

सुनिश्चित करता

ਨਾਮਕਾ ਦੇ ਵਕਾਸ ਪਸ਼ਵਰ ਨੀਤਕਤਾ ਪੱਕੀ ਕਰਦਾ ਹੈ।

new technologies should be eco-friendly and people-friendly

समग्र प्राधान्याकर्षण के अनुकूल और लोगों के अनुकूल होना चाहिए।

ਮਰਥਾਗਾਂ ਤਕਨੀਕਾਂ ਵਾਤਾਵਰਣ ਦੇ ਅਨੁਕੂਲ ਅਤੇ ਲੋਕਾਂ ਦੇ ਅਨੁਕੂਲ ਹੋਣੀਆਂ
ਚਾਹੀਦੀਆਂ ਹਨ।

x) Existence is nature submerged in space.

अस्तित्व अंतरिक्ष में खूब हुए प्रकृति है।

ਅਸਤੀਤਵ ਖਲਾਅ ਵਿੱਚ ਸਮਾਈ ਹੋਈ ਕੁਦਰਤ ਹੈ।

SECTION-B

$$(4 \times 5 = 20)$$

2. What do you mean by SVDD, SSD and SSSS? How is the transformation possible from SSD to SSSS?

आपका SVDD, SSDD और SSSS से क्या मतलब है? SSDD से SSSS के लिए परिवर्तन कैसे संभव है?

ਤੁਹਾਡਾ SVD, SSD ਅਤੇ SSS ਤੋਂ ਵੀ ਮਤਲਬ ਹੈ? SSD ਤੋਂ SSS ਤੱਕ ਦੀ ਤਬਦੀਲੀ ਕਿਸ ਤਰ੍ਹਾਂ ਸੰਭਵ ਹੈ?

[M-93322]

(S-17) 2558

[M-93322]

(S-17) 2558

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

**B.Sc.(BT) (Sem.-1)
INTRODUCTION TO BIOTECHNOLOGY**

Subject Code : BSBT-102-18

M.Code : 75325

Date of Examination: 20-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Define :

- a) Modern Biotechnology
- b) Plant Biotechnology
- c) Biotechnology in healthcare sector.
- d) BT crops
- e) GM foods
- f) Food Biotechnology
- g) Food quality determinants
- h) Acetic acid fermentation
- i) Beer
- j) Penicillin

SECTION-B

2. What is Biotechnology? Give an overview of various branches of Biotechnology and their importance.
3. Give an overview of important biotechnological applications in environmental sector.
4. Give an overview of applications of Biotechnology in agriculture sector. Also write a brief note on the commercial aspects of GM foods in India.
5. Explain biotechnological processes involved in the production of food additives.
6. Write a brief note on the fermentative production of L-asparaginase.

SECTION-C

7. Explain its importance in the agricultural, pharmaceutical, and industrial sectors.
8. Illustrate the role of Food Biotechnology in the production of fermented foods.
9. Discuss important fermentative procedures to obtain antibiotics and ethanol.

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.

1 | M-75325

2 | M-75325

(52)-1843



Dec-2024

Roll No. [] [] [] [] [] [] [] [] [] []

Total No. of Questions : 09

Total No. of Pages : 02

B.Sc.(BT) (Sem.-1)

BASICS OF BIOSCIENCES
Subject Code: BZT-101

Subject Code : BSBT-107-18

M.Code : 75330

Time : 3 Hrs.

Date of Examination : 02-01-2025

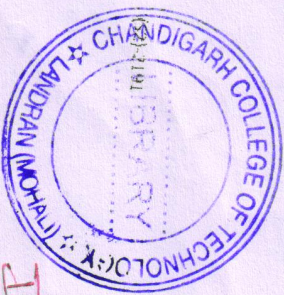
Max. Marks : 30

INSTRUCTIONS TO CANDIDATES :
1. SECTION - I

1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE mark each.
2. SECTION-B contains FIVE questions carrying $2\frac{1}{2}$ (Two and Half) marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying FIVE marks each and students has to attempt any TWO questions.

SECTION-A

1. Answer briefly:
 - (i) Define species.
 - (ii) What is the function of mitochondria in eukaryotic cells?
 - (iii) Draw the diagram of a neuron.
 - (iv) What is inflorescence?
 - (v) Give an example of a monocot and a dicot plant.
 - (vi) Which organisms are included under kingdom Protista?
 - (vii) Describe the features of flagellates.
 - (viii) What are vertebrates and invertebrates?
 - (ix) Give examples of two beneficial fungi.
 - (x) Define biodiversity.



