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

(Former Name – Govt. Arts & Science College, Durg)
Phone-0788-2211688, 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-II

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 II:

Course Code	Paper No. & Title of the Paper	Course Code	Paper No. & Title of the Paper
MBT 201	Paper I: Molecular Biology	MBT 202	Paper II: Environmental Biotechnology
MBT 203	Paper III: Enzymology	MBT 204	Paper IV: Immunology
	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 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 ……

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 201- Molecular Biology**	80	16	20	04	Lab Course I 100
II	**MBT 202- Environmental Biotechnology**	80	16	20	04	
III	**MBT 203- Enzymology**	80	16	20	04	Lab Course II 100
IV	**MBT 204 - Immunology**	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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GOVT. V.Y.T.PG. Autonomous College

(Syllabus for PG Classes)

Session -2025-26 **Second Semester Examination**

Class – M.Sc. Previous. **Paper No. 1 (MBT 201)**

Title of Paper – MOLECULAR BIOLOGY **Max. Marks – 80.**

SpecificOutcome –

The outcome of the course will be development of competency among students for interpretation of molecular biology among students.

Learning Outcome –

The student will be able to understand and interpret molecular biology and its application for life science.

SEMESTER II

PAPER I – MOLECULAR BIOLOGY (MBT 201)

Unit I

1.1 **DNA replication:** Enzymes of DNA replication, Chemistry of DNA replication, Replication Fork, Mechanism and Regulation of replication in prokaryotes and eukaryotes.

1.2 **DNA damage, Mutation and Repair:** Causes and Consequences of DNA Damage, Mutagens, Molecular basis of mutation, Types of Mutations. Types of DNA Repairs (Direct Repair, Excision Repair, Mismatch Repair, Recombination Repair, SOS Response).

1.3 **Transcription**:RNA Polymerase and Transcription unit, Transcription in prokaryotes and eukaryotes, Activators, Co-activators, Enhancers, Motifsand post transcriptional modifications (Capping, Poly-adenylation, Splicing, RNA Editing, Processing of pre-tRNA and r-RNA),

1.4 **Translation**: Translational machinery components,Genetic code and Wobble hypothesis, Process of Translation (Initiation, Elongation and Termination in prokaryotes & eukaryotes) Translation regulation (translation dependent regulation of mRNAs and protein stability), Post translational modification of peptides (Chemical modification, proteolytic cleavage and protein splicing).

Unit II

2.1 **DNA recombination:** Types of recombination (Homologous and Site Specific recombination), Models of Homologous Recombination, Protein machinery involved in homologous recombination, Biological importance of recombination.

2.2 **The maintenance of DNA sequence:** Nucleosome model, Barr bodies,Role of methylation, Telomerization, Phosphorylation, Acetylation and deacetylation in the maintenance of DNA Sequences.

2.3 **The genetic system of mitochondria and plasmids:** Introduction, Mt and Cp DNA, Chloroplast inheritance: Corren's experiment, maternal inheritance of mitochondria in humans, Mitochondrial mutation and human diseases.

2.4 **Molecular basis of cancer cell behavior:** Tumor cells and Onset of Cancer (Metastasis and angiogenesis), Gain of function and loss of function of genes and proteins involved in cancer progression.

Unit III

3.1 **Molecular Chaperons:** Location and function, Human chaperone proteins, Bacterial chaperone, Nomenclature, Clinical significance, Chaperonin and Proteasomes: Ubiquitination, Structure and organization, Assembly, Protein degradation process, Inhibitors, Biological role, Clinical significance.

3.2 **Epigenetic Mechanism:** Heterochromatin and Histones, CpGiland, Chromosome condensation.

3.3 **Overview of gene control:** Operon and its types, Gene control in establishment of lytic and lysogeny, Restricting multiple replication in prokaryotes and eukaryotes

3.4 **DNA binding and motif in gene regulatory protein:** Types, Function, Structure, DNA binding protein in genomes.

Unit IV

4.1 The RNA world and origin of life

4.2 Genome sequences and evolution.

4.3 Catalytic RNAs.

4.4 Non-coding and Regulatory RNAs.

Suggested Readings –

- Molecular Biology; Watson.
- Gene VIII; Benjamin Lewin.
- The Cell, A molecular Approach; Geoffrey M. Cooper.
- Molecular Biology of the Cell; Alberts
- Cell and Molecular Biology; Lodish.
- Cell and Molecular biology; Gerrald& Karp.

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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)**

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.

