

SYLLABUS for M. Sc. BIOTECHNOLOGY
Choice Based Credit System (Semester Pattern)
Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
Effective from 2015-2016

Scheme of teaching and examination under semester pattern Choice Based Credit System (CBCS) for M.Sc. Program in Biotechnology

M. Sc. Biotechnology Semester I												
Code	Theory / Practical	Teaching scheme (Hours / Week)				Credits	Examination Scheme					
		Th	Pract	Total	Duration in hrs.		Max. Marks		Total Marks	Minimum Passing Marks		
							External Marks	Internal Ass		Th	Pract	
Core 1	Paper 1: Cell Biology and Enzymology	4	-	4	4	3	80	20	100	40		
Core 2	Paper 2: Molecular Biology	4	-	4	4	3	80	20	100	40		
Core 3	Paper 3: Biomolecules	4	-	4	4	3	80	20	100	40		
Core 4	Paper 4: Biophysical Techniques	4	-	4	4	3	80	20	100	40		
Pract. Core 1 & 2	Practical 1: Cell Biology and Enzymology	-	8	8	4	3-8*	100*	-	100		40	
Pract. Core 3 & 4	Practical 2: Macromolecules & Analytical Techniques	-	8	8	4	3-8*	100*	-	100		40	
Seminar 1	Seminar 1	2	-	2	1			25	25	10		
	TOTAL	18	16	34	25		520	105	625	170	80	

M. Sc. Biotechnology Semester II												
Code	Theory / Practical	Teaching scheme (Hours / Week)				Credits	Examination Scheme					
		Th	Pract	Total	Duration in hrs.		Max. Marks		Total Marks	Minimum Passing Marks		
							External Marks	Internal Ass		Th	Pract	
Core 5	Paper 5: Microbiology	4	-	4	4	3	80	20	100	40		
Core 6	Paper 6: Immunology	4	-	4	4	3	80	20	100	40		
Core 7	Paper 7: Fundamentals of Genetic Engineering	4	-	4	4	3	80	20	100	40		
Core 8	Paper 8: Applied Molecular Biology	4	-	4	4	3	80	20	100	40		
Pract. Core 5 & 6	Practical 3: Microbiology & Immunology	-	8	8	4	3-8*	100*	-	100		40	
Pract. Core 7 & 8	Practical 4: Genetic Engineering & Molecular Biology	-	8	8	4	3-8*	100*	-	100		40	
Seminar 2	Seminar 2	2	-	2	1			25	25	10		
	TOTAL	18	16	34	25		520	105	625	170	80	

M. Sc. Biotechnology Semester III											
Code	Theory / Practical	Teaching scheme (Hours / Week)			Credits	Examination Scheme					
		Th	Pract	Total		Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks	
							External Marks	Internal Ass		Th	Pract
Core 9	Paper 9: Genetic Engineering & its Applications	4	-	4	4	3	80	20	100	40	
Core 10	Paper 10: Plant Biotechnology	4	-	4	4	3	80	20	100	40	
Core Elective 1	Paper 11: A) Industrial Biotechnology I OR B) Environmental Biotechnology I	4	-	4	4	3	80	20	100	40	
Foundati on Course 1 / Core Subject Centric 1	Paper 12: Introductory Biotechnology / Diagnostic Medical Biotechnology	4	-	4	4	3	80	20	100	40	
Pract. Core 9 & 10	Practical 5: Genetic Engineering & Plant Biotechnology	-	8	8	4	3- 8*	100* *	-	100		40
Pract. Core Elective 1	Practical 6: A) Industrial Biotechnology OR B) Environmental Biotechnology	-	8	8	4	3- 8*	100* *	-	100		40
Seminar 3	Seminar 3	2	-	2	1			25	25	10	
	TOTAL	18	16	34	25		520	105	625	170	80

M. Sc. Biotechnology Semester IV											
Code	Theory / Practical	Teaching scheme (Hours / Week)			Credits	Examination Scheme					
		Th	Pract	Total		Duration in hrs.	Max. Marks		Total Marks	Minimum Passing Marks	
							External Marks	Internal Ass		Th	Pract
Core 11	Paper 13: Animal Biotechnology	4	-	4	4	3	80	20	100	40	
Core 12	Paper 14: Biostatistics, Bioinformatics, Ethics & Patenting	4	-	4	4	3	80	20	100	40	
Core Elective 2	Paper 15: A) Industrial Biotechnology II OR B) Environmental Biotechnology II	4	-	4	4	3	80	20	100	40	
Foundation Course 2 / Core Subject Centric 2	Paper 16: Molecular Biotechnology / Therapeutic Medical Biotechnology	4	-	4	4	3	80	20	100	40	
Pract. Core 11, 12 & Elective 2	Practical 7: Animal Biotechnology, Biostatistics, Bioinformatics, Ethics & Patenting And A) Industrial Biotechnology II OR B) Environmental Biotechnology	-	8	8	4	3-8*	100**	-	100		40
Project	Project	-	8	8	4	3-8*	100**	-	100		40
Seminar 4	Seminar 4	2	-	2	1			25	25	10	
	TOTAL	18	16	34	25		520	105	625	170	80

NOTE Sem III & IV:

Foundation Course: Candidate can opt for any one foundation course paper in the semester III and IV. However, Student shall opt for this paper from any other subject other than his / her main subject for postgraduation. If the candidate decides to opt for foundation course papers then he/she shall not be eligible to opt for Core (Subject Centric) papers in their respective subjects.

Core (Subject Centric): Candidate can opt for this paper as shown in the semester III and IV in their main subject of postgraduation only. If the candidate decides to opt for Core (Subject Centric) papers in their main subject of postgraduation then he/she shall not be eligible to opt for foundation course papers neither in their own subject nor in any other subject).

SYLLABUS for M. Sc. BIOTECHNOLOGY
Choice Based Credit System (Semester Pattern)
Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
Effective from 2015-2016

Semester I

Theory		
Paper I	Cell Biology and Enzymology	100 marks/4 Credits
Paper II	Molecular Biology	100 marks/4 Credits
Paper III	Biomolecules	100 marks/4 Credits
Paper IV	Biophysical Techniques	100 marks/4 Credits
Practical 1	Cell Biology and Enzymology	100 marks/4 Credits
Practical 2	Macromolecules & Analytical Techniques	100 marks/4 Credits
Seminar		50 marks/2 Credit

Semester II

Theory		
Paper I	Microbiology	100 marks/4 Credits
Paper II	Immunology	100 marks/4 Credits
Paper III	Fundamentals of Genetic Engineering	100 marks/4 Credits
Paper IV	Applied Molecular Biology	100 marks/4 Credits
Practical 1	Microbiology & Immunology	100 marks/4 Credits
Practical 2	Genetic Engineering & Molecular Biology	100 marks/4 Credits
Seminar		50 marks/2 Credit

Semester III

Theory		
Paper I	Genetic Engineering & its Applications	100 marks/4 Credits
Paper II	Plant Biotechnology	100 marks/4 Credits
Paper III (Core Elective A or B)	A) Industrial Biotechnology I OR B) Environmental Biotechnology I	100 marks/4 Credits
Paper IV (Foundation Course / Core Subject Centric 1)	Introductory Biotechnology / Diagnostic Medical Biotechnology	100 marks/4 Credits
Practical 1	Genetic Engineering & Plant Biotechnology	100 marks/4 Credits
Practical 2 (Core Elective A or B)	A) Industrial Biotechnology OR B) Environmental Biotechnology	100 marks/4 Credits
Seminar		50 marks/2 Credit

