GOVERNMENT VISHWANATH YADAV TAMASKAR POST GRADUATE AUTONOMOUS COLLEGE DURG (C.G.)

(Former Name – Govt. Arts & Science College, Durg)
Phone-0788-21688, Fax- 0788-2212030
NAAC Accredited Grade 'A+'; CPE Phase - III (UGC, N. Delhi)
Website – www.govtsciencecollegedurg.co.in

SYLLABUS

MASTER OF SCIENCE

BIOTECHNOLOGY

2025-26

SEMESTER -I

PROGRAMME SPECIFIC CODE- MBT

PROGRAMME OUTCOME

The programme objectives are –

1. To disseminate holistic knowledge of life science with biotechnological approach among students.
2. To develop expertise in the field of Cell Science, Microbial Science, Biochemistry, Statistical applications, Molecular Biology, Biotechnological approach to environment, Enzymatic and Immunological applications, Nano-biotechnology, Drug designing, Genetic Engineering, Plant Science, Animal Cell Science, Clinical Research, Bioinformatics applications and Bioprocess Engineering.
3. To develop skill to undertake independent research approach and to accomplish it.
4. To develop skill to make them self-reliance by the application of biotechnological approach.
5. To develop skill for entrepreneurship and to fill the gap between industry and academia.

GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG

M.SC. SUBJECT : BIOTECHNOLOGY I/II/III/IV SEMESTER

Approved syllabus for M.Sc. Biotechnology by the members of Board of Studies for Session 2025-26

The proposed syllabus with the paper combinations is as under

Semester I:

Course Code	Paper No. & Title of the Paper	Course Code	Paper No. & Title of the Paper
MBT 101	Paper I: Cell and Inheritance Biology	MBT 102	Paper II: Microbes and Microbial Genetics
MBT 103	Paper III: Biomolecules	MBT 104	Paper IV: Biostatistics
	Lab Course I:		Lab Course II:

Field work/Project work: Rules :- The External Project will be carried out by students between Semester II and III in lieu of Paper IV of Semester III and IV. Besides project work, students are supposed to participate in excursion tour also.

Method of Evaluation and Marking: Appended at last of the Syllabus

The syllabus for M.Sc. Biotechnology is hereby approved for the session 2024- 25-26

Name and Signatures	**Expert from other subject – Prof. G. S. Thakur……..…**
University Nominee - Prof. K.K. Sahu……	**Teacher Representation - Dr. Nikhil Mishra ……**
Subject Expert- Dr.PramodMahish ……	**Industrial Representation – Mr.PremanjanBiswas ……..…**
Subject Expert- Prof. M. M. Rai ……	**Student Representation – Mr.Somendra Kumar ……**
Chairperson – Dr.ShwetaPandey ……	**Faculty Member – Mr. Dinesh Kumar ……**

Syllabus and Marking Scheme for First/ Second/Third/Fourth Semester

Paper No.	Course Code &Title of the Paper	Marks Allotted in Theory		Marks Allotted in Internal Assessment		Marks Allotted in Practical
		Max	Min	Max.	Min.	
I	**MBT 101 - Cell and Inheritance Biology**	80	16	20	04	Lab Course I 100
II	**MBT 102 - Microbes and Microbial Genetics**	80	16	20	04	
III	**MBT 103 - Biomolecules**	80	16	20	04	Lab Course II 100
IV	**MBT 104 - Biostatistics**	80	16	20	04	
	Total	320		80		200

4 Theory papers - 320

04 Internal Assessment - 80

02 Practical - 200

Total Marks - 600

For particular Semester

Field Work/ Project work –Rules :The External Project will be carried out by students between Semester II and III in lieu of Paper IV of Semester III and IV.

Marks allotted for field Report/ Project work – 80/ 150

- Marks allotted for Viva/ Presentation – 20/50
- Total marks – 100/200

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Autonomous Examination Cell

Question Paper Format and Distribution of Marks for PG Semester Examination

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1. The question paper will be of **80 marks** (as before)
2. Questions will be asked Unit-wise in each question paper.
3. From each Unit, the questions will be asked as follows :
   - Q.1 Very short answer type question **(Answer in one or two sentences)** **(02 Marks)**
   - Q.2 Very short answer type question **(Answer in one or two sentences)** **(02 Marks)**
   - Q.3 Short answer type question **(Answer in 200-250 words)** **(04 Marks)**
   - Q.4 Long answer type questions **(Answer in 400-450 words)** **(12 Marks)**