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(Syllabus for PG Classes)

Session -2025-26 **Second Semester Examination**

Class – M.Sc. Previous. **Paper No. 2 (MBT 202)**

Title of Paper – ENVIRONMENTAL BIOTECHNOLOGY **Max. Marks – 80.**

SpecificOutcome -

The outcome of present course will be development of understanding ability and holistic biotechnological approach for sustainable maintenance of environment.

Learning Outcome –

The learning outcome will be development of biotechnological capability to assess and treat environmental problems.

SEMESTER II

PAPER II – ENVIRONMENTAL BIOTECHNOLOGY (MBT 202)

Unit –I

1.1 Role of Biotechnology in Environment Protection.

1.2 Air pollution and its control through Biotechnology.

1.3 **Water pollution and its control:** water is a scarce naturalresource. Need for water management , measurement of water pollution, source of water pollution

1.4 Methods for measurement of water & air pollution.

Unit – II

2.1 **Waste water Treatment:**Waste water collection, waste water treatment physical, chemical and biological treatment process.

2.2 **Microbiology of waste water treatment**: Aerobic process: activated sludge, oxidation ditches, trickling filter tower, rotating biological contactors (RBC), rotating drums, oxidation ponds.

2.3 **Anaerobic process:** anaerobic digestion, anaerobic filters, up flow anaerobic sludge blanket reactors.

2.4 **Industrial Waste Water Treatment:**Treatment schemes for waste water of dairy, distillery, tannery, sugar, antibiotics industries.

Unit – III

3.1 **Xenobiotcs:**Microbiology of degradation of xenobiotics in environment, ecological consideration. Decay behaviour and degradative plasmid, hydrocarbons, substituted hydrocarbons, Oil surfactant, pesticides.

3.2 **Bioremediation:** Bioremediation of contaminated soil and wasteland.

3.3 **Biopesticides:** Biopesticide in integrated pest management.

3.4 **Solid waste:** Source and management (composting, wormiculture and methane production)

Unit – IV

4.1 **Global environmental problems**: Climate Change.

4.2 **Biotechnology and Environment:** Biotechnological approach for management of global environmental problem. Regulation / legislation for hazardous products.

4.3 **Regulations for Environmental Protection**: The Environment Protection Act, The Air (Prevention and Control of Pollution)Act, the Water (Prevention and Control of Pollution) Act, Indian Forest Act, Wildlife Protection Act.

4.4 **Patenting:** Patenting/ Copyright/Geographical indication (Geo-Tagging).

Suggested Readings –

- Text book of Environmental Chemistry and Pollution Control: S.S Dara, S. Chand & Company Ltd.
- Environmental biology And Toxicology: P.D. Sharma, Rastogi Publications, Merut.
- Environmental Biotechnology, PrathamVashishith. Dominant Publishers And Distributors, N.Delhi.
- Environmental Chemistry: A.K.De, Wiley Eastern ltd, N.Delhi.
- Wastewater Engineering- Treatment, Disposal & Reuse. Metall and eddy, inc, Tata Mcgraw Hill, N.Delhi.

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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:

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(Syllabus for PG Classes)

Session -2025-26 **Second Semester Examination**

Class – M.Sc. Previous. **Paper No. 3 (MBT 203)**

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

SpecificOutcome -

The outcome of course will be understanding of enzyme mechanism and applications.

Learning Outcome –

The major learning outcome will be development of ability among students for enzymatic applications for environment, health and agriculture.

SEMESTER II

PAPER III – ENZYMLOGY (MBT 203)

Unit I

1.1 **Enzyme classification and nomenclature:** Trivial and Systematic name, EC number, Six classes of enzyme with example and working mechanism.

1.2 **Methods of enzyme assay:** Enzyme units, Types of assay, Factors to control in assay. Coenzyme: General information and examples, Non-enzymatic cofactors and cofactors

1.3 Active site of enzyme and factor affecting enzyme activity (pH, Temperature, Inhibitors and Substrate Concentration)

1.4 Isoenzyme and allosteric enzymes

Unit II

2.1 **Enzyme catalysis mechanism**: Acid base catalysis, covalent catalysis, metal ion catalysis, electrostatic catalysis, catalysis through proximity and orientation effect catalysis by preferential transition state binding.

2.2 **Transformation of Michelis – Menton Equation:** the double reciprocal plot.

2.3 **Enzyme Kinetics:**Kinetic tests for determining inhibition mechanism.

2.4 **Evidence of enzyme**: transition state complementarities.

Unit III

3.1 **Enzyme Production**: Synthesis, recovery, purification and formulation.

3.2 **Enzyme Processes**: the evolution from degradation to synthesis.

3.3 **Enzyme Biocatalysis:** Catalysis in aqueous and non conventional media.