21 Nov 75 330

DEC-2024

SECTION-B

2. Write a note on root system in plants.
 3. What is the difference between mitosis and meiosis?
 4. What are the salient features of epithelial tissues?
 5. Name the major classes of animal kingdom.
 6. Describe the features of cardiac tissue.
- SECTION-C**
7. Describe five-kingdom classification of living organisms.
 8. Discuss the morphology of flowering plants.
 9. What are biomolecules? Write a note on major biomolecules produced by cells.

SECTION-C

7. Describe five-kingdom classification of living organisms.
8. Discuss the morphology of flowering plants.
9. What are biomolecules? Write a note on major biomolecules produced by cells.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to U/MC against the Student.

1612-191

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc.(BT) (Sem.-1)

INORGANIC CHEMISTRY

Subject Code : BSBT-101-18

M.Code : 75324

Date of Examination: 21-01-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1) Answer briefly :

- What is the Effective nuclear charge?
- Explain the ionic radii.
- Explain the coordination number with examples
- Explain the optical isomerism.
- Explain the paramagnetism and diamagnetism.
- What is van-der waal forces?
- Explain the structure of BF_3 molecule.
- Explain the structure of PF_6 .
- What is the oxidation number?
- What is inert pair effect?

SECTION-B

- 2) Explain the valence bond theory and its limitations.
- 3) Explain the structure of IF_7 and XeF_4 .
- 4) Explain the directional characteristics of covalent.
- 5) Explain electron affinity and its trend in period.
- 6) Explain Inter and intra molecular H- bonding.

SECTION-C

- 7) Explain the back bonding with examples.
- 8) Explain the crystal field theory.
- 9) Explain the Werner's coordination theory.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



1 | M-75324

2 | M-75324

(S2)-2618

DEC-2024

Roll No.

Total No. of Questions : 09

Total No. of Pages :02

B.Sc.(BT) (Sem.-1)

INTRODUCTION TO BIOTECHNOLOGY

Subject Code : BSBT-102-18

M.Code : 75325

Date of Examination: 20-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1 SECTION :

1. SECTION-A is COMPULSORY :
each.
2. SECTION-B contains FIVE questions carrying TWO marks
have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students
have to attempt any TWO questions.

SECTION-A

1. Define :
 - a) Modern Biotechnology
 - b) Plant Biotechnology
 - c) Biotechnology in healthcare sector.
 - d) BT crops
 - e) GM foods
 - f) Food Biotechnology
 - g) Food quality determinants
 - h) Acetic acid fermentation
 - i) Beer
 - j) Penicillin

SECTION-C

7. Explain its importance in the agricultural, pharmaceutical, and industrial sectors.
8. Illustrate the role of Food Biotechnology in the production of fermented foods.
9. Discuss important fermentative procedures to obtain antibiotics and ethanol.

SECTION-B

2. What is Biotechnology? Give an overview of various branches of Biotechnology and their importance.
3. Give an overview of important biotechnological applications in environmental sector.
4. Give an overview of applications of Biotechnology in agriculture sector. Also write a brief note on the commercial aspects of GM foods in India.
5. Explain biotechnological processes involved in the production of food additives.
6. Write a brief note on the fermentative production of L-asparaginase.

11 | N1-75325

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.

21 Nov 75 325

ET87-(CS)



Dec-2024

Total No. of Pages : 02

INTRODUCTION TO BIOTECHNOLOGY

M.Code : S75325

Date of Examination: 20-01-2025

Max. Marks : 60

SECTION-C

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

1. Define briefly :

- (a) Applications Pharmaceutical Biotechnology.
- (b) Modern Biotechnology
- (c) GM Tomato
- (d) Disadvantages of GM crops.
- (e) Preprocessed food
- (f) Antibiotics
- (g) Green Biotechnology
- (h) BT Brinjal
- (i) Role of Biotechnology in health care.
- (j) Insect resistant plants



2 | M-575325

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.

DEL-2024

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

**B.Sc.(BT) (Sem.-1)
INTRODUCTION TO BIOTECHNOLOGY**
Subject Code : SBT-102-18
M.Code : S75325

Date of Examination: 20-01-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Define briefly :

- (a) Applications Pharmaceutical Biotechnology.
- (b) Modern Biotechnology
- (c) GM Tomato
- (d) Disadvantages of GM crops.
- (e) Preprocessed food
- (f) Antibiotics
- (g) Green Biotechnology
- (h) BT Brinjal
- (i) Role of Biotechnology in health care.
- (j) Insect resistant plants

SECTION-B

2. What is Plant Biotechnology? Discuss its applications.
3. How can we produce GM papaya using Biotechnology? Write down its advantages.
4. Discuss the role of microbes in enhancing food Quality.
5. Discuss production of penicillin.
6. Write short note on overview of Biotechnology institutions in India.