Type of Question	Unit-I	Unit-II	Unit-III	Unit-IV
Very Short (2 Questions) (Maximum two sentences)	2 x 2 = 4 Marks	2 x 2 = 4 Marks	2 x 2 = 4 Marks	2 x 2 = 4 Marks
Short (1 Question) 200-250 words	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks
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Note:

1. Question no. 1 and Question 2 will be compulsory.
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3. As mentioned above, two compulsory very short answer type questions (2+2 marks), one short answer type question with internal choice (4 marks) and one long answer type question with internal choice (12 marks) will be asked from each unit.
   Thus there will be questions of 20 marks from each unit and of total 80 marks from all the four units of the syllabus/syllabi.
4. Some papers of English Literature consist of Literary Text. In such question papers, one annotation of 4 marks from each unit will be asked instead of short answer type question. The papers which do not contain literary texts the question paper format and marking scheme will remain the same.
5. For Hindi Literature, refer the Hindi version.
6. Internal Assessment Examination will be as follows :
   i. Internal Test in each paper (20 marks)
   ii. Seminar (Power point presentation) in any one of the paper (20 marks)
   iii. Assignment in each of the remaining papers (excluding the paper of Seminar. (20 marks)
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(Syllabus for PG Classes)

Session -2025-26 **First Semester Examination**

Class – M.Sc. Previous. **Paper No.1 (MBT 101)**

Title of Paper - CELL & INHERITANCE BIOLOGY **Max. Marks – 80.**

SpecificOutcome-

The outcome of paper will be empowerment of knowledge of students with cell and inheritance biology.

Learning Outcome-

As a learning outcome the student will be competent to understand the problems related to cellular organization and inheritance to perform related experiments and to infer the concepts.

SEMESTER I

PAPER I – CELL& INHERITANCE BIOLOGY (MBT 101)

Unit I

1.1 **Cell cycle:**Cell division and cell cycle, Mitosis and Meiosis, their regulation, steps in cell cycle and control of cell cycle.

1.2 **Cell Death:** Types of cell death (Necrosis & Apoptosis), Mechanisms involved in Cell Apoptosis, Importance and Control of Apoptosis.

1.3 **Cell Signaling:**Signaling molecules, Second Messengers Cell Surface Receptors, Intracellular Receptors, Signal Transduction Pathways.

1.4 **Cell Communication:** Cell adhesion Molecules, Gap Junctions, Extra Cellular Matrix, Integrins, Neurotransmission & its regulation.

1.5 **Biology of Cancer cells:**Properties of cancerous cells, Development and causes of cancer, Types of Cancer Cells, Proto-oncogenes, Oncogenes, Tumour Suppressor genes, Metastasis, Treatments of Cancer.

Unit II

2.1 **Membrane structure and function:** Membrane composition and its structural organization, Membrane Transport (Diffusion, Osmosis, Carriers &Channels, Active & Passive Transport), Membrane Potential.

2.2 **Mitochondria and bioenergetics:** Organization and function of mitochondria,Respiration, Glycolysis, Kreb's Cycle, ElectronTransport

Chain, ATP Synthase, Anaplerotic reaction, Inhibitors and Uncoupling Agents, Fermentation, EntnerDoudoroff Pathway.

2.3 **Chloroplast and photosynthesis:**Structure and function of chloroplast, Photosynthetic Pigments, Stages of Photosynthesis (Light reaction-electron flow through PS I and PSII and Dark reaction- C3, C4 and CAM cycle), Photorespiration.

2.4 **Endo membrane and membrane trafficking:**Protein targeting and translocation, Endoplasmic Reticulum (Transport of proteins across ER membrane), Golgi Complex (Transport of proteins through Cisternae, Transport of proteins from the TGN to Lysosome), Vesicle Fusion, Mitochndria (Transport of proteins across Mitochnodrial Membrane), Nucleus (Transport through Nuclear Pores).

2.5 Cytoskeleton: Microtubules, Kinesins&Dyneins, Cilia & Flagella, Centriole, Actin Filaments, Myosin, Muscle Contraction, Intermediate Filaments.

Unit III

3.**1 Classical genetics and its deviation:**Early discovery, laws of inheritance, types of dominance, epistasis.

3.2 Linkage and recombination: Linkage, repulsion, coupling, recombination frequency, linkage maps, applications of gene mapping.

3.3Pedigree analysis: Basic rules for pedigree analysis, Pedigree analysis of Autosomal and Sex inheritance related diseases, Evolutionary Pedigree.

