Roll No. [ ] Total No. of Pages : 02

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B.Sc. (BT) (Sem.–2)

PHYSICAL CHEMISTRY

Subject Code : BSBT-201-18

M.Code : 75872

Date of Examination : 19-05-2025

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. **Write briefly :**

   a) Define extensive and intensive properties.

   b) The activation energy of a reaction is 94.14 kJ/mol and rate constant at 30°C is 1.8×10^{-5} sec^{-1}. Calculate the frequency factor, A.

   c) Write a note on colligative properties.

   d) How is conductance measured?

   e) What is pH scale? What is its role in biochemistry?

   f) Define enthalpy of formation. How it can be determined?

   g) How is Raoult's law used to determine the vapour pressure of solutions?

   h) Why reactions with high molecularity are generally not feasible?

   i) What do you mean by Buffer action?

   j) Define Gibb's free energy and give its significance.

SECTION - B

2. Derive Hess's law of constant heat summation. Enlist it's any two applications.

3. Under what conditions the molecular mass of a solute comes out to be abnormal. How it can be corrected.

4. Discuss the factors affecting the rate of a reaction using suitable examples.

5. Plot the variation of specific and equivalent conductance of acetic acid and HCl with dilution. Explain the reasons in their behavior.

6. Derive relation between heat of reaction at constant pressure (q_p) and heat of reaction at constant volume (q_v). Under what conditions both become equal.

SECTION-C

7. a) Discuss in detail about efficiency of a heat engine in relation to Carnot Theorem.

   b) Derive thermodynamically Gibb's phase rule.

8. a) Give the assumptions of Arrhenius theory of electrolyte dissociation. Under what conditions it fails.

   b) Discuss the kinetics of Chain reactions taking suitable example.

9. a) Define salt hydrolysis. Derive expression for hydrolysis constant of a salt formed from strong acid and a weak base.

   b) Explain Lever rule. How it is used in the distillation of ideal and non-ideal solutions.

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June – 2025

Roll No. | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Sc.(BT) (Sem.–2)

INTRODUCTION TO MICROBIOLOGY

Subject Code : BSBT-202-18

M.Code : 75873

Date of Examination : 22-05-2025

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. **Write briefly :**

   a) Koch postulates

   b) Abiogenesis

   c) Microbiology

   d) Fermentation

   e) Unique features of slime molds.

   f) SEM and TEM

   g) Resolving Power

   h) Lithotrophs and Chemotrophs

   i) Antibiosis with examples

   j) Host defense mechanisms against pathogens.

SECTION - B

2. Explain the principle of bright field and dark field microscopy.
3. Describe the features of Gram positive and Gram negative bacteria.
4. Differentiate between sterilization and pasteurization process.
5. Describe monoauxic, diauxic and synchronous growth.
6. Discuss the contributions of Louis Pasteur in Microbiology.

SECTION - C

7. Describe the principle, working and applications of fluorescent microscope.
8. Describe about various chemical and physical agents used to control microorganisms.
9. How nitrogen is metabolized and recycled in nature? Discuss the role of microorganisms in this process in detail.

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June – 2025

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 : 26-05-2025

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. **Write briefly :**

   a. Define Standard Deviation with formula.

   b. What is the Probability that a leap year selected at random will contain 53 Sundays?

   c. Define Degrees of Freedom.

   d. Define replication.

   e. Define Z residuals.

   f. Calculate mean for the data 8, 6, 5, 7 and 4.

   g. What do you mean by determinants?

   h. Define Precision.

   i. Give two uses of probable error.

   j. What do you mean by $p<0.05$?

SECTION - B

2. A problem in maths is given to five students. A, B, C, D and E. Their chances of solving it are 1/2,1/3,1/4,1/5 and 1/6. What is the probability that the problem will be solved?

3. Give a brief note on Least squares.

4. Write a short note on matrices manipulations.

5. **From the given data below obtain the two regression equations :**

X:	6	2	10	4	8
Y:	9	11	5	8	7

6. Describe about derivative curves.

SECTION - C

7. A tea company appoints four salesmen A, B,C and D and observes their sales in three seasons - summer, winter and monsoon. The data is given below

Seasons			Salesmen		Season's total
	A	B	C	D	
Summer	36	36	21	33	128
Winter	28	29	31	32	120
Monsoon	26	28	29	29	112
Salesmen's total	90	93	81	96	360

Perform the Two Way ANOVA for the above data
For $F_{0.05}(3,6) = 4.76$; For $F_{0.05}(2,6) = 5.14$.