SECTION-C

7. What is Biotechnology? Discuss traditional biotechnology and its applications?
8. What are genetically modified crops? Discuss in detail production of BT Cotton.
9. Discuss in detail production of ethanol?



NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.

DEL-2024

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (BT) (Sem.-2)
BIOSTATISTICS
Subject Code : BSBT-203-18
M.Code : 75874

Date of Examination : 09-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly:

- Define Variance with formula.
- Define Normal Distribution.
- Calculate mean for the 10, 5, 3, 8, 7 and 9.
- Define Relative Frequency.
- Define F residuals.
- What is the formula for residuals in two way ANOVA?
- Define probable error.
- Give two uses of randomized block design.
- Give two applications of fourier transformation.
- What is the probability of getting three on dice when dice thrown once?

SECTION-B

2. A bag contains 30 balls numbered from 1 to 30. One ball is drawn at random. Find the probability that the number of the ball drawn will be a multiple of

- 5 or 7
- 3 or 7.

3. Give the salient features of Residuals in statistics.

4. Describe the importance of randomized block design.

5. Calculate the Karl Pearson coefficient of correlation from the given below data :

Roll No	1	2	3	4	5
Marks in Maths	48	35	17	23	47
Marks in biostatistics	45	20	40	25	45

6. Write a short note on Curve smoothening.

SECTION-C

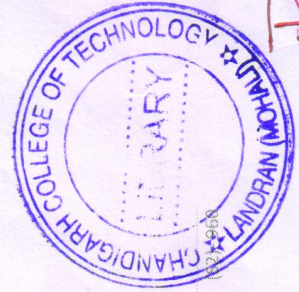
7. Perform One Way ANOVA for the given below data :

A	B	C
2	3	4
3	4	5
4	5	6

For $F_{0.05}(2,6) = 5.14$

- a) Describe in detail about Regression.
- Normal distribution.
- a) A coin is tossed six times. What is the probability of obtaining at least four tails?
- Give a brief account of Design of Experiments.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



Total No. of Pages : 02

Roll No.

Total No. of Questions : 09

B.Sc. (BT) (Sem.-2)

PHYSICAL CHEMISTRY

Subject Code : BSBT-201-18

M.Code : 75872

Date of Examination : 14-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. **Write briefly:**
 - a) Define state variables.
 - b) State and explain Henry's law.
 - c) How is molecular weight of a solute related to its osmotic pressure?
 - d) Give plots of rate vs concentration for different order reactions.
 - e) What are buffer solutions? Where are they used?
 - f) What type of salts do not undergo salt hydrolysis?
 - g) Explain Lever rule.
 - h) How is conductance related to transport number of an ion?
 - i) Calculate the pH of 0.005M Sulphuric acid solution.
 - j) Is entropy a criterion for spontaneity? Justify.

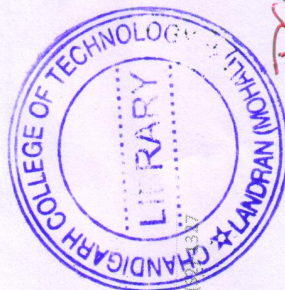
SECTION-B

2. Derive relation between C_p and C_v . Which one is greater and why?
3. What are colligative properties. Prove that depression in freezing point is a colligative property.
4. Discuss the kinetics of consecutive reactions with suitable example.
5. What are various factors that affect the specific and equivalent conductance of a electrolyte.
6. Discuss in detail all processes involved in a Carnot cycle.

SECTION-C

7. a) Compare adiabatic and isothermal expansion of gases under different conditions.
- b) Derive Gibbs Helmholtz equation and give its significance.
8. a) Draw Phase diagram for water and enlist its salient features.
- b) Differentiate between order and molecularity. Does half-life of a reaction vary with the order, justify.
9. a) What are conductometric titrations, give their principle and advantages and explain a conductometric curve with any one example.
- b) **Write short notes on :**
 - i) Vapour Pressure.
 - ii) Distillation.

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC case against the Student.



1 | M-75872

21 M-75872

(52)-1327

Dec-2023

Roll No.

Total No. of Questions : 11

Total No. of Pages : 04

B.A.(JAMC) / BBA / B.Com (Hons) / BCA / BHMCT / B.Sc. Hons.
(Nutrition and Dietetics / Fashion Design / Graphics & Web Designing /
Information Technology / Medical Lab Sciences / Operation Theatre
Technology) / BTM / M.Com (Sem.-1, 2)

HUMAN VALUES, DE-ADDICTION & TRAFFIC RULES

Subject Code : HVPE101-18

M.Code : 75087

Date of Examination : 16-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- SECTION-A is compulsory.
- SECTION-B contains FIVE questions. Each question carry FOUR marks. Attempt All.
- SECTION-C contains FIVE questions with internal choice. Each question carry SIX marks. Attempt All.