Semester IV

Theory		
Paper I	Animal Biotechnology	100 marks/4 Credits
Paper II	Biostatistics, Bioinformatics, Ethics & Patenting	100 marks/4 Credits
Paper III (Core Elective A or B)	A) Industrial Biotechnology II OR B) Environmental Biotechnology II	100 marks/4 Credits
Paper IV (Foundation Course / Core Subject Centric 1)	Molecular Biotechnology / Therapeutic Medical Biotechnology	100 marks/4 Credits
Practical	Animal Biotechnology, Biostatistics, Bioinformatics, Ethics & Patenting And Industrial Biotechnology II OR Environmental Biotechnology	100 marks/4 Credits
Project Work		100 marks/4 Credits
Seminar		50 marks/2 Credit

M. Sc. BIOTECHNOLOGY
Semester I
Paper – I
Cell Biology and Enzymology

UNIT I:

Structure and function of cell organelles:
 Plasma membrane: transport of nutrients, ions and macromolecules.
 Cell walls: Archaea, Bacteria, plant cells.
 Mitochondria: Electron Transport Chain and Oxidative Phosphorylation.
 Chloroplasts: Chlorophyll, carotenoids and photosynthesis.
 Golgi complex: Endoplasmic reticulum, lysosomes, peroxisomes (functions).

UNIT II:

Cell cycle: Molecular events in *S. cerevisiae*.
 Cell signaling: Signal transduction in animal and plant cells (tyrosine kinase, light induced signaling)

UNIT III:

Basic Enzymology
 Basics: Enzyme nomenclature, classification and specificity. Concept of coenzymes.
 Mechanism of enzyme action: Models, catalysis by proximity effect, acid-base catalysis, electrostatic interaction, metal ion catalysis, nucleophilic and electrophilic catalysis,
 Concept of multienzyme complexes: fatty acid synthase and pyruvate dehydrogenase complexes.
 Concept of enzyme regulation: Allosteric (example ATCase), chemical modification and calmodulin mediated regulation.

UNIT IV:

Basic aspects of enzyme kinetics: Michaelis-Menten equation (derivation, significance and transformation).
 Two substrate kinetics. Modifying factors of enzyme kinetics, enzyme inhibition and types of inhibitors.
 Enzyme Engineering
 Immobilization of Enzymes

M. Sc. BIOTECHNOLOGY
Semester I
Paper – II
Molecular Biology

UNIT I:

DNA Replication: Prokaryotic and Eukaryotic DNA replication, mechanisms of DNA replication, fidelity of replication, enzymes and accessory proteins involved in DNA replication.
 Gene mutations: Types of mutations. Suppression. Ames' test.
 DNA Repair: Direct repair, Ada protein, NER, BER, MMR, SOS repair, Transcription-repair coupling, repair of double-strand breaks.

UNIT II:

Prokaryotic Transcription: RNA Polymerase holoenzyme and apoenzyme, different sigma factors, details of initiation, elongation, termination.
 Eukaryotic Transcription: Three types of RNA polymerases. Promoter of RNA polymerase II. Enhancers. General and inducible transcription factors.
 Modifications of RNA: 5' cap formation, polyadenylation, splicing of nuclear pre-mRNA, mRNA stability.

UNIT III

Genetic code: characteristics, deciphering the code.
 Protein biosynthesis: Prokaryotic and eukaryotic translation, the translational machinery, mechanism of initiation, elongation and termination.

UNIT IV

Regulation of expression in prokaryotes: lac operon, ara operon, trp operon, negative autogenous control.

Regulation of expression in eukaryotes: Britten-Davidson model. DNA binding and activation domains of transcription factors. Packaging of chromosomes and its relation to transcription regulation. Regulation of translation by 3' and 5' UTR motifs.

M. Sc. BIOTECHNOLOGY
Semester I
Paper – III
Biomolecules

UNIT I:

Chemistry of Carbohydrates: Energy storage molecules – starch, glycogen. Building blocks – cellulose, hemicellulose, and chitin. Cell surface molecules – glycolipids, proteoglycans.

UNIT II:

Chemistry of Lipids: Triglycerides, phospholipids, glycolipids, sphingolipids, sterols, terpenes, lipoproteins (LDL, VLDL, HDL, IDL). Lipid micelles, Liposomes.

UNIT III:

Proteins: Amino acids and peptides. Primary, secondary, and tertiary structures. Protein sequencing, protease mapping. Ramachandran plot. Collagen structure. Domain structure, models of protein folding, methods of study of protein folding, roles of chaperones and chaperonins.

UNIT IV:

Nucleic acids: Structure of DNA and RNA: A, B, and Z forms of DNA. Novel structures. DNA bending and bendability. Denaturation and renaturation studies and their applications, nucleic acid hybridization. Topological structure of DNA.

M. Sc. BIOTECHNOLOGY
Semester I
Paper – IV
Biophysical Techniques

UNIT I:

Spectrophotometry: UV-Visible spectrophotometry, fluorescence spectrophotometry, absorption and emission spectrophotometry, IR, NMR, Lumionometry.
 Basic introduction to Raman and Mass spectrophotometry.

UNIT II:

Chromatography: Basic principles and techniques of partition, adsorption, gel filtration, affinity, and ion exchange chromatography. Concept of GLC and HPLC.

UNIT III:

Electrophoresis: Gel electrophoresis (Agarose, PAGE, SDS PAGE), Disc gel electrophoresis, Gradient electrophoresis, Pulsed field gel electrophoresis, capillary electrophoresis.
 Viscosity: Determination of conformational changes through viscosity.

UNIT IV:

Centrifugation
 Basic principles, Mathematics & theory (RCF, Sedimentation coefficient etc)
 Types of centrifuge: microcentrifuge, high speed & ultracentrifuges.
 Differential & density gradient centrifugation, Isolation of cell components using centrifugation technique.
 Radioactivity
 Radioactive & stable isotopes, Pattern and rate of radioactive decay, Units of radioactivity.
 Measurement of radioactivity: Geiger-Muller counter, Solid & Liquid scintillation counters (Basic principle, instrumentation & technique),
 Applications of isotopes in Biotechnology: Principles of tracer techniques, Its advantages and limitations, Distribution studies, Isotope dilution technique, Metabolic studies, Clinical application. Radioimmunoassay.

M. Sc. BIOTECHNOLOGY
Semester I
LAB I
Cell Biology and Enzymology

1. Determination of activity of calcium ATPase of plasma membrane.
2. Subcellular fractionation and assay of marker enzymes.
3. Assay of activity of LDH.
4. Cell motility and flagellar staining.
5. Cell types of plants- maceration of various tissue explant and identification of xylem, trachied, stomata, root hair, etc.
6. Determination of activity of sodium/potassium ATPase of plasma membrane.
7. Isolation of neutrophils and demonstration of phagocytosis.
8. Determination of osmotic fragility of RBC membrane.
9. Assay of activity of beta-galactosidase
10. Assay of activity of acid phosphatase,
11. Enzyme purification by crystallization - urease.
12. Immobilization of enzymes (Invertase/ Protease/ Amylase.) by Na alginate method.
13. Whole cell immobilization (Yeast) by Na Alginate and the estimation of alcohol produced.
14. Effect of NaCl on amylase activity
15. Inhibition of alkaline phosphatase activity by EDTA
16. Estimation of lipase activity by titrimetric method
17. Effect of Temperature on activity of Amylase / Alkaline phosphatase and determination of optimum temperature.
18. Effect of Substrate concentration on activity of Amylase / Alkaline phosphatase and determination of optimum substrate concentration.
19. Effect of pH on activity of Amylase / Alkaline phosphatase and determination of optimum pH
20. Isolation of chlorophyll and xanthophyll from spinach leaves.
21. Effect of inhibitors on respiratory chain.
22. Study of Mitosis and Meiosis
23. Study of mutations by Ames Test.
24. Assay of Activity of SGOT & SGPT.
25. Isolation, Purity determination and quantitation of DNA by UV method.