3.4 **Enzyme immobilization**:Techniques, effect of immobilization on kinetic Parameters, principle and industrial application of immobilized enzymes.Enzymes in organized system and cell.

Unit IV

4.1 **Case Study I:** Protease as catalyst for peptide biosynthesis

4.2 **Case Study II**: Synthesis of β lactam antibiotics with protein acylases.

4.3 **Case Study III:** Oxidoreductase an important biocatalyst for green chemistry

4.4 **Case Study IV**: Use of aldolases for asymmetric synthesis.

Suggested Readings –

- Lehninger Principles of Biochemistry; Nelson & Cox.
- Biochemistry; Voet& Pratt.
- Principles of Enzymology; Price & Stevens.
- Enzyme Biocatalysis, Principle & Applications; Andres Illanes.
- Enzyme Kinetics**;** Hans Bisswanger

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Session -2025-26 **Second Semester Examination**

Class – M.Sc. Previous. **Paper No. 4 (MBT 204)**

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

SpecificOutcome –

The outcome of this course will be development of understanding and application of Immunological Science.

Learning Outcome –

The students will develop competency for antigen-antibody interactions, analysis and application especially its therapeutic applications.

SEMESTER II

PAPER IV–IMMUNOLOGY (MBT 204)

Unit I

1.1 Cells and organs of the immune system: Hematopoiesis, Cells of the Immune System, Organs of the Immune System, Systemic Function of the Immune System, Lymphoid Cells and Organs—Evolutionary Comparisons

1.2 Antigen and Antibody Structure: Immunogenicity Versus Antigenicity, Factors That Influence Immunogenicity, Epitopes, Haptens and the Study of Antigenicity, Basic Structure of Antibodies, Antibody-Mediated Effector Functions, Antibody Classes and Biological Activities, Antigenic Determinants on Immunoglobulins.

1.3 Antigen – antibody interaction: Strength of Antigen-Antibody Interactions, Cross-Reactivity, Precipitation Reactions, Agglutination Reactions, Enzyme-Linked Immunosorbent Assay, Immuno-precipitation, Immunofluorescence.

1.4 Leukocyte activation and migration: Lymphocyte Recirculation, Cell-Adhesion Molecules, Neutrophil Extravasation, Lymphocyte Extravasation.

Unit II

2.1B-cell generation, activation and differentiation:B-Cell Maturation, B-Cell Activation and Proliferation, The Humoral Response, Germinal Centers and Antigen-Induced B-CellDifferentiation, Regulation of B-Cell Development

2.2 T cell maturation ,activation anddifferentiation:T-Cell Maturation and the Thymus, Thymic Selection of the T-Cell Repertoire, TH-Cell Activation, T-Cell Differentiation, Cell Death and T-Cell Populations

2.3 T cell receptors: T-Cell Receptors: Structure and Roles, Organization and Rearrangement of TCR Genes, T-Cell Receptor Complex: TCR-CD3, T-Cell Accessory Membrane Molecules, Three-Dimensional Structures of TCR-Peptide-MHC Complexes, Alloreactivity of T Cells

2.4 Complement system: The Functions of Complement, The Complement Components, Complement Activation, Regulation of the Complement System, Biological Consequences of Complement Activation, Complement Deficiencies

Unit III

3.1 Chemokines: Key Mediators of Inflammation, The Inflammatory Process, Anti-Inflammatory Agents.

3.2 Cytokines: Properties of Cytokines, Cytokine Receptors, Cytokine Antagonists, Cytokine Secretion by TH1 and TH2 Subsets. Cytokine-Related Diseases, Therapeutic Uses of Cytokines and their Receptors, Cytokines in Hematopoiesis

3.3 The Major Histocompatibility agent: Organization and Inheritance, Regulation of MHC expression, MHC and Disease Susceptibility.

3.4 Cell mediated cytotoxic response: Effector Responses, General Properties of Effector T Cells & Cytotoxic T Cells, Natural Killer Cells, Antibody-Dependent Cell-Mediated Cytotoxicity

Unit IV

4.1Hypersensitivity reaction: Gell and Coombs Classification, IgE-Mediated (Type I) Hypersensitivity, Antibody-Mediated Cytotoxic (Type II) Hypersensitivity, Immune Complex–Mediated (Type III) Hypersensitivity, Type IV or Delayed-Type Hypersensitivity (DTH)

4.2 Tolerance and Autoimmuntiy: Organ-Specific Autoimmune Diseases, Systemic Autoimmune Disease, Treatment of Autoimmune Diseases; Herd Immunity.