8. Give a detailed account of Fourier transformation.

9. **The following mistakes per page were observed in a book :**

No. of mistakes per page	0	1	2	3	4
No of times the mistake occurred	211	90	19	5	0

Fit a poisson distribution to fit data. (Given $e^{-0.439} = 0.6447$)

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B.Com. (Hons.) / BA(JAMC) / BHMCT / B.Sc. (FD/ MLS) / BBA (SIM) / BBA / BTTM (Sem.–2)

ENVIRONMENTAL STUDIES

Subject Code : EVS-102-18

M.Code : 75831

Date of Examination : 05-05-2025

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt ALL questions in SECTION-A, Each question carry 2 marks
2. Attempt any FOUR questions from SECTION-B, Each question carry 10 marks.

SECTION - A

1. **Answer all parts of the question :**

   a) Define biomes.

   b) Define ecological succession.

   c) What is meant by food chain?

   d) List any four air pollutants which affect materials.

   e) What are the causes of soil erosion?

   f) List any two major global effects of air pollution.

   g) Name any two methods of wasteland reclamation.

   h) What is meant by desertification?

   i) How does acid rain occur?

   j) What are GHGs? Name any four GHGs in the descending order of their global warming potential.

SECTION - B

2. Critically examine how environmental benign is the various alternate energy resources?

3. Explain the energy flow in a typical marine ecosystem.

4. Discuss the uses, functions and values of forest resources. List the causes and effects of its degradation.

5. Consider India as a mega biodiversity nation; explain the biogeographical regions of India and its biodiversity hot spots.

6. ***"Increasing sea level and climate change are major impacts of environmental pollution"*** Discuss the various global effects.

7. List and contrast the major environmental problems in urban and rural areas. Suggest remedial measures.

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Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (BT) (Sem.–4)

PLANT TISSUE CULTURE

Subject Code : BSBT-402-18

M.Code : 77691

Date of Examination: 20-05-2025

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. **Write briefly :**

a) Define the term "explant" and explain its role in initiating plant tissue cultures.

b) When was the term "tissue culture" first used in the context of plants?

c) What are the main components of a typical plant tissue culture medium?

d) Define "somatic embryogenesis".

e) What is callus and how is it formed during in vitro culture?

f) Describe the importance of vitamins in plant tissue culture. Give an example of a commonly used vitamin.

g) What is the purpose of incubation in plant tissue culture?

h) Explain the concept of selective media and its importance in cell selection.

i) What are monoclonal antibodies?

j) Explain the difference between callus culture and organogenesis.

SECTION -B

2. Discuss the basic principles of plant tissue culture. Give fundamental steps involved in initiating a tissue culture.

3. Define in vitro culture and explain its significance in plant tissue culture. How does in vitro culture differ from traditional propagation methods?

4. Discuss the applications of cloning in plant conservation. How can tissue culture techniques aid in the preservation of endangered plant species through cloning?

5. Discuss the techniques used for the genetic transformation of plants via tissue culture. What are the most common methods and how do they contribute to the development of genetically modified organisms?

6. Define cloning in the context of plant tissue culture. What are the main techniques used for cloning plants and how do they differ from traditional propagation methods?

SECTION - C

7. Discuss the various types of cloning and selection of specific cells in plant tissue culture. Compare their applications.

8. Describe the essential nutrients required for optimal plant tissue culture growth. Discuss the roles of macronutrients and micronutrients and explain how their concentrations can affect tissue growth and development.

9. Describe the different types of in vitro culture techniques. Explain the specific applications and advantages of each method in plant propagation and genetic improvement.