Note: Candidates must perform at least 6 practicals in the semester.

M. Sc. BIOTECHNOLOGY
Semester I
LAB II
Macromolecules & Analytical Techniques

1. Separation of proteins / lipids by ion exchange chromatography
2. Separation of lipids / amino acids by thin layer chromatography
3. Polyacrylamide gel electrophoresis: a) native enzyme preparation, b) SDS-PAGE of proteins.
4. Introduction to measurements: balance and pipetting, preparation of solutions of given molarity and normality.
5. Measurement of pH: buffering capacity, to determine pKa value and hence the dissociation constant of a given acid using pH meter.
6. Colorimetry: To determine the dissociation constant of a given indicator colorimetrically and to prepare buffer solutions in the pH range 2.2 to 8.0
7. Colorimetry: Assay of DNA by diphenylamine method.
8. Colorimetry: Assay of RNA by orcinol method.
9. Potentiometry: To determine redox potential of Fe⁺⁺ and Fe⁺⁺⁺.
10. Conductometry: to determine cell constant of 0.1 M KCl.
11. Conductometry: Titration of strong acid vs strong base, to find out equivalent conductance of salt formed.

12. Viscometry: Effect of temperature on the viscosity of DNA using Ostwald's viscometer.
13. Viscometry: To determine molecular weight of protein and DNA.
14. Viscometry: To determine changes in the conformation of bovine serum albumin by viscosity measurements, effect of pH on conformation of BSA.
15. Spectrophotometry: To study the absorption spectrum of hemoglobin and NADH
16. Determination of T_m of nucleic acid
17. The validity of beers law for colorimetric estimation of creatinine.
18. The ultraviolet absorption of proteins and amino acids.
19. Estimation of proteins by Lowry's and Bradford method.
20. Estimation of protein by E280/E260 method.
21. Fractionation of proteins: Salt precipitation, solvent precipitation, isoelectric precipitation, dialysis, centrifugation.

Note: Candidates must perform at least 6 practicals in the semester.

**M. Sc. Sem I
Seminar**

M. Sc. BIOTECHNOLOGY
Semester II
Paper – I
Microbiology

UNIT I:

Eukaryae and Viruses

- Algae: General characteristics, Applications in biotechnology.
- Fungi and slime moulds: General characteristics, applications in biotechnology.
- Viruses: Nature, symmetry, capsid structure, nucleic acid.
- Quantification of viruses
- Life cycles: T4 and lambda.
- Viroids and prions.

UNIT II:

General Microbiology and Taxonomy

- Prokaryotes: bacterial structure and morphology, endospore forming bacteria, pseudomonas, mycobacteria, archaebacteria.
- Microbial classification: 16s rRNA sequence and bacterial phylogeny.
- Bacterial genetic system: recombination (transformation, conjugation, transduction and transposition) Plasmids, salient features of the E. coli genetic map.

UNIT III:

Microbial Physiology

- Nutrition: nutritional classification, behavior, cultivation, isolation, media and their types, maintenance of culture.
- Growth: Measurement of growth, growth curve, continuous and synchronous culture, factors affecting microbial growth.

UNIT IV:

Microbial Control

- Microbial control: methods and dynamics of sterilization, mechanisms of control, biocontrol and preservation.
- Concept of chemotherapy, chemotherapeutic agents, mechanisms of action.
- Drug resistance, MDR, assessment and management of drug resistance.

M. Sc. BIOTECHNOLOGY
Semester II
Paper – II
Immunology

UNIT I:**Immunology- fundamental concepts and anatomy of the immune system**

Components of innate and acquired immunity; Organs and cells of the immune system- primary and secondary lymphoid organs; Lymphatic system;; Mucosal and Cutaneous associated Lymphoid tissue.(MALT&CALT); Mucosal Immunity; Antigens - immunogens, haptens; Major Histocompatibility Complex - MHC genes, HLA typing, flow cytometry, Microarrays.

UNIT II:**Immune responses generated by B and T lymphocytes**

Immunoglobulins-basic structure, classes & subclasses of immunoglobulins, antigenic determinants;Basis of self —non-self discrimination; B cell maturation, activation and differentiation; Generation of antibody diversity; T-cell maturation, activation and differentiation and T-cell receptors; Cell-mediated immune responses, ADCC; Cytokines-properties, receptors and therapeutic uses, Hapten-carrier system

UNIT III:

Vaccinology

Active and passive immunization; Live, killed, attenuated, sub unit vaccines; Vaccine technology- Role and properties of adjuvants, recombinant DNA and protein based vaccines, plant-based vaccines, reverse vaccinology; Peptide vaccines, conjugate vaccines; Antibody genes and antibody engineering- chimeric and hybrid monoclonal antibodies; Catalytic antibodies and generation of immunoglobulin gene libraries.

UNIT IV:

Clinical Immunology

Hypersensitivity — Type I-IV; Autoimmunity; Types of autoimmune diseases; Mechanism and role of CD4+ T cells; MHC and TCR in autoimmunity; Treatment of autoimmune diseases; immunosuppressive therapy; Cancer immunotherapy. Apoptosis, transgenic mice, Gene knock outs.

M. Sc. BIOTECHNOLOGY

Semester II

Paper – III

Fundamentals of Genetic Engineering

UNIT I:

- Restriction endonucleases and modification methylases
- Other enzymes needed in genetic engineering: exonucleases and endonucleases, ligases, polymerases, DNA modification enzymes and topoisomerases.
- Gene isolation and purification: general methods (shotgun method for producing gene library, cloning specific genes by hybridization and reverse transcriptase methods, direct selection of a gene)

UNIT II:

- Insertion of DNA and ligation: Berg's terminal transferase method (dA:dT joints); Boyer-Cohen-Chang experiment (cohesive ends), Butt joints (T4 DNA ligase); current ligation techniques (blunt-end ligation, complementary end ligation, linkers, adaptors, homopolymer tailing.

UNIT III:

Construction of Genomic DNA library and its applications

- Construction of cDNA Library: Method, problems to be addressed, advantages and disadvantages compared to the genomic DNA library, uses
- Screening of recombinants: Screening by complementation, southern hybridization, northern hybridization, colony lift, western blotting, immunoprecipitation, south-western screening. Synthesis and labeling of probes.
- DNA sequencing: Sanger-Coulson dideoxynucleotide method, Maxam-Gilbert chemical cleavage method, multiplex DNA sequencing, automated DNA sequencing. Basic idea of oligonucleotide synthesis.

UNIT IV:

Cloning vectors

- Plasmids as vectors, general characteristics of plasmids, bacterial vector plasmids, yeast vector plasmids,
 - yeast artificial chromosomes
 - Phage Vectors (λ , M13).
 - Cosmid vectors.
 - Animal virus derived vectors – SV 40 and retroviral vectors
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M. Sc. BIOTECHNOLOGY

Semester II

Paper – IV

Applied Molecular Biology

UNIT I:

Recombination and Genome Mapping,

- Homologous recombination: Holiday junction, gene targeting, gene disruption, FLP/FRT and Cre/Lox recombination, RecA and other recombinases.
- Molecular mapping of genome: Genetic and physical maps, choice of mapping population, southern and fluorescence in situ hybridization for genome analysis, RFLP, RAPD, and AFLP analysis, molecular

markers linked to disease resistance genes, application of molecular markers in forensic, disease prognosis, genetic counseling, pedigree etc.