SECTION-A

(10 × 1 = 10)

1. Write briefly :

- How the value "Guidance" is related with self.
ਸੂਚਕ "ਗਾਇਡੈਂਸ" ਸਵੈ ਦੇ ਨਾਲ ਕਿਵੇਂ ਸੰਬੰਧਿਤ ਹੈ?
- What do you mean by respect?
ਆਪਕਾ ਸਤਕਾਰਨ ਕੀ ਮਤਲਬ ਹੈ?

2. What is animal order?

ਜੀਵ ਆਦੇਸ਼ ਕੀ ਹੈ?

ਜੀਵ ਆਦੇਸ਼ ਕੀ ਹੈ?

3. What is immateness?

ਸੁਮੱਧਾਤਾ ਕੀ ਹੈ?

ਸਵਾਭਾਵਿਕਤਾ ਕੀ ਹੈ?

e) What is Utility-Value?

ਉਪਯੋਗਿਤਾ-ਮੁੱਲ ਕੀ ਹੈ?

ਉਪਯੋਗਿਤਾ-ਮੁੱਲ ਕੀ ਹੈ?

f) What is value of any unit in the larger order?

ਕੋਈ ਆਦੇਸ਼ ਕਿਸੇ ਵੀ ਇਕਾਈ ਦਾ ਕੀ ਮੁੱਲ ਹੈ?

ਵੱਡੇ ਆਦੇਸ਼ ਵਿੱਚ ਕਿਸੇ ਵੀ ਇਕਾਈ ਦਾ ਕੀ ਮੁੱਲ ਹੈ?

g) What is Holistic System?

ਸਮੱਗਰ ਪ੍ਰਣਾਲੀ ਕੀ ਹੈ?

ਸਰਬੱਧਿਕ ਪ੍ਰਣਾਲੀ ਕੀ ਹੈ?

h) What is Perseverance?

ਅਟਕਤਾ ਕੀ ਹੈ?

ਧੀਰਜ ਕੀ ਹੈ?

i) Explain Natural Acceptance.

ਸਹਜ ਸਵੀਕ੍ਰਿਤੀ ਸਮਝਾਓ।

ਕੁਦਰਤੀ ਮੰਜੂਰੀ ਸਮਝਾਓ।

j) What is Mutual Fulfilment?

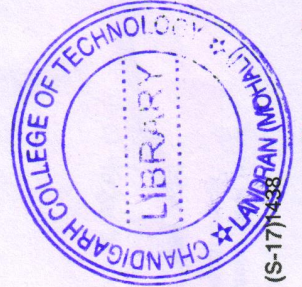
ਪਾਰਸਪਰਿਕ ਪੂਰਤੀ ਕੀ ਹੈ?

ਆਪਸ ਦੀ ਪੂਰਤੀ ਕੀ ਹੈ?

SECTION-B

(5 × 4 = 20)

- What is the need for value education in technical and other professional Institutions?
ਤਕਨੀਕੀ ਆਦਿ ਹੋਰ ਪੇਸ਼ੇਵਰ ਸੰਸਥਾਵਾਂ ਵਿੱਚ ਮੁੱਲ ਦੀ ਸਿੱਖਿਆ ਦੀ ਕੀ ਲੋੜ ਹੈ?
- What do you mean by SVDD, SSDD and SSSS? How is the transformation possible from SSDD to SSSS?
ਆਪਕਾ SVDD, SSDD ਅਤੇ SSSS ਕੀ ਮਤਲਬ ਹੈ? SSDD ਤੋਂ SSSS ਤੱਕ ਦੇ ਪਰਿਵਰਤਨ ਕਿਵੇਂ ਸੰਭਵ ਹੈ?
- What do you mean by SVDD, SSDD and SSSS? How is the transformation possible from SSDD to SSSS?
ਆਪਕਾ SVDD, SSDD ਅਤੇ SSSS ਕੀ ਮਤਲਬ ਹੈ? SSDD ਤੋਂ SSSS ਤੱਕ ਦੀ ਪਰਿਵਰਤਨ ਕਿਵੇਂ ਸੰਭਵ ਹੈ?