June-2025

Roll No. | | | | | | | | | | | | Total No. of Pages : 02

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B.Sc. (Biotechnology) (Sem.–4)

INDUSTRIAL BIOTECHNOLOGY

Subject Code : BSBT-403-18

M.Code : 77692

Date of Examination : 23-05-2025

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. **Write briefly :**

   a) Bakers Yeast and its use.

   b) Sparger

   c) CSTR

   d) Specific medium

   e) Industrial Biotechnology

   f) Fringes generator

   g) Name two microorganisms used for Vitamin B1 and B12 production.

   h) Biofuel

   i) Constraints of Biofertilizers.

   j) Bioremediation

SECTION - B

2. How bio transformations are better than Chemical transformation?
3. Describe the role of hops in beer production?
4. Discuss about the important elements for the preparation of production media.
5. Describe the biochemistry of microbial production of citric acid.
6. Write a brief note on biocontrol agents.

SECTION - C

7. Describe the up-streaming and down-streaming process for the production of Penicillin.
8. Define Immobilization. Discuss its types and applications in biotech industry.
9. **Differentiate the following :**

   a) Red wine and White wine

   b) Beer and whisky

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B.Sc. (BT) (Sem.–4)

ANALYTICAL TECHNIQUES IN BIOTECHNOLOGY

Subject Code : BSBT407-18

M.Code : 77696

Date of Examination: 27-05-2025

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. Write briefly:

a) Discuss the applications of paper chromatography.

b) What are the common applications of absorption spectroscopy?

c) What is the significance of the Stokes and anti – Stokes lines in a Raman spectrum?

d) Define limit of resolution and numerical aperture.

e) How does an electric field affect the movement of charged particles in electrophoresis?

f) What is the principle of sedimentation in centrifugation?

g) How does stationary phase differ from mobile phase in chromatography?

h) What are the main applications of affinity chromatography in biotechnology?

i) How are proteins separated in Western blotting?

j) How does PAGE differ from agarose gel electrophoresis?

SECTION-B

2. Explain the principle of NMR spectroscopy and the role of nuclear spin in generating NMR spectra.

3. Discuss the significance of the Beer – Lambert law in quantitative analysis using absorption spectroscopy.

4. Describe the process of data analysis in Raman spectroscopy, including how to interpret peaks and their corresponding molecular vibration.

5. Discuss the principle and applications of SEM.

6. Explain the principles of rate – zonal centrifugation and describe how it separates particles based on their size and density.

SECTION-C

7. Discuss the significance of electrophoresis in the separation and analysis of proteins, including the role of SDS – PAGE.

8. Discussion exchange chromatography in terms of their principles, equipment and applications.

9. Describe HPLC in terms of their principles, equipment and applications.

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June-2025

Roll No. Total No. of Pages : 02

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B.Sc. (BT) (Sem.–4)

GENETIC ENGINEERING

Subject Code : BSBT401-18

M.Code : 77690

Date of Examination : 06-05-2025

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. **Write briefly:**

(a) What is the difference between a high-copy and a low-copy plasmid?

(b) What is chromosome jumping?

(c) What is the significance of antibiotic resistance genes in plasmids?

(d) What is the role of a micromanipulator in microinjection?

(e) What is molecular pharming?

(f) How does gene shuffling differ from traditional genetic recombination?

(g) How does random mutagenesis differ from targeted mutagenesis?

(h) What is the primary purpose of creating transgenic animals?

(i) How is plant viruses utilized as episomal expression vectors?

(j) What is the significance of the T-DNA region in Ti plasmids?

SECTION-B

2. Explain the process of bacterial conjugation in detail.
3. What are Episomes, Ultrasonication and Microlaser?
4. How one can select the mutant peptides by Phage display techniques?
5. Give applications of gene targeting.
6. Explain the production of therapeutic products by genetic engineering.

SECTION-C

7. Describe the principles and techniques used in protein engineering.
8. Describe the methods and techniques along with applications used in plant genetic engineering.
9. Give a detailed note on site-directed mutagenesis.

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Roll No. ☐☐☐☐☐☐☐☐☐☐ Total No. of Pages : 02

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B.Sc (BT) (Sem.–6)

TECHNICAL WRITING

Subject Code : BSBT601-18

M.Code : 79456

Date of Examination : 05-05-2025

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. **Write briefly :**

   a) What is professional ethics?

   b) Explain the importance of technical writing style.

   c) What is letter?

   d) What are library resources?

   e) What is rough draft?

   f) What is analysis of materials?

   g) What are the characteristics of formal research report?

   h) Explain the importance of research techniques.

   i) What is research report?

   j) What is grammar?