UNIT II:

Antisense, Ribozymes and Epigenetics

- Antisense and ribozyme technology: Molecular mechanism of antisense molecule, biochemistry of ribozyme, hammerhead ribozymes, applications of antisense and ribozyme technologies.
- Epigenetics: chromatin marking systems, Direct chemical modification of DNA, Basic concepts of RNAi.

UNIT III:

Cancer Biology

- Methods to study cancer: Animal models. Role of tissue culture in study of cancer. Combination of tissue culture and animal models.
- DNA Viruses and cancer: Polyoma virus, SV40, adenovirus
- Genetics of Cancer: Oncogenes (ras, myc), suppressor genes (p53, Rb).

UNIT IV:

- Angiogenesis: Brief idea of healthy vasculature, definition of angiogenesis, basic process of tumor induced angiogenesis, Hypoxia induced factor (HIF), basics of pro- and anti- angiogenic factors, positive and negative factors affecting angiogenesis.
- Metastasis: Stages of metastatic progression, prerequisites for metastasis (properties a cell must acquire for metastasis), epithelial-mesenchymal transition, biochemical parameters acquired by metastatic cells.
- Basic idea of Cancer stem cells.

M. Sc. BIOTECHNOLOGY
Semester II
LAB I
Microbiology & Immunology

1. Production of microbial products in bioreactors/fermentors.
2. Immobilization of cells/enzymes.
3. Cleanliness, media preparation, sterilization, culturing methods, dilution techniques.
4. Staining techniques in microbiology; simple staining, gram staining, spore staining capsule staining, flagella staining.
5. Isolation of pure culture by different techniques.
6. Replica plating technique.
7. Propagation of viruses.
8. Assay of viruses.
9. Purification of immunoglobulins, qualitative assessment.
10. Demonstration of immunochemical reactions (blood group, Widal, VDRL, pregnancy, ELISA)
11. Blood film preparation and identification of cells.
12. Ouchterlony immunodiffusion,
13. Determination of albumin by radial immunodiffusion.
14. Biochemical tests for identification of Bacteria – Oxidase, catalase, IMViC test, etc.
15. Isolation of antibiotic resistant bacteria from waste / sewage water.
16. Motility of bacteria by hanging drop method.
17. Assay of antibiotics by disc diffusion method.

Note: Candidates must perform at least 6 practicals in the semester.

M. Sc. BIOTECHNOLOGY
Semester II
LAB II
Genetic Engineering & Applied Molecular Biology

1. Induction of β -galactosidase in strains of E. coli (I+ and I-).
2. Southern blotting.
3. Isolation of genomic DNA.
4. Western blotting.
5. Endonuclease digestion of DNA and analysis of DNA fragments by agarose electrophoresis.
6. Isolation of RNA.
7. Restriction fragment length polymorphism.
8. Ames test.
9. Isolation of plasmid DNA (miniprep and alkaline bulk method)
10. Isolation of RNA
11. Isolation of polyA RNA using oligodT columns
12. Estimation of RNA by Orcinol method
13. Estimation of DNA by diphenylamine method
14. Estimation of DNA by E260 method
15. Isolation of Lambda phage DNA.

Note: Candidates must perform at least 6 practicals in the semester.

**M. Sc. Sem II
Seminar**

M. Sc. BIOTECHNOLOGY
Semester III
Paper – I
Genetic Engineering & its Applications

UNIT I:

- Transformation: DNA uptake by bacterial cells.
- Transfection: Chemical and physical methods, Viral vectors. Polyethylene glycol, DEAE-dextran, calcium phosphate coprecipitation, dimethyl sulfoxide, liposomes, microinjection, macroinjection, electroporation, biolistics, somatic cell fusion, gene transfer by pronuclear microinjection
- Amplification of DNA: Polymerase chain reaction.

UNIT II:

Plant transformation technology: Basis of tumor formation, hairy root, features of Ti and Ri plasmids, mechanism of DNA transfer, role of virulence genes, use of Ti and Ri as vectors, binary vectors, use of 35S and other promoters, genetic markers, use of reporter genes, use of scaffold attachment regions, methods of nuclear transformation, viral vectors and their application, Biological and physical transformation methods. Chloroplast transformation.

UNIT III:

- Expression of heterologous genes: expression of eukaryotic genes in bacteria, expression of heterologous genes in yeast, insect and mammalian cells.
- Salient features of expression vectors.
- Processing of recombinant proteins: Refolding and stabilization.
- Industrial Products of Protein engineering

UNIT IV:

- Phage Display: Production of monoclonal bodies by phage display technique using filamentous phage vectors.
- Gene Therapy: somatic and germline, gene replacement, in vivo and ex vivo gene delivery, retrovirus gene transfer system, advantages and disadvantages of adenovirus, adeno-associated virus, herpes virus vectors, gene correction, replacement/augmentation, editing, regulation and silencing. Gene therapy of human diseases

M. Sc. BIOTECHNOLOGY
Semester III
Paper – II
Plant Biotechnology

UNIT I:

- Conventional plant breeding (introductory).
- Introduction to cell and Tissue culture. Tissue culture as a technique to produce novel plants and hybrids.
- Tissue culture media (composition and preparation)
- Callus and suspension cultures: initiation and maintenance of callus and suspension cultures; single cell clones.
- Organogenesis. Embryogenesis; transfer and establishment of whole plants in soil.

UNIT II:

- Shoot tip culture: rapid clonal propagation and production of virus free plants.
- Embryo culture and embryo rescue.
- Hybrid plants: protoplast isolation, culture and fusion, selection of hybrid cells and regeneration of hybrid plants, symmetric and asymmetric hybrid, cybrid.
- Production of haploid plants: anther, pollen and ovary cultures for production of haploid plants and homozygous lines.
- Germplasm conservation: cryopreservation, slow growth cultures and DNA banking for germplasm conservation.

UNIT III:

- Applications of plant transformation for productivity and performance
- Herbicide resistance, phosphinothricine glyphosate, sulfonyl urea, atrazin, insect resistance, Bt genes, non-Bt-like protease inhibitor, virus resistance, coat protein mediated nucleocapsid gene, disease resistance, chitinase, 1-3 beta glucanase, RIP,
- antifungal proteins, thionins, PR proteins, nematode resistance, abiotic stress, post harvest losses, long shelf life of fruits and flowers, use of ACC synthase, polygalacturanase, ACC oxidase, male sterile lines, bar and barnase systems, carbohydrate composition and storage, ADP glucose pyrophosphatase.

UNIT IV:

- Plant metabolic engineering and industrial products: plant secondary metabolites, control mechanisms and manipulation of phenylpropanoid pathway, shikimate pathway, alkaloids, industrial enzymes, biodegradable plastics, polyhydroxybutyrate, therapeutic proteins, lysosomal enzymes, antibodies, edible vaccines, purification strategies, oleosin partitioning technology.
- Molecular marker aided breeding: RFLP maps, linkage analysis, RAPD markers, STS, microsatellite, SCAR (sequence characterized amplified regions), SSCP (single strand conformational polymorphism), QTL, map based cloning, molecular marker assisted selection.
- Green House Technology

M. Sc. BIOTECHNOLOGY
Semester III

(NOTE: Candidates can choose any one elective paper from Core elective A or B)

Paper – III (Core Elective A) Industrial Biotechnology I

UNIT I:**Bioreactors:**

- Bioreactor function, utility, types of bioreactor. Modes of bioreactor operations. Main components of the bioreactor and their functions.
- Bioreactors
 - a) Design/configuration of a basic fermentor; individual parts and probes for on-line monitoring of process.
 - b) Concept of Batch and Continuous process, fed-batch semi-continuous systems; aerobic and anaerobic fermentors
 - c) Submerged/liquid state and solid state fermentations

UNIT II**Types of Bioreactors:**

- Continuous stirred tank and plug flow reactors
- Packed bed and fluidized bed reactors
- Trickle bed, immobilized bed, air lift, rotary disc reactors. Reactors with cell recycle.