3.4 Phylogeny: Pheneticsand Cladistics, Methods used for phylogenetic studies (Bootstrapping Analysis, Maximum Parsimony, Maximum likelihood, Distance Matrix Method), Phylogenetic Tree and its types.

3.5 Heritability and its measurement: Mechanism of heritability, Methods of heritability Measurements and its Applications

Unit IV

4.1 Origin of new gene & proteins: Transposable element protein domestication, Lateral gene transfer, gene fusion and fission, de-novo gene origins, Pseudo genes.

4.2 Gene duplication and divergence: Origin of gene duplication,Mechanism of gene duplication, Effect of gene duplication on genome structure, Variations in duplicated genes and its Functional divergence, molecular clock.

4.3Hardy-Weinberg Law: Concept and rate of change in gene frequency through natural selection

4.4 Genetic drift:Allopatricity, Sympatricity, Convergent evolution, Divergent evolution , Co-evolution.

4.5 Molecular population genetics: Analysis of molecular variance, Demographic history using molecular data, Genetic distance and its estimation, genetic relatedness and identity by descents, detection of selection events, the coalescent theory.

Suggested Readings –

- Molecular Biology of the Cell – Alberts
- Molecular Cell Biology – Lodish
- Cell and Molecular Biology – Gerald Karp
- Cell biology – C.B.Powar
- The Cell – Cooper

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GOVT. V.Y.T.PG. Autonomous College

(Syllabus for PG Classes)

Session -2025-26 First Semester Examination

Class – M.Sc. Previous. Paper No. 2 (MBT 102)

Title of Paper - MICROBES AND MICROBIAL GENETICS Max. Marks – 80.

Specific Outcome-

The outcome of the paper will be development of ability among students about microbial organization, pathogenicity and molecular transformation.

Learning Outcome-

The student will develop competency about pathogenic impact and molecular transformation of microbes.

SEMESTER I

PAPER II - MICROBES AND MICROBIAL GENETICS (MBT 102)

Unit I

1.1 Microbial Taxonomy: taxonomic rank, Classification system, Taxonomic characteristics, major division of life, Bergey's manual of systematics.

1.2 Eubacteria: Fine structure, reproduction and growth, culture characteristics.

1.3 Archeobacteria: Fine structure, reproduction, major groups, culture characteristics.

1.4 Fungi: Classification, structure, nutrition &metabolism, and reproduction

Unit II

2.1 Virus: general features, structure, replication, classification; viroids and prions.

2.2 Human disease caused by virus and prions: Small pox, Chicken pox, Hepatitis, Rabies, Ebola and SARS COV2, Control and treatment of all diseases.

2.3 Human Diseases caused by bacteria: Diphtheria, Cholera, Pneumonia, Tetanus, Typhoid, Tuberculosis, Control, and treatment of all diseases.

2.4 Human Diseases caused by Fungi and Protista: Malaria, Amoebic Dysentry, Sleeping sickness, Kala azar, Aspergillosis, Blastomycosis, Candidiasis, Control and treatment of all diseases.

Unit III

3.1 **Bacteriophage Genetics:**Structure of bacteriophage, Mechanism of infection, Genomic Structure, Establishment of Lytic and Lysogeny and choice between lytic or Lysogenic phases, Use of Biotechnological applications of bacteriophages.

3.2 **Restriction modification system:** Types, Function, Applications.

3.3 **Genetic tools for dissecting motility and development:** Complex during starvation and vegetative growth in *Myxococcusxanthus,* Regulation of motility and development, Gliding motility, Starvation fruiting body formation and sporulation.

3.4 **Bacterial Transposons:** Transposition, Classes of transposable elements, Mechanism of transposition, Examples of transposable elements and their regulation, Retrotransposons.

Unit IV

4.1 **Transformation**: Experimental proof, Mechanism of transformation, DNA Uptake System.

4.2 **Transduction and Conjugation**: Specialized and Generalized transduction and Conjugation: Experimental proof, General Mechanism, Types of Conjugation.

4.3 **Microbial interaction with humans:** beneficialand harmful microbial interaction with humans, virulence factors and toxins.

4.4 **Molecular Mechanism of Quorum sensing:**Mechanism of quorum sensing in prokaryotes and eukaryotes, Molecules involved, Quorum quenching, biological importance.