SECTION - B

2. What are the essential components of proposal writing and how can it is effectively structured to achieve its purpose?

3. Explain the importance of describing mechanisms and processes in technical and academic contexts, highlighting key steps for effective description.

4. Discuss the key aspects of technical writing and its importance in professional and academic settings.

5. Discuss the essential research techniques used in academic and professional research, highlighting their significance and application.

6. What is plagiarism and how can it be prevented in academic and professional writing?

SECTION - C

7. Write a formal report on the declining productivity in your organization, outlining the causes, effects and recommendations for improvement.

8. Draft-a structured resume for the position of a Marketing Manager, highlighting relevant skills, work experience and achievements.

9. Explain the different types of audience analysis in communication and their importance in creating effective communication.

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June-2025

Roll No. Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (Bio Technology) (Sem–6)

DEVELOPMENTAL BIOLOGY

Subject Code : BSBT147-18

M.Code : 79458

Date of Examination : 06-06-2025

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. **Write briefly :**

   a) Define Epiboly and Emboly.

   b) Write a short note on historical perspective of developmental biology.

   c) How many different types of eggs are formed based on yolk?

   d) Write a short note on types of blastulation.

   e) Where does embryonic cleavage typically occurs?

   f) What are the consequences of abnormal cleavage patterns?

   g) How does differentiation relate to embryonic development?

   h) Describe the concept of lineage commitment during differentiation.

   i) Difference between primary and secondary induction.

   j) Describe the process of cell migration during organogenesis.

SECTION - B

2. What is notogenesis? Explain development of vertebrate eye?

3. Define cleavage. Explain the process of formation and differentiation of primary germ layers.

4. Discuss the signaling pathways and factors involved in Embryonic differentiation.

5. How do transcription factors regulate cellular differentiation?

6. How does endoderm contribute to organogenesis?

SECTION - C

7. Describe the process of gametogenesis.

8. Explain the process of organogenesis in detail.

9. Write a detailed note on Blastulation and Gastrulation.

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Total No. of Questions : 09

B.Sc. (BT) (Sem.-6)

BIOTECHNOLOGY & HUMAN WELFARE

Subject Code : BSBT148-18

M.Code : 79459

Date of Examination : 19-05-2025

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 THREE questions carrying TEN mark each and students have to attempt any TWO questions.**

SECTION-A

1. **Write briefly :**

   a) Name any two free living micro-organisms involved in nitrogen fixation.

   b) Name any two methanogenic bacteria.

   c) Define Epitope.

   d) Define Somatic cell gene therapy.

   e) Give the advantages of industrial alcohol.

   f) Give the techniques used for protein engineering.

   g) Give the applications of DNA fingerprinting.

   h) Give criteria for selecting candidates for gene therapy.

   i) Give any four methods for the degradation of agricultural waste.

   j) Name any two anti-biotic producing bacteria.

SECTION - B

2. Discuss the method of integrating pest resistance genes into plants citing one example?
3. Discuss briefly degradation pathway of chlorinated organic pollutants.
4. Discuss the process of monoclonal antibody production in *E.coli*.
5. Define recombinant live vaccines with examples and give advantages of these vaccines over conventional vaccines.
6. Discuss substrates used for the production of industrial alcohol.

SECTION - C

7. Describe the phenomenon of nitrogen fixation and why it is important?
8. Discuss the development of PHB.
9. **Write short notes on the following :**

   a) DNA fingerprinting

   b) Gene Therapy

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B.Sc (Bio Technology) (Sem.–6)

BIOINFORMATICS

Subject Code : BSBT149-18

M.Code : 79460

Date of Examination : 22-05-2025

Time : 3 Hrs. Max. Marks : 40

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying ONE marks each.**
2. **SECTION-B contains FIVE questions carrying TWO AND A HALF 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) Global alignment

   b) TBLASTX

   c) PubMed

   d) Rooted tree

   e) Dynamic Programming

   f) E value

   g) Cladogram

   h) File format

   i) Citations

   j) Pairwise sequence alignment

SECTION - B

2. Discuss any protein structure database in brief.
3. Discuss briefly the *insilico* applications of Bioinformatics.
4. Discuss the UPGMA method for phylogenetic analysis.
5. Differentiate between Primary and Secondary databases. Explain giving suitable examples.
6. Give an overview on the applications of Bioinformatics.