UNIT III:**Immobilized reactor systems:**

- Immobilization techniques for cells (physical adsorption, ionic binding, covalent binding, lattice entrapment, membrane entrapment, micro encapsulation) and enzymes (covalent binding, entrapment, micro encapsulation, cross-linking, adsorption, ionic binding, affinity binding, chelation, disulfide bonds)
- Immobilized enzyme kinetics
- Types of immobilized reactors

UNIT IV:**Scope of Downstream Processing:**

- Importance of Down Stream Processing (DSP) in biotechnology, characteristics of products, criteria for selection of bio-separation techniques. Role of DSP methods in bioprocess economics. Cell Disruption Methods: Various cell disruption methods, need for cell disruption for (Homogenizer, French press & Dynamill) intracellular products, cell disruption equipment. Applications in bio-processing. Flocculation: Principles of flocculation various flocculating agents, applications in bio-processing. Coagulation: Principles of coagulations and its applications in bio-processing

M. Sc. BIOTECHNOLOGY
Semester III

(NOTE: Candidates can choose any one elective paper from Core elective A or B)

Paper – III (Core Elective B) Environmental Biotechnology I
Environmental Science & Bioresources

UNIT I:

Introduction to environmental Science: Environmental ethics: Environmentalism, Environment & Religion, Environmental education, Need for environmental education. Environmental Pollution: Classification of pollutants, Air pollution and their properties, Gaseous pollutants, water pollutants and their properties. Noise pollution, Soil pollution, thermal pollution, marine pollution, solid water pollution.

UNIT II:

Ecosystem structure and functions, abiotic and biotic component, Energy flow, food chain, food web, Ecological Pyramids-types, biogeochemical cycles, ecological succession, Ecads and ecotypes. Biotechnological processes: Bioconversion, Bioaccumulation, Bioconcentration, Biomagnification, Biodegradation.

UNIT III:

Energy & Biofuels: Non conventional or renewable sources of energy, Energy from Biomass, Biofertilizers, Biosensors and biochips, Biofilters, Biofuel cells,

UNIT IV:

Biofertilizers, Biopesticides and Integrated pest management: Bacterial biofertilizers, algal biofertilizers, Aquatic ferns as biofertilizers, Fungi as biofertilizers, earthworm as biofertilizers, biopesticides, Integrated pest management.

M. Sc. BIOTECHNOLOGY
Semester III

(NOTE: Candidates of other M. Sc. Subjects can choose this paper from Biotechnology subject)

Paper – IV (Foundation Paper I)
Introductory Biotechnology

UNIT I:

Basics of Proteins

- Amino acids: Structures of amino acids found in proteins, classification, peptide bond structure; Protein Structure:
- Primary (basic idea of sequencing and amino acid composition), secondary (alpha and beta structures), tertiary and quaternary structures

UNIT II:

Nucleic acids

- Nucleoside, Nucleotides, Bases; Basic Structure of DNA (Watson Crick structure) and RNA.

UNIT III:

Genes and chromosomes

- Gene definition, prokaryotic and eukaryotic gene structure; Structure of chromatin (nucleosome, 30 nm fiber, solenoid structure); basic understanding of chromosome structure; centromeres, telomeres, Unique genes and gene families

UNIT IV:

Enzymes

- Overview, Enzyme classification with specific examples. Characteristics of enzymes, Concept of active centre, binding sites, stereospecificity and ES complex formation. Effect of temperature, pH and substrate concentration on reaction rate. Enzyme activity, international units, specific activity
 - Introduction to Enzymes used in biotechnology: Restriction enzymes, exonucleases and endonucleases, ligases, polymerases, DNA modification enzymes and topoisomerases
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M.Sc. Biotechnology (CBCS)

Semester-III

(Candidate can opt for this paper in their main subject of postgraduation ONLY).

Paper-IV: (Core Subject Centric I)

Diagnostic Medical Biotechnology

Molecular and Nanomolecular Diagnostics

Unit I

Host pathogen interactions in disease process (Bacterial: Tuberculosis and Staphylococcal Diseases & Viral: Influenza and HIV/AIDS); Disease pathology and clinical spectrum; Clinical diagnosis of diseases; Molecular Genetics of the host and the pathogen. Molecular techniques for analysis of these disorders; Assays for the Diagnosis of inherited diseases; Bioinformatic tools for molecular diagnosis.

Unit II

Concept of Genomics, Human disease genes; DNA polymorphism including those involved in disease (Ex: Hemoglobin and the anemias); Phenylketonuria (monogenic) and diabetes (multigenic) genetic disorders; 'disease' gene vs. 'susceptibility' gene; SNP detection: hybridization based assays (allele specific probes); Polymerization based assays (allele specific nucleotide incorporation, allele-specific PCR); Ligation based assays (allele specific oligonucleotide ligation); Polymorphism detection without sequence information: SSCP. Single nucleotide polymorphism and disease association; High throughput DNA sequencing and diagnosis; and Array based techniques in diagnosis.

Unit III

Outline of a typical proteomics experiment, clinical proteomics and disease biomarkers. Isolation of proteins and other molecules associated with disease; 2D analysis of such proteins by sequencing individual spots by Mass Spectrometry; Protein Microarray; Present methods for diagnosis of Specific diseases like Tuberculosis and AIDS; Ethics in Molecular Diagnosis

Unit IV

Nanomolecular diagnostics and Biosensor: Introduction to Nanodiagnosics, Nanoarrays for diagnostics, detection of single DNA, self-assembled protein nanoarrays, protein nanobiochip nanoparticles for molecular diagnostics, DNA nanomachines, Nanobiosensor, CNT biosensor, DNA nanosensor, Nanowire biosensor, application of nanodiagnosics.

Texts/References

1. George Patrinos and Wilhelm Anson, Molecular Diagnostics, 1st Edition, Academic Press, 2005.
 2. Willey J. Prescott, Harley, and Klein's Microbiology-7th international ed./Joanne M. Willey, Linda M. Sherwood, Christopher J. Woolverton. New York: McGraw-Hill Higher Education; 2008.
 3. Lela Buchingham and Maribeth L Flaws, Molecular Diagnostics: Fundamentals, Methods and Clinical Applications, 1st Edition, F A Davis Company, Philadelphia, USA, 2007.
 4. Campbell, M.A and Heyer L.J., Discovering Genomics, Proteomics and Bioinformatics, 2nd Edition, CSHL Press, Pearson/Benzamin Cummings San Francisco, USA, 2007.
 5. Andrew Read and Dian Donnai, New Clinical Genetics, Scion Publishing Ltd, Oxfordshire, UK, 2007.
 6. Challa S.S.R. Kumar, Nanomaterials for medical diagnosis and therapy, Wiley-VCH, 2007.
 7. Dr.Parag Diwan and Ashish Bharadwaj (Eds), Nano Medicines, Pentagon Press, 2006.
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M. Sc. BIOTECHNOLOGY
Semester III
LAB I
Genetic Engineering & Plant Biotechnology