[M- 75087]

[M- 75087]

(S-17) 1438

Dec-2024

4. What do you mean by Animal Consciousness and Human Consciousness? How is the transformation possible from Animal Consciousness to Human Consciousness?
- आपका पशु चेतना और मानव चेतना से क्या मतलब है? पशु चेतना से मानव चेतना परिवर्तन कैसे संभव है?
- डूहाड़ा पशु चेतना अਤੇ मनुषी चेतना ਤੋਂ ਕੀ ਮਤਲਬ ਹੈ? ਪਸ਼ੂ ਚੇਤਨਾ ਤੋਂ ਮਨੁੱਖੀ ਚੇਤਨਾ ਤੱਕ ਦੀ ਤਬਦੀਲੀ ਕਿਸ ਤਰ੍ਹਾਂ ਸੰਭਵ ਹੈ?
5. Explain competence in Professional Ethics.
- ਪੇਸ਼ੇਵਰ ਨੈਤਿਕਤਾ में क्षमता समझाओ।
- ਪੇਸ਼ੇਵਰ ਨੈਤਿਕਤਾ ਵਿੱਚ ਸਮਰੱਥਾ ਸਮਝਾਓ।
6. What are the implications of value based living?
- ਮੂਲ्य आधारित जीवन यापन के अच्छे परिणाम क्या हैं?
- ਕਦਰਾਂ ਕੀਮਤਾਂ ਆਧਾਰਿਤ ਜੀਵਨ ਜੀਉਣ ਦੇ ਚੰਗੇ ਨਤੀਜੇ ਕੀ ਹਨ?

SECTION-C

(6 × 5 = 30)

7. Compare the Four Orders in nature on the basis of their salient aspects.
- मुख्य पहलुओं के आधार पर प्रकृति में चार आदेशों की तुलना करें।
- ਮੁੱਖ ਪਹਿਲੂਆਂ ਦੇ ਆਧਾਰ ਉੱਤੇ ਕੁਦਰਤ ਵਿੱਚ ਚਾਰ ਆਦੇਸ਼ਾਂ ਦੀ ਤੁਲਨਾ ਕਰੋ।

OR

- What is the meaning and purpose of Self-Exploration?
- स्वयं-अन्वेषण के अर्थ और उद्देश्य क्या हैं?
- ਆਤਮ - ਅਧਿਐਨ ਦੇ ਮਤਲੱਬ ਅਤੇ ਉਦੇਸ਼ ਕੀ ਹਨ?
8. Describe basic human aspirations. What are the requirements to fulfill basic human aspirations?
- बुनियादी मानवीय आकांक्षाएं क्या हैं? बुनियादी मानवीय आकांक्षाओं को पूरा करने के लिए आवश्यकताओं का वर्णन करें?
- ਬੁਨਿਆਦੀ ਮਨੁੱਖੀ ਖਿੱਛਾਵਾਂ ਕੀ ਹਨ? ਬੁਨਿਆਦੀ ਮਨੁੱਖੀ ਖਿੱਛਾਵਾਂ ਨੂੰ ਪੂਰਾ ਕਰਨ ਲਈ ਜ਼ਰੂਰਤਾਂ ਦਾ ਵਰਣਨ ਕਰੋ?

OR

- What are the different patterns of differentiation?
- भेदभाव के विभिन्न पैटर्न क्या हैं?
- ਫਰਕ ਦੇ ਵੱਖ-ਵੱਖ ਪੈਟਰਨ ਕੀ ਹਨ?
9. What is the difference between belief and understanding?
- विश्वास और समझ में क्या अंतर है?
- ਵਿਸ਼ਵਾਸ ਅਤੇ ਸਮਝ ਵਿੱਚ ਕੀ ਅੰਤਰ ਹੈ?

[M-75087]

(S-17)1438

OR

- What are the programmes to ensure Health?
- स्वास्थ्य को सुनिश्चित करने के लिए क्या-क्या कार्यक्रम हैं?
- ਸਿਹਤ ਨੂੰ ਠੀਕ ਰੱਖਣ ਲਈ ਕਿਹੜੇ-ਕਿਹੜੇ ਤਰੀਕੇ ਹਨ?
10. Critically examine our state today in terms of fulfillment of relationships and physical facilities. What has gone wrong according to you? What is the solution?
- परिस्थिति को पूर्ण और भौतिक सुविधाओं की दृष्टि से आज हमारी स्थिति का आलोचनात्मक परीक्षण करें। आपके अनुसार क्या गलत हुआ है? क्या निदान है?
- ਰਿਸ਼ਤੇਆਂ ਅਤੇ ਭੌਤਿਕ ਸਹੂਲਤਾਂ ਦੀ ਪੂਰਤੀ ਦੇ ਮਾਮਲੇ ਵਿੱਚ ਅੱਜ ਸਾਡੇ ਰਾਜ ਦੀ ਗੰਭੀਰਤਾ ਨਾਲ ਜਾਂਚ ਕਰੋ। ਡੂਹਾਡੇ ਅਨੁਸਾਰ ਕੀ ਗਲਤ ਹੋਇਆ ਹੈ? ਹੱਲ ਕੀ ਹੈ?