4.3 Transplantation Immunology: Immunologic Basis of Graft Rejection, Clinical Manifestations of Graft Rejection, General Immunosuppressive Therapy, Specific Immunosuppressive Therapy, Immune Tolerance to Allografts, Clinical Transplantation

4.4 Vaccines and Immunodificiency diseases: Attenuated vaccines/mRNA vaccines/DNA vaccines, Designing Vaccines for Active Immunization, Types of Immunodeficiency diseases.

Suggested Readings –

- Immunology – Kuby
- Text book of microbiology – Anantnarayan&Panikar
- Immunology – Roitt
- Immunology – NandiniSethi

- Fundamentals of Immunology – William Paul
- Immunology – A short course 5thEdn – Eli Benjamin , Richard Coico.

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SEMESTER II

LAB COURSE I

Molecular Biology :

1. Isolation of genomic DNA.(Plant , Bacteria, Fungus)
2. Isolation of RNA.
3. Isolation of plasmid DNA
4. DNA Purification.
5. RNA purification
6. DNA molecular size determination
7. Preparation of probes.
8. Metabolic labeling of proteins &Immunoprecipitation.
9. Northern blotting.
10. Southern blotting.
11. Whole blood DNA extraction
12. Invitro Transcription.
13. Action of T4 DNA ligase
14. Action of T7 RNA polymerase
15. Taq DNA polymerase action
16. Phage titration
17. Bacterial transduction
18. Bacterial conjugation

Environmental Biotechnology :

1. Detection of coliforms for determination of the purity of potable water.
2. Determination of dissolved oxygen concentration of water sample .
3. Determination of BOD of a sewage sample.
4. Determination of COD of a sewage sample.
5. Determine the efficiency of removal of air pollutant using fibrous air filter
6. Isolation of xenobiotic degrading bacteria by selective enrichment technique .
7. Test for the degradation of aromatic hydrocarbon by bacteria.
8. Study of biogenic methane production in different habitats.
9. Estimation of heavy metals in water / soil by atomic absorption spectrophotometry.
10. Soil sample analysis – determination of bulk density, moisture content, texture of soil sample, water holding capacity, calcium carbonate, chloride, nitrogen, phosphorus , potassium pH.

11. Water sample analysis – total dissolve solid, total solid, total suspended solid, alkalinity (titrimatric method) , chloride, chlorine(resuidual by iodometric method) hardness, nitrogen (by titration)

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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 ……**

LAB COURSE – I

SCHEME OF MARKS DISTRIBUTION

Duration –1 days (8 hrs.) M.M. 100

1.	2 Expts .based on Molecular Biology (Each carrying 20 marks)	40
2.	2 Expts. based on Environmental Biotechnology (Each carrying 15 marks)	30
3.	Viva	10
4.	Sessional	20

Total **100 marks**

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

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Chairperson – Dr.ShwetaPandey ……	**Faculty Member – Mr. Dinesh Kumar ……**

SEMESTER II

LAB COURSE II

Enzymology :

1. Protein electrophoresis – native and denaturing conditions.
2. N &C terminal analysis of proteins.
3. Enzyme purification and kinetic analysis.
4. Method for immobilization of enzyme.
5. Chemical modification of proteins.
6. Hydrodynamic properties –measurement and applications.
7. Protein – DNA interactions.
8. Kinetic analysis of Tyrosinase
9. Isolation, subfractionation and enzymatic analysis of beef heart mitochondria.
10. Activity and thermal stability of gel – immobilized peroxidase.

Immunology :

1. Blood film preparation and identification of cells.
2. Lymphoid organs and their microscopic organization.
3. Immunization, collection of serum.
4. Ouchterlony Double diffusion for antigen – antibody pattern
5. Ouchterlony Double diffusion for antibody titration
6. RocketImmuno electrophoresis.
5. Radial Immunodiffusion.
6. Purification of IgG from serum.
7. DOT ELISA.
8. Immunodiagnostics (using commercial kits)
9. Immunohisto chemistry
10. Preparation of hapten conjugate
11. Preparation of antibody – biotin conjugation
12. Detection of β- gal in transferred cells

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Chairperson – Dr.ShwetaPandey ……	**Faculty Member – Mr. Dinesh Kumar ……**

LAB COURSE – II

SCHEME OF MARKS DISTRIBUTION

Duration –1 days (8 hrs.) M.M. 100

1.	2 Expts. based on Enzymology (Each carrying 20 marks)	40
2.	2 Expts. based on Immunology (Each carrying 15 marks)	30
3.	Viva	10
4.	Sessional	20
	Total	**100 marks**

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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)**

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.

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