1. Recombinant DNA technology: in vitro DNA ligation and transformation of E. coli.
2. Recombinant DNA technology: characterization of transformants.
3. Northern blotting
4. Agarose gel electrophoresis and restriction mapping of DNA.
5. Construction of restriction map of plasmid DNA
6. Cloning in plasmid/phagemid vectors.
7. DNA sequencing.
8. Gene expression in E coli and analysis of gene product
9. Demonstration of technique of PCR
10. Demonstration of technique of RT-PCR
11. Replica plating technique.
12. Propagation of viruses.
13. Endonuclease digestion of DNA and analysis of DNA fragments by agarose electrophoresis.
14. Restriction fragment length polymorphism.
15. Ames test.
16. Quantitation of DNA by various methods.
17. Preparation of plant tissue culture media.
18. Surface sterilization.
19. Organ culture.
20. Callus propagation, organogenesis, transfer of plants to soil.
21. Protoplast isolation and culture.
22. Anther culture: production of haploids.
23. Cytological examination of regenerated plants.
24. Micropropagation of banana, citrus Papaya, Sugarcane etc.
25. Effect of various growth hormones on cell divisions and cell proliferation
26. Isolation, purification and culture of protoplast
27. Artificial seed preparation
28. Cytological examination of regenerated plants
29. Agrobacterium culture and selection of transformants.
30. Hardening of tissue culture raised plants.
31. Transfer of plants to soil.

Note: Candidates must perform at least 6 practicals in the semester.

M. Sc. BIOTECHNOLOGY
Semester III
LAB II (Core Elective A)
Industrial Biotechnology

1. Immobilization of cells/enzymes
2. Determination of rheological constant.
3. Determination of oxygen transfer rate, volumetric transfer coefficient.
4. Microbial production of Alcohol
5. Microbial production of antibiotics
6. Production of microbial products in fermentors / bioreactors
7. Preparation and formulation of microbial biopesticides / biofertilizers.
8. Study of patenting procedure
9. Preparation of proposal for patenting.

Note: Candidates must perform at least 6 practicals in the semester.

M. Sc. BIOTECHNOLOGY
Semester III
LAB II (Core Elective B)
Environmental Biotechnology

1. Detection of coliforms for determination of the purity of potable water.
2. Determination of total dissolved solids of water
3. Determination of Hardness and alkalinity of water sample.
4. Determination of dissolved oxygen concentration of water sample
5. Determination of biological oxygen demand of sewage sample
6. Determination of chemical oxygen demand (COD) of sewage sample.
7. Analysis of oligodynamic action.
8. Determine the efficiency of removal of air pollutant using fibrous air filter.
9. Preparation and formulation of microbial biopesticide (bacteria, fungi and viruses)
10. Production of microbial fertilizers (Rhizobium, Azotobacter and AMF).

Note: Candidates must perform at least 6 practicals in the semester.

M. Sc. Sem III
Seminar

M. Sc. BIOTECHNOLOGY
Semester IV
Paper – I
Animal Biotechnology

UNIT I:

- Animal Cell Culture: Equipments and materials for animal cell culture technology. Various systems of tissue culture, their distinguishing features, advantages and limitations.
- Culture medium: natural media, synthetic media, sera. Introduction to balanced salt solutions and simple growth medium. Brief discussion on the chemical, physical and metabolic functions of different constituents of culture medium, role of carbon di oxide, serum and supplements.
- Characteristics of cells in culture: Contact inhibition, anchorage dependence, cell-cell communication etc.; Cell senescence; cell and tissue response to trophic factors.

UNIT II:

- Primary Culture: Behavior of cells, properties, utility. Explant culture; suspension culture.
- Established cell line cultures: Definition of cell lines, maintenance and management; cell adaptation.
- Measurement of viability and cytotoxicity. Cell cloning, cell synchronization and cell manipulation. Various methods of separation of cell types, advantages and limitations; flow cytometry.

UNIT III:

- Scaling up of animal cell culture. Cell transformation.
- Stem cell cultures, embryonic stem cells and their applications. Somatic cell genetics.
- Apoptosis: Measurement of cell death. Apoptosis (death domain, role of cytochrome C)

UNIT IV:

- Commercial applications of cell culture: Tissue culture as a screening system; cytotoxicity and diagnostic tests. Mass production of biologically important compounds (e.g. Vaccines). Harvesting of products, purification, and assays.
 - Three dimensional cultures and tissue engineering.
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M. Sc. BIOTECHNOLOGY
Semester IV
Paper – II
Biostatistics, Bioinformatics, Ethics & Patenting

UNIT I:**Biostatistics**

- Measures of central tendency: mean, mode, and median.
- Measures of dispersion: range, mean deviation, standard deviation.
- Methods of sampling, sampling error, non-sampling errors, standard error.
- Chi-square test, meaning of correlation and regression.
- Cluster analysis: phylogenetic clustering by simple matching coefficients.
- Presentation of statistical data: tabulation (simple tables, frequency distribution table); charts and diagrams (bar charts, histograms, pie charts, dendrogram).
- Research designs with basic principles and field layout.

UNIT II:**Bioinformatics**

- Computer concept: computer organization, hardware, software, operating system (windows, unix, brief list of computer languages).
- Concept of networking: internet, internet concepts, web browsing, public domain resources in biology.
- Concept of database management: brief idea of data types, data structures, searching, sorting, designing a database, genomic, proteomic, and metabolic pathways databases.
- Computer analysis of genetic sequences: general concepts of sequence analysis, identification of functional sequences, homology, brief idea of BLAST, ENTREZ, and PubMed.

- Proteomics: basic issues and concepts, protein sequences and alignment, protein structure prediction.
- Bioinformatics tools in drug design.

UNIT III:

Ethics:

- Benefits of biotechnology, ELSI of biotechnology, recombinant therapeutic products for human health care, genetic modifications and food consumption, release of genetically engineered organisms, applications of human genetic rDNA research, human embryonic stem cell research.

UNIT IV:

Patenting

- Patent and Trademark, Biotechnology products and processes, Intellectual property rights, Plant breeders rights, biotechnology in developing countries. Biosafety and its implementation, Quality control in Biotechnology.

M. Sc. BIOTECHNOLOGY

Semester IV

(NOTE: Depending on the Core elective subject chosen in Semester III, Candidates shall pursue the same core elective subject in semester IV)

Paper – III (Core Elective A) Industrial Biotechnology II

UNIT I:

Bioprocess Engineering Concepts:

- Mass transfer, heat transfer, mixing, rheology of fermentation fluids, residence time distribution, substrate utilization and yield-coefficients, oxygen transfer and oxygen sag.

UNIT II:

Process Optimization and Control:

- Optimization parameters, medium formulation, process optimization techniques: classical, Plackett-Burman design, ANOVA, central; composite design, response surface methodology with example.; medium formulation: classical, experimental design technique, fractional factorial design with eggs.
- Concept of control: turbidostatic and chemostatic control, open loop and feedback control
- Advanced control policies: model predictive control, cascade control, PID control, programmed control

UNIT III:

Scale up & Biosensor Technology:

- basic principles of scale-up
- bases of scale up, scale down
- Biosensors

UNIT VI:

Production of Primary & Secondary Metabolite:

1. Primary Metabolites:

- A brief outline of processes for the production of some commercially important organic acids (e.g. citric acid, lactic acid, acetic acid etc); amino acids (glutamic acid, phenylalanine, aspartic acid etc.) and alcohols (ethanol, butanol etc.)

2. Secondary Metabolites:

- Brief Study of production processes for various classes of secondary metabolites: antibiotics: beta-lactams (penicillin), aminoglycosides (streptomycin) macrolides (erythromycin), vitamins and steroids.