OR

- What are the five dimensions of Human Endeavour in society?
- समाज में मानव प्रयास के पांच आयाम क्या हैं?
- ਸਮਾਜ ਵਿੱਚ ਮਨੁੱਖ ਕੋਸ਼ਿਸ਼ ਦੇ ਪੰਜ ਪਹਿਲੂ ਕੀ ਹਨ?
11. Explain self-organisation and health.
- आत्म संगठन और स्वास्थ्य के बारे में बताएं।
- ਆਤਮ ਸੰਗਠਨ ਅਤੇ ਸਿਹਤ ਦੇ ਬਾਰੇ ਵਿੱਚ ਦੱਸੋ।

OR

- Suggest ways to enhance the fulfillment of human order with the other three orders. Mention any two programs you can undertake in light of the above.
- अन्य तीन आदेशों के साथ मानव आदेश की पूर्ति को बढ़ाने के तरीके सुझाएं। उपरोक्त के आलोक में किन्हीं दो कार्यक्रमों का उल्लेख करें जिन्हें आप अपना सकते हैं।
- ਹੋਰ ਤਿੰਨ ਆਦੇਸ਼ਾਂ ਦੇ ਨਾਲ ਮਨੁੱਖੀ ਆਦੇਸ਼ ਦੀ ਪੂਰਤੀ ਨੂੰ ਵਧਾਉਣ ਦੇ ਤਰੀਕਿਆਂ ਦਾ ਸੁਝਾਅ ਦਿਓ। ਕਿਸੇ ਵੀ ਦੋ ਪ੍ਰੋਗਰਾਮਾਂ ਦਾ ਜ਼ਿਕਰ ਕਰੋ ਜੋ ਤੁਸੀਂ ਉਪਰੋਕਤ ਦੀ ਰੋਸ਼ਨੀ ਵਿੱਚ ਸ਼ੁਰੂ ਕਰ ਸਕਦੇ ਹੋ।

Note : Disclosure of Identity by writing Mobile No. or Making of Passing request on any page of Answer Sheet will lead to UMC against the Student.

[M-75087]

(S-17)1438

Roll No.

--	--	--	--	--	--	--	--	--	--

Total No. of Questions : 09

Total No. of Pages : 02

**B.Sc. (BT) (Sem.-3)
INTRODUCTION TO COMPUTERS**

Subject Code : BSBT-307-18

M.Code : 76614

Date of Examination : 28-11-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly:

- a) What are analog computers?
- b) Name any two languages used in computers.
- c) What is the need for computer hardware?
- d) Discuss types of printers.
- e) Define Secondary storage.
- f) Write about real mode in computer.
- g) What is use of optical Disk?
- h) What is the use of plotters?
- i) Discuss the role of NCBI data model.
- j) What is DNA sequence?

SECTION-B

2. Discuss the functional units of Computer.
3. What is the importance of genebank sequence in database?
4. What is voice response unit?
5. Explain the various input and output used in computer.
6. Discuss the different modes of communication with computer.

SECTION-C

7. How Internet is beneficial for the Biologist to study sequence behavior?
8. Discuss various ways to store data in computer. Which are latest Storage devices?
9. Give the introduction database searching. How multiple sequence alignment is used in Bioinformatics?



NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

Roll No.

Total No. of Questions : 09

Total No. of Pages : 02

B.Sc. (BT) (Sem.-3)
ORGANIC CHEMISTRY
Subject Code : BSBT/301/18
M.Code : 76608

m. Code: 76608
Date of Examination : 02-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly:
 - a) Explain the Electrometric effect.
 - b) What are nucleophile?
 - c) Name two methods formation of alkanes.
 - d) What is the Carboanion?
 - e) Define the Hyperconjugation.
 - f) Name any two reagents.
 - g) Name any two organic reactions.
 - h) Why tertiary carbocation is more stable?
 - i) What is the geometry of carboanion.
 - j) Define Diene with one example.

SECTION-B

2. Explain the Kolbe reaction with mechanism.
3. Explain the acidic behavior of alcohols along with example.
4. Explain the physical properties of carboxylic acids.
5. Explain the conformation of cycloalkene.
6. Explain the Kekule structure of benzene.