SECTION - C

7. Explain the Progressive Alignment method for Multiple Sequence Alignment. Name a few tools for performing MSA.
8. Write a note on the Chou-Fasman and GOR method for protein structure prediction.
9. Write a note on BLAST algorithm and its types.

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Total No. of Questions : 09

B.Sc. (Bio Technology) (Sem.–6)

PLANT BIOTECHNOLOGY

Subject Code : BSBT151-18

M.Code : 79462

Date of Examination : 26-05-2025

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 and HALF 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 the following :**

   a) Organogenic differentiation

   b) Callus culture

   c) Anther culture

   d) Nitrogenase

   e) Free-living bacteria

   f) Ploidy level

   g) Somaclonal variation

   h) Diplodization

   i) Embryogenesis

   j) Chromosome elimination

SECTION - B

2. What is the potential of somatic hybridization?

3. How can shoot tip be cultured?

4. Explain the significance and use of haploids.

5. Discuss any one method of protoplast fusion.

6. Discuss the biocontrol of pathogens.

SECTION - C

7. Write a note on the process of Nitrogen fixation by bacteria.

8. Explain the culture and fusion methods of Protoplast isolation.

9. Discuss the advantages and disadvantages of Micro-propagation.

June-2025

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Total No. of Pages : 02

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B.Sc. (BT) (Sem–6)

ENVIRONMENT BIOTECHNOLOGY

Subject Code : BSBT150-18

M.Code : 79461

Date of Examination : 03-06-2025

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 $2^1/_2$ (Two and Half) marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. **Answer Briefly :**

   a) What are the main sources of conventional fuels in rural and urban areas?

   b) Write any two challenges that the microbial hydrogen production faces.

   c) Which type of bacteria plays a key role in hydrocarbon degradation?

   d) Plants play a major role in maintaining atmospheric oxygen levels through which process?

   e) What is the role of animals in seed dispersal?

   f) Which agricultural crop is a major source of ethanol for gasohol production?

   g) Give two examples of biofertilizers.

   h) What is the primary end product of Methanogenic bacterial metabolism?

   i) What is the primary oxidizing agent in the bioleaching of copper?

   j) Name the pollutant which is most difficult for microbes to degrade.

SECTION - B

2. *'Are all fungi used as biofertilizers'?* Justify your answer.
3. What microbial pathways are utilized for sustainable hydrogen production?
4. What are the benefits of biogas production from animal waste?
5. Briefly discuss about the bioremediation of water contaminated with oil spills and heavy metals.
6. How can genetically modified microbes enhance bioleaching efficiency?

SECTION - C

7. Write a detailed note on enrichment of ores by micro organisms.
8. Define Phytoremediation. Also discuss about its scope, advantages and limitations.
9. Elaborate on the secondary treatment strategies for municipal waste and industrial effluents.

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Total No. of Questions : 09

B.Sc. (BT) (Sem.–6)

MEDICAL MICROBIOLOGY

Subject Code : BSBT152/18

M.Code : 79463

Date of Examination : 29-05-2025

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 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) Nosocomial infections

   b) Virulence factors

   c) Pathogenesis of *B. abortus*

   d) Symptoms of infection caused by *Chlamydiae*

   e) AIDS

   f) Rhabdoviruses

   g) Pox viruses

   h) Blood borne infection

   i) Amoebiasis

   j) Dermatophytosis

SECTION - B

2. Discuss laboratory diagnosis techniques and preventive measures used for *C. botulinum*.

3. Write down the morphology and pathogenesis of *H. influenza*.

4. Discuss the symptoms and treatment strategies for infection caused by Herpes viruses.

5. How is subcutaneous infection caused by Cryptococcus?

6. Write a short note on importance of medical microbiology.

SECTION - C

7. Discuss in detail the morphology, pathogenesis, symptoms, laboratory diagnosis, preventive measures for disease caused by *C. diptheriae* and *T. pallidum*.

8. What is hepatitis? Explain the role of viruses in causing hepatitis along with symptoms of infection and treatment strategies.

9. What are opportunistic fungal infections? Discuss causative agent of Aspergillosis and *Candidiasis*, their symptoms and strategies employed for treatment.

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.

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