Suggested Readings –

- Microbiology – Prescott
- Microbiology – Pelczar&Pelczar
- General Microbiology I and II – Powar and Daginawala
- Microbiology – Tortora
- Microbiology – Brock

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(Syllabus for PG Classes)

Session -2025-26 **First Semester Examination**

Class – M.Sc. Previous. **Paper No. 3 (MBT 103)**

Title of Paper – BIOMOLECULES **Max. Marks – 80.**

Specific Outcome-

The outcome of paper will be a wide spectrum knowledge of Biomolecules and about its application.

Learning Outcome-

The learning outcome of the paper will be the students can understand and interpret the biological chemical process in living organism.

SEMESTER I

PAPER III – BIOMOLECULES (MBT 103)

Unit I

1.1 **Amino acid:** General structure, Classification, Optical properties, Titration and Peptides: Peptide bond and types of peptide, Biological role of peptides.

1.2 **Structure of proteins:** Primary, Secondary, Tertiary and Quaternary structures, Ramachandran plot, Protein sequencing.

1.3 **Protein functions:** Structure and function of Myoglobin and Haemoglobin.

1.4 **Isolation and Purification of protein:** Salting in and salting out, Fractionation, Dialysis, Column chromatography, Affinity Chromatography, Electrophoresis, Isoelectric focusing, 2D electrophoresis.

Unit II

2.1 Glycoconjugates : Proteoglycans, Glycoproteins and Glycolipids.

2.2 Carbohydrate as informational molecule: the sugar code, Role of lectin, Lectin-carbohydrate interaction.

2.3 Lipid as signal, cofactors and pigments: Role in intracellular signaling, Mechanism of action of Eicosanoids, Steroid hormones, Vitamin D and Vitamin A, Dolichols.

2.4 Lipid extraction methods: Role of organic solvents and method of extraction, Determination of lipid structure:

Unit III

3.1 **Nucleic acid chemistry:** denaturation of nucleic acid, hybrid formation of nucleic acid from different species, non-enzymatic transformation of nucleotides and nucleic acid, DNA Sequencing (Maxam Gilbert and Sanger's Method).

3.2 **Pentose Phosphate Pathaway:** Oxidative and Non-oxidative phase, Regulation of PPP, Biological significance.

3.3 **Metabolism of Acylglycerol:** Biosynthetic pathway (Synthesis of Phosphatidic acid and Acylglycerol), Regulation of acylglycerol synthesis. Sphingolipids: Biosynthetic pathway, Sphingolipid metabolism in pathogenesis of human diseases, Regulation of pathway.

3.4 **Integration of metabolism:** Tissue specific metabolism, Hormonal regulation of metabolism, Obesity and regulation of body mass, Metabolic Syndrome.

Unit IV

4.1 **Phosphoryl group transfer and ATP:** Free energy change, Hydrolysis of ATP, other phosphorylated compounds and thioesters, Energy production by ATP, Biological role of ATP.

4.2 **General Aspects of Amino acid Metabolism:** Amino acid pool (Sources & Utilization), Transamination (Mechanism), Deamination (Oxidative & Non-oxidative), Metabolism of Ammonia (Formation, Transport, Storage, functions, Disposal & Toxicity), Urea Cycle (Reactions & Energetics, Regulation, Disposal, Linkage with TCA cycle).

4.3 **Biosynthesis of Amino acids:**Biosynthetic pathway of amino acids, Regulation of biosynthesis.

4.4 **Biosynthesis of fatty acids:** Site, Fatty acid synthetase, Biosynthetic pathway, Regulation.

Suggested Readings –

- Lehninger Principles of Biochemistry; Nelson & Cox.
- Biochemistry; Voet& Pratt.
- Biochemistry; Stryer.
- Harper's Illustrated Biochemistry; Robert Murray et al.
- Practical Biochemistry; Wilson & Walker.

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Session -2025-26 **First Semester Examination**

Class – M.Sc. Previous. **Paper No. 4 (MBT 104)**

Title of Paper – BIOSTATISTICS **Max. Marks – 80.**

Specific Outcome-

The outcome of the paper will be development of competency among students for scientific validation of data.

Learning Outcome-

The major learning outcome will be development of ability among students for analysis of data.

SEMESTER I

PAPER IV–BIOSTATISTICS (MBT 104)

UnitI

1.1 **Classification of data**: Objective of classification, Rules for Classification, Methods for classification.

1.2 **Tabulation of data:** Distinction between classification and Tabulation, Rules or main points of Table, Type A table, Bivarate table.

1.3 **Diagram presentation of data:** General rule for constructing diagram, kinds of diagram.