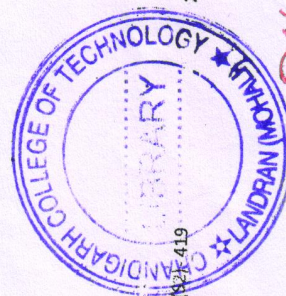
SECTION-C

7. What is the Kolbe's reaction and its mechanism.
8. Explain the carbocation along with the stability of this.
9. Explain the Reinjer Tiemann reaction and its mechanism.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

2 | M-7G608

(S2)-419



11 MI-76608

DEC-2024

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

Total No. of Pages : 02.

B.Sc. (BT) (Sem.-3)

IMMUNOLOGY

Subject Code : BSBT-302-18

M. Code : 76609

Date of Examination : 25-11-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- INSTRUCTIONS TO CANDIDATES :**
1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly:
 - a) What is meant by innate immunity?
 - b) What kind of immune response is generated upon invasion by a viral pathogen?
 - c) Describe the role of null cells in immune system.
 - d) Draw the structure of different types of white blood cells.
 - e) How do macrophages contribute to immune response?
 - f) What is the function of interleukins?
 - g) Define immunoprecipitation.
 - h) What are T_H cells?
 - i) What is an adjuvant?
 - j) What is MHC?

SECTION-B

2. Describe the specific features of an immune system.
3. Write a note on organs of immune system.
4. Describe the structure of an immunoglobulin. Discuss the types of immunoglobulins and their specific role.
5. Discuss the surface markers of T cells.
6. Write a note on antigen presenting cells.

SECTION-C

7. What is complement cascade? Describe its biological effect.
8. Write a note on vaccines.
9. Describe the stages of maturation of B lymphocytes.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



1 | M-76609

2 | M-76609

66-(52)-99

Dec-2024

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (BT) (Sem.-4)

GENETIC ENGINEERING

Subject Code : BSBT401-18

M.Code : 77690

Date of Examination: 12-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly:

- a) How does blue white screening distinguish between recombinant and non-recombinant colonies?
- b) In which types of cells is microinjection most commonly performed?
- c) What is the primary purpose of gene shuffling in biotechnology?
- d) What is random mutagenesis?
- e) How can molecular pharming contribute to the production of vaccines?
- f) What is one common purpose for creating transgenic cattle?
- g) What is a common example of a plant virus used as an episomal vector?
- h) What is a Ti plasmid?
- i) How are embryonic stem cells modified to introduce new genes?
- j) Which genetic modification was used to enhance the Flavr Savr tomato's shelf life?

SECTION-B

2. Explain the process of transduction in bacteria, detailing the roles of bacteriophages in the transfer of genetic material. How does generalized and specialized transduction differ in their mechanisms and outcomes?
3. Give a detailed note on chimeric proteins.
4. What are direct methods of DNA transfer in plants?
5. What are plasmids? Give examples along with applications.
6. How one can select the mutant peptides by Phage display techniques?

SECTION-C

7. Describe the principles and techniques used in protein engineering.
8. Describe the various techniques and applications of animal genetic engineering.
9. Give a detailed note on Recombination.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.



Dec-2024

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (Biotechnology) (Sem.-4)
INDUSTRIAL BIOTECHNOLOGY
Subject Code : BSBT-403-18
M.Code : 77692

Date of Examination: 13-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly:

- a. Maceration in wine making.
- b. Transformation
- c. Sweet wort
- d. Sparger
- e. Baffles
- f. VVM
- g. Biocontrol
- h. Biosafety
- i. Biocatalyst
- j. Genetic marker.

SECTION-B

2. Compare the benefits of biofertilizers with chemical fertilizers.
3. Describe the role of Hops in Beer production.
4. Compare 'Beer' and 'Wine'.
5. Describe some short-term methods for microbial culture preservation.
6. Enlist some uses of organic acids.

SECTION-C

7. What do you mean by immobilization? Describe its types. Discuss some applications of immobilized cells and enzymes.
8. Write a detailed note on vinegar making with the help of flow chart.
9. Explain the design and operation of any bioreactor with the help of diagram.



NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.

Dec-2024

Roll No.

Total No. of Questions : 09

Total No. of Pages : 02

B.Sc. (BT) (Sem.-5)

ORGANIC FARMING

Subject Code : BSBT501-18

M.Code : 78346

Date of Examination : 02-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Organic farming
- b) Soil health cards
- c) Rhizobium
- d) Contribution of Sir Albert Howard
- e) Trichogramma cards
- f) Natural farming
- g) Green manure
- h) Non-edible castor cake
- i) Trichoderma
- j) Homemader Neem extract

SECTION-B

2. Write down role of organic farming in sustainable agriculture.
3. What do you mean by Bio remediation?
4. Discuss the harmful effect of non-judicious chemical fertilizers.
5. Define biofertilizers. Discuss limitations of biofertilizers.
6. Write a short note on significance of organic farming.