M. Sc. BIOTECHNOLOGY**Semester IV**

(NOTE: Depending on the Core elective subject chosen in Semester III, Candidates shall pursue the same core elective subject in semester IV)

**Paper – III (Core Elective B) Environmental Biotechnology II
Applied Environmental Biotechnology**

UNIT I:

Bioremediation & Phytoremediation: Biofeasibility, applications of bioremediation, Bioreduction, Phytoremediation.

Solid waste pollution and its management: Current practice of solid waste management, composting systems, vermicomposting, sewage treatment.

UNIT II:

Bioabsorption and Bioleaching of heavy metals: Cadmium, Lead, Mercury, Metal binding targets and organisms, Bioabsorption, Metal microbial interaction, Biomethylation of elements (Methylation of mercury and arsenic), Commercial biosorbants, bioleaching, metal precipitation, advantages and disadvantages of bioleaching.

UNIT III:

Waste water Treatment: Biological treatment system (Oxidative ponds, aerobic and anaerobic ponds, facultative ponds, aerated ponds), Biological waste treatment, activated sludge treatment, microbial pollution in activated sludge, percolating filters, waste water treatment by biofilms. Treatment scheme of Dairy, Distillery, Tannery, Sugar, Fertilizers, Refinery, Chemical and Antibiotic waste.

UNIT IV:

Xenobiotics in environment: Biodegradation of Hydrocarbons, Substituted hydrocarbons, Surfactant, Pesticides, Lignin, Tannin, Synthetic dyes, Biotransformation: Oxidation reactions: Cytochrome P450 monooxygenase system, Alcohol and aldehyde dehydrogenases, Peroxidases. Reduction reactions: Cytochrome P450 and flavin dependent reactions. Hydrolysis reactions: Carboxyl esterases. Conjugation reactions: Gluthione S transferases. Regulation of biotransformation.

M. Sc. BIOTECHNOLOGY**Semester IV**

(NOTE: Candidates of other M. Sc. Subjects can choose this paper from Biotechnology subject)

**Paper – IV (Foundation Paper II)
Basic rDNA Technology**

UNIT I:**History of Gene cloning**

- Boyer-Cohen-Chang experiment. Patenting of the recombinant DNA technique; Berg's role in gene cloning history, Change in medicinal science after discovery of recombinant DNA technology (brief mention of how we produce human insulin today, somatostatin and other therapeutic products, very brief overview of how we may treat diseases through gene therapy)
- Why do we clone genes? (amplification and/or heterologous gene expression). Basic steps of gene cloning:
- Agarose gel electrophoresis; 2D Electrophoresis; Pulsed field gel electrophoresis; SDS PAGE; 16S rDNA sequencing for bacterial identification; ITS region sequencing for fungal identification; RFLP; RAPD

Unit II:**Basic process of recombinant DNA technology**

- Cutting and joining of DNA. Vectors: concept, types of vectors (plasmids, phage, virus), Essential qualities that a vector must possess
- Types of vectors: pBR322, cosmids, lambda phage

Unit III:**Basic process of recombinant DNA technology**

- Transformation and Transfection – basic techniques. Selectable markers (antibiotic resistance, lacZ), Selection process, Screening.

Unit IV:**Applications of gene cloning**

- Insulin, Somatostatin, BT Cotton, production of human proteins and drugs, recombinant vaccines, agricultural applications, production of transgenic animals, human gene therapy

M.Sc. Biotechnology (CBCS)**Semester-IV**

(Candidate can opt for this paper in their main subject of postgraduation ONLY).

Paper-IV: (Core Subject Centric II)**Therapeutic Medical Biotechnology****Molecular Therapeutics and Drug Discovery****Unit I**

Gene therapy; Intracellular barriers to gene delivery; Overview of inherited and acquired diseases for gene therapy; Retro and adeno virus mediated gene transfer; Liposome and nanoparticles mediated gene delivery. Gene silencing technology; siRNA- Concept, delivery and therapeutic applications in treatment of influenza and HIV/AIDS; Tissue and organ transplantation; Transgenics and their uses; Cloning; Ethical issues

Unit II

Proteomics and drug discovery: High throughput screening for drug discovery; Identification of drug targets; Pharmacogenomics and pharmacogenetics and drug development; Toxicogenomics; Metagenomics.

Unit III

Nanobiotechnology for drug discovery, protein and peptide based compounds for cancer and diabetes, drug delivery - nanoparticle based drug delivery, lipid nanoparticles, vaccination, cell therapy, Gene therapy. Ethical, safety and regulatory issues of nanomedicine. Physicochemical characteristics of nanomaterials, Nanoparticle interaction with biological membrane, Neurotoxicology.

Unit IV

Drug Discovery & Clinical research

Introduction and importance of clinical research, Drug Development and phases of Clinical trials, Designing clinical Trials, Protocol designing, Ethical issues in clinical research, ICH-GCP Guidelines, Informed consent process, Role of CRC and CRA in clinical trials, Pharmacovigilance, Standard operating procedures, Guidelines to undertake clinical trials in India schedule Y.

Texts/References:

1. Bernhard Palsson and Sangeeta N Bhatia, Tissue Engineering, 2nd Edition, Prentice Hall, 2004.
2. Pamela Greenwell, Michelle McCulley, Molecular Therapeutics: 21st century medicine, 1st Edition, Springer, 2008.
3. Primrose S & Twyman R, Principles of Gene Manipulation and Genomics, 7th Edition, Blackwell, 2006.
4. H. Rehm, Protein Biochemistry and Proteomics, 4th Edition, Academic Press, 2006.
5. Robert A. Freitas Jr., Nanomedicine, Volume I: Basic Capabilities, Landes Bioscience, Georgetown, TX, 1999.
6. Robert A. Freitas Jr., Nanomedicine, Volume IIA: Biocompatibility, Landes Bioscience, Georgetown, TX, 2003.
7. Kewal K. Jain, The Hand book of Nanomedicine, Humana Press, Springer 2008.
8. Nancy A. Monteiro – Riviere and C. Lang Tran, Nanotoxicology: Characterization, Dosing and Health Effects, Informa Healthcare. 2007.
9. Kumar, Challa S. S. R. (ed.) Nanomaterials - Toxicity, Health and Environmental Issues, Wiley-VCH, Weinheim, 2006.
10. Norris, Deborah. Clinical Research Coordinator Handbook. Plexus Pub, 2009.
11. Portney, Leslie Gross, and Mary P. Watkins. Foundations of clinical research: applications to practice. Vol. 2. Upper Saddle River, NJ: Prentice Hall, 2000.
12. Stone, Judy. Conducting clinical research: A practical guide for physicians, nurses, study coordinators, and investigators. Mountainside MD Press, 2006.