1.4 **Graphical presentation of data:** Technique for construction of graphs, Rule for constructing graph, Histograms, False Base line, Gantt Chart, Silhouette graph, Zone graph, Component part graph, Zec chart, Histogram of two different scales, Graph of frequency distribution.

UnitII

2.1 **Mean:** Arithmetic mean- Individual Series, Discrete Series, continuous series, Geometric mean, Harmonic mean.

2.2 **Median:** Individual Series, Discrete Series, Continuous Series.

2.3 **Mode:** Individual Series, Discrete Series, Continuous Series.

2.4 **Measure of Dispersion:** Standard Deviation, standard error

Unit III

3.1 **Test of Significance**: Based on t distribution. - Test of Significance of sample-'t',Test of Significance of difference between two sample means, The difference test paired sample.

3.2 **Fisher 'Z' test:** Test of significance between the observed and calculated value of r.

3.3 **Variance**: Ratio test-f test.

3.4 **Chi- Square test:** Test of Goodness of fit, Characteristics of $\chi 2$, Special properties of $\chi 2$

Unit IV

4.1 **Analysis of Variance:** One-way Analysis of varience,Two-way Analysis of variance.

4.2 **Probability:** Calculation of Probability, Events, Addition Theorem, Multiplication Theorem, Bernoulli's Theorem, Bayer's Theorem.

4.3 **Correlation:**Types of correlation, Degree of correlation, Different methods to find out correlation.

4.4 **Regression:** Linear Regression, Regression coefficient.

Suggested Readings –

- Statistics- Dr.S.P. Singh.
- Biostatistics- KHAN & KHAN.
- Advance statistics Analysis- Gupta & Kapoor.
- Statistics- D.N. Allhance.

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   - Q.1 Very short answer type question **(Answer in one or two sentences)** **(02 Marks)**
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   - Q.3 Short answer type question **(Answer in 200-250 words)** **(04 Marks)**
   - Q.4 Long answer type questions **(Answer in 400-450 words)** **(12 Marks)**

Type of Question	Unit-I	Unit-II	Unit-III	Unit-IV
Very Short (2 Questions) (Maximum two sentences)	2 x 2 = 4 Marks	2 x 2 = 4 Marks	2 x 2 = 4 Marks	2 x 2 = 4 Marks
Short (1 Question) 200-250 words	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks
Long answer (1 Question) 400-450 words	1 x 12 = 12 Marks	1 x 12 = 12 Marks	1 x 12 = 12 Marks	1 x 12 = 12 Marks

Note:

1. Question no. 1 and Question 2 will be compulsory.
2. Question no. 3 and 4 will consist of 2 optional questions of which one has to be attempted.
3. As mentioned above, two compulsory very short answer type questions (2+2 marks), one short answer type question with internal choice (4 marks) and one long answer type question with internal choice (12 marks) will be asked from each unit.
   Thus there will be questions of 20 marks from each unit and of total 80 marks from all the four units of the syllabus/syllabi.
4. Some papers of English Literature consist of Literary Text. In such question papers, one annotation of 4 marks from each unit will be asked instead of short answer type question. The papers which do not contain literary texts the question paper format and marking scheme will remain the same.
5. For Hindi Literature, refer the Hindi version.
6. Internal Assessment Examination will be as follows :
   i. Internal Test in each paper (20 marks)
   ii. Seminar (Power point presentation) in any one of the paper (20 marks)
   iii. Assignment in each of the remaining papers (excluding the paper of Seminar. (20 marks)
   iv. Average of marks obtained in internal test + seminar in any one paper and marks obtained in internal test + assignment in rest of the papers will be calculated and taken into consideration.

The syllabus for M.Sc. Biotechnology is hereby approved for the session 2025-26.

Name and Signatures	Expert from other subject – Prof. G. S. Thakur……
University Nominee - Prof. K.K. Sahu……	Teacher Representation - Dr. Nikhil Mishra ……
Subject Expert- Dr.PramodMahish ……	Industrial Representation – Mr.PremanjanBiswas ……
Subject Expert- Prof. M. M. Rai ……	Student Representation – Mr.Somendra Kumar ……
Chairperson – Dr.ShwetaPandey ……	Faculty Member – Mr. Dinesh Kumar ……

SEMESTER I
LAB COURSE I

Cell and Inheritance Biology :

1. Microscopy – Bright field, Phase contrast and fluorescence microscopy.
2. Microtomy- Histopathology.
3. Subcellular fractionation and marker enzymes.
4. Mitosis and Meiosis.
5. Abnormal mitosis and meiosis.
6. Mitotic index.
7. Study of gaintchromosome&sex chromatin.
8. Preparation of Karyogram.