SECTION-C

7. Discuss the role of micro-organisms in degradation of pesticides.
8. Enlist different green manuring crops. Write down procedure of production and incorporation of green manure crop. Write down advantages and disadvantages of green manure crops.
9. a) Discuss the importance of soil enzymes in organic farming.
b) Differentiate farmyard manure vermi-compost.
c) Describe the use of sewage sludge in agriculture, its pros and cons.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



Dec-2024

Roll No.

Total No. of Questions : 09

Total No. of Pages : 02

**B.Sc. (BT) (Sem.-5)
BIOTECHNOLOGY IN FORENSIC SCIENCES**

Subject Code : BSBT142-18

McCode : 78353

Date of Examination : 25-11-2024

Time : 3 Hrs.

Max. Marks : 40

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE mark each.
2. SECTION-B contains FIVE questions carrying 2 marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) What is the principle of forensic science?
- b) Which technique is used for DNA testing?
- c) Which software is used for recognition and matching of fingerprints?
- d) What do you mean by terminal ballistics?
- e) What is the use of spectrophotometer in forensic examination?
- f) Which technique is widely used for the analysis of explosives?
- g) How is rigor mortis helpful in forensic medicine?
- h) What forms the basis of fingerprint classification?
- i) What is the difference between primary and secondary blast injuries?
- j) How are forensic evidences preserved?

1 | M-78353

SECTION-B

2. How is ink chromatography helpful in forensics?
3. Where are National Forensic Science Laboratories in India located?
4. How are injuries classified based on medico-legal aspects?
5. What is forensic toxicology?
6. How are fingerprints for forensic investigation collected?

SECTION-C

7. How is cause of death assessed by a forensic scientist?
8. Write a note on Cyber crimes and their prevention.
9. What is the role of biotechnology in forensic science?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

2 | M-78353

(S2)-73



DEC-2024

Roll No. ☐

Total No. of Pages : 02

Total No. of Questions : 09

**B.Sc. (BT) (Sem.-5)
HUMAN BEHAVIOUR & PSYCHOLOGY**

Subject Code : BSBT137-18

M.Code : 78348

Date of Examination : 28-11-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) What is the importance of studying psychology in present times?
- b) Stereotyping
- c) Halo effect
- d) Define intelligence.
- e) How do emotions affect motivation?
- f) What is 'Type A' personality?
- g) What are the elements of creativity?
- h) Positive motivation
- i) Self-actualisation
- j) Reinforcement.

1 | M-78348

SECTION-B

2. Describe the concept of instrumental conditioning.
3. Explain the scope of psychology.
4. Explain sensory processes.
5. Discuss the classical conditioning theory of learning.
6. Discuss the types of conflict.

SECTION-C

7. Explain the psychodynamic theory of psychology.
8. What are the determinants of personality? Discuss.
9. How can conflict be handled constructively? Discuss the various conflict-handling strategies.



NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

2 | M-78348

(52)-206

DSC-2024

Roll No.

Total No. of Questions : 09

Total No. of Pages : 02

B.Sc. (BT) (Sem.-5)
ANIMAL BIOTECHNOLOGY
Subject Code : BSBT139-18
M.Code : 78350

Date of Examination : 17-12-2024

Time : 3 Hrs.

Max. Marks : 40

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE mark each.
2. SECTION-B contains FIVE questions carrying TWO & HALF ($2\frac{1}{2}$) marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Sources of stem cells
- b) First transgenic cow
- c) Artificial insemination
- d) Name a Retrovirus in humans.
- e) Symptoms of Trypanosomiasis.
- f) Application of microinjection.
- g) Uses of transgenic insects.
- h) Reason behind Coccidiosis.
- i) Problems in genetic modification.
- j) Name the vectors used in gene therapy.

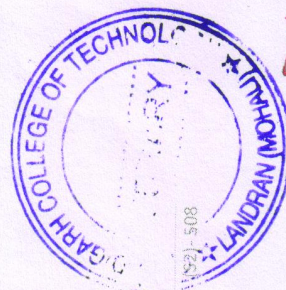
SECTION-B

2. How does a retrovirus work?
3. Write a note on curing of foot and mouth disease by Biotechnology.
4. How Dolly sheep was cloned?
5. Discuss about embryo transfer technique.
6. What are different types of gene therapy? Explain.

SECTION-C

7. What are transgenic animals? Give an account of production of transgenic cow.
8. What are various direct and indirect methods of gene transfer?
9. Describe the term molecular engineering in detail with suitable examples.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



1 | M-78350

(52)- 508

2 | M-78350

(52)- 508

Dec-2024