Microbes and Microbial Genetics:

1. Preparation of solid and liquid media for growth of microorganisms.
2. Isolation & maintenance of organism by plating, streaking & serial dilution method.
3. Isolation of pure culture from soil, air and water.
4. Bacterial growth curve, effect of temperature, pH, Carbon and Nitrogen on growth curve.
5. Microscopic examination of microbes by staining methods.
6. Study of mutation by Ames test.
7. Antibiotic sensitivity test.
8. Biochemical characterization of selected microbes.
9. Cultivation of *Streptococci* in EsculninAzide Broth.
10. Cultivation of *Pseudomonasaeruginosa*in water sample in Acetamide agar/ broth.
11. Cultivation of in *Azotobacter* species from soil in Ashby's Glucose / Mannitol agar.
12. Cultivation of *Salmonella species* in food (egg) in brilliant green sulpha agar
13. Cultivation of *Candida* species in Hi chrome candida differential agar.
14. Cultivation of *Vibrio* species in glucose salt teepol agar
15. Cultivation ofKlebsiella in Hichrome UTI agar.
16. Biochemical test for identification of bacteria viz. triple sugar iron test, starch hydrolysis test(method II).

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LAB COURSE I
Scheme of Marks Distribution.

Duration : 1 Days (8 hrs) **M.M.-100**

1.	Two Expts. based on Cell and Inheritance Biology (Each of 15 marks)	30
2.	Two Expts. based on Microbes and Microbial genetics. (Each carrying 20 Marks)	40
3.	Viva	10
4.	Sessional	20
	Total	**100**

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SEMESTER I
LAB COURSE- II

Biomolecules :

1. Titration of Amino acid
2. Colorimetric determination of pK.
3. Isolation and characterization of α Lactalbumin
4. Characterization and purification of triacyglycerol in natural oils.
5. Identification of serum glycoprotein by SDS PAGE and Western blot
6. Isolation of and characterization of plant pigments
7. Separation of protein by Native PAGE
8. Separation of amino acids by Paper electrophoresis.
9. Estimation of protein by Follin – Lowry method and Biuret method
10. Estimation of DNA by diphenyl amine method
11. Estimation of RNA by Orcinol Method
12. Estimation of blood glucose by O toluidine method
13. Estimation of reducing sugar by Dintro salicylic acid (DNS) method
14. Measurement of cholesterol and Vit. C in biological sample

Biostatistics :

1. Calculation of Central Tendencies.
2. Experiments related to test of significance.
3. Histogram.
4. Correlation and Regression.
5. Data analysis by ANOVA.

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LAB COURSE- II

Scheme of Marks Distribution.

Duration : 1 Days (8 hrs) M.M.-100

1.	2 Expts. based on Biomolecules (Each carrying 20 Marks)	40
2.	2 Expts.based on Biostatistics (Each carrying 15 Marks)	30
3.	Viva	10
4.	Sessional	20
	Total	**100**

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Govt. V.Y.T. PG Autonomous College, Durg (C.G.)

Autonomous Examination Cell

Question Paper Format and Distribution of Marks for PG Semester Examination

Question paper format for the Post-Graduate Examination has been revised from the Session 2018-19. The revised format will be applicable for all the question papers of Semester I, II, III & IV. The following are the main points of the new format:

1. The question paper will be of **80 marks** (as before)
2. Questions will be asked Unit-wise in each question paper.
3. From each Unit, the questions will be asked as follows :

Q.1 Very short answer type question **(Answer in one or two sentences)** **(02 Marks)**

Q.2 Very short answer type question **(Answer in one or two sentences)** **(02 Marks)**

Q.3 Short answer type question **(Answer in 200-250 words)** **(04 Marks)**

Q.4 Long answer type questions **(Answer in 400-450 words)** **(12 Marks)**

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Short (1 Question) 200-250 words	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks
Long answer (1 Question) 400-450 words	1 x 12 = 12 Marks	1 x 12 = 12 Marks	1 x 12 = 12 Marks	1 x 12 = 12 Marks

Note:

1. Question no. 1 and Question 2 will be compulsory.
2. Question no. 3 and 4 will consist of 2 optional questions of which one has to be attempted.
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   iv. Average of marks obtained in internal test + seminar in any one paper and marks obtained in internal test + assignment in rest of the papers will be calculated and taken into consideration.

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