M. Sc. BIOTECHNOLOGY

Semester IV

LAB I

**Animal Biotechnology, Biostatistics, Bioinformatics, Ethics & Patenting
And Industrial Biotechnology II or Environmental Biotechnology**

Section I: Animal Biotechnology, Biostatistics, Bioinformatics, Ethics & Patenting

1. Development of primary cell lines/maintenance of established cell lines
2. Preparation of animal cell culture media.
3. Filter sterilization and sterility test.
4. Media storage, serum inactivation.
5. Cell fusion.
6. Cell transformation by viruses.
7. Lyophilization of local germplasma.
8. Calculation of mean, mode, and median
9. Calculation of standard deviation and standard error
10. Using computer in single user and multiple user environment
11. Designing and management of databases
12. Computer aided statistical analysis
13. Computer presentation of statistical data, charts and diagrams
14. Computer aided visualization of amino acid sequence of protein and its 3D structure.
15. Retrieving metabolic pathway using internet
16. Homology searching using BLAST
17. Base sequence analysis of gene / protein sequence
18. Computer aided survey of scientific literature
19. Field layout based on statistical research designs
20. Determination of rheological constant

Section II: Section A) Industrial Biotechnology OR Section B) Environmental Biotechnology

A) Industrial Biotechnology

1. Demonstration of various bioreactor configuration, parts and integrated process control system.
2. Demonstration of addition of inoculation and sampling in CSTR
3. Determination of volumetric mass transfer coefficient (K_La) by dynamic method and sulphite oxidation method
4. Preparation of wine from grapes.
5. Preparation and characterization of immobilized cells system
6. To perform cell disruption by ultrasonication
7. To study the settling velocity of solid particles under batch sedimentation

OR

B) Environmental Biotechnology

1. Test for the degradation of aromatic hydrocarbons by bacteria
2. Survey of degradative plasmids in microbes growing in polluted environment
3. Effect of Sulphur dioxide on crop plants
4. Estimation of heavy metals in water/soil by Atomic absorption spectrophotometry.
5. Estimation of nitrate in drinking water.
6. Role of microorganisms in alleviation of heavy metal induced stress in plants.
7. Isolation of xenobiotic degrading bacteria by selective enrichment technique
8. In vitro evaluation of medicinal plants against pathogenic microbes.
9. Effect of mycorrhizal fungi on growth promotion of plants.
10. Study of patenting procedure
11. Preparation of proposal for patenting.
12. Study of RFLP, VNTRs, SNPs

Note: At least 6 practical must be conducted within the semester.

**M. Sc. Part II, Sem IV
Project**

**M. Sc. Part II, Sem IV
Seminar**



राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर

" (सेंट्रल प्रोविन्सस शासन शिक्षण विभागाची अधिष्ठापना क्रमांक ५१३ दिनांक १ ऑगस्ट, १९२३ द्वारे स्थापित व महाराष्ट्र विद्यापीठ अधिनियम, १९९४ द्वारे संचालित राज्य विद्यापीठ) "

(विद्या विभाग)

छत्रपती शिवाजी महाराज प्रशासकीय परिसर, रविन्द्रनाथ टागोर मार्ग, नागपूर - ४४० ००१.

दूरध्वनी क्रमांक: कार्यालय: ०७९२-२५३२०६३ फॅक्स : ०७९२-२५५५७०९

क्र. रातुमनावि/विद्या/१६/१०६८

दिनांक ०५ जुलै, २०१६

अधिसूचना

सर्व संबंधितांच्या माहितीकरीता सूचित करण्यात येते की, विज्ञान विद्याशाखेअंतर्गत येणारे खालील पदवी व पदव्युत्तर अभ्यासक्रम सत्र २०१६-२०१७ पासून चौईस बेसड क्रेडीट सिस्टिम सत्र पद्धतीसह लागू करण्यात येत आहे. सदर अभ्यासक्रमाच्या परिक्षा योजना व अभ्यासक्रमांचे सेमीस्टर ३ व ४ मध्ये Foundation Course मध्ये नवीन विषय Core (Subject Centric) हयाला दिनांक ०८.०६.२०१६ रोजी संपन्न झालेल्या विद्वत् परिषदेने व दिनांक १४.०६.२०१६ रोजी संपन्न झालेल्या व्यवस्थापन परिषदेने मान्यता प्रदान केलेली आहे. तसेच मा. कुलगुरूंनी एम.एस.सी. (फॉरेंसिक सायन्स) अभ्यासक्रमांचे निर्देश क्रमांक ५३/२०१६ आणि एम.एस.सी. अभ्यासक्रमाचे निर्देश क्र. ५४/२०१६ करण्याकरीता महाराष्ट्र विद्यापीठ अधिनियम १९९४ च्या कलम १४(८) अंतर्गत खालील नमुद अभ्यासक्रमांचे निर्देश क्रमांक ३० जून २०१६ रोजी निर्गमित केला आहे.

All M.Sc.Courses Syllabus:

Physics, Chemistry, Mathematics, Statistics, Computer Science, Electronics, Information Technology, Botany, Zoology, Microbiology, Biochemistry, Biotechnology, Environmental Science, Geology, M.Sc. Tech. Applied Geology, Molecular Biology & Genetic Engineering, Medicinal Plant, M.Sc. (Forensic Science)

उपरोक्त पदव्युत्तर अभ्यासक्रमांचे निर्देश, परिक्षा योजना व अभ्यासक्रमांका राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर. www.naguniversity.org या संकेतस्थळावर उपलब्ध करण्यात आलेले आहे.

कृपया संबंधितांनी नोंद घ्यावी

मा.कुलगुरूंच्या आदेशान्वये.

(पुरणचंद्र मेश्राम)
कुलसचिव

प्रतिलिपी माहिती व पुढील कार्यवाहीसाठी अग्रेषित:

१. संलग्नित महाविद्यालयांचे सर्व प्राचार्य/संचालक/विभाग प्रमुख
२. सर्व सभासद, विशेष कार्य समिती,
३. मा. समन्वयक, विज्ञान विद्याशाखा,
४. मा. परिक्षा नियंत्रक,
५. उपकुलसचिव (परिक्षा,पुर्व व परिक्षा उपरांत),
६. सहायक कुलसचिव (सामान्य परिक्षा),
७. सहायक कुलसचिव (गोपनीय),
८. सहायक कुलसचिव (व्यावसायिक परिक्षा)
९. अधिष्ठाक (निकाल विभाग),
१०. प्रभारी अधिकारी (प्रकाशन विभाग),
११. स्वीय सहाय्यक, मा. कुलगुरूचे कार्यालय
१२. स्वीय सहाय्यक, मा. प्र- कुलगुरूचे कार्यालय
१३. स्वीय सहाय्यक, मा. कुलसचिवांचे कार्यालय
१४. श्रीमती विना प्रकाशे, माहितीशास्त्रज्ञ,

राष्ट्रसंत तुकडोजी महाराज
नागपूर विद्यापीठ, नागपूर.

(मनिष शिंदे)
उपकुलसचिव (विद्या)



राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर

"(सेंट्रल प्रोक्सिमस शासन शिक्षण विभागाची अधिसूचना क्रमांक ५१३ दिनांक १ ऑगस्ट, १९२३ द्वारा स्थापित व महाराष्ट्र विद्यापीठ अधिनियम, १९९४ द्वारा संश्लिष्ट राज्य विद्यापीठ)"
(विद्या विभाग)

छत्रपती शिवाजी महाराज प्रशासकीय परिसर, रविन्द्रनाथ टागोर मार्ग, नागपूर - ४४० ००१.

दूरध्वनी क्रमांक: कार्यालय: ०७१२-२५३२०६३ फॅक्स : ०७१२-२५५५७०१

क्र. रातुमनावि/विद्या/१६/१०६८

दिनांक ०५ जुलै, २०१६

अधिसूचना

सर्व संबंधितांच्या माहितीकरीता सूचित करण्यात येते की, विज्ञान विद्याशाखेअंतर्गत येणारे खालील पदवी व पदव्युत्तर अभ्यासक्रम सत्र २०१६-२०१७ पासून चौईस बेसड क्रेडीट सिस्टिम सत्र पद्धतीसह लागू करण्यात येत आहे. सदर अभ्यासक्रमाच्या परिक्षा योजना व अभ्यासकर्मीकांचे सेमीस्टर ३ व ४ मध्ये Foundation Course मध्ये नवीन विषय Core (Subject Centric) हयाला दिनांक ०८.०६.२०१६ रोजी संपन्न झालेल्या विद्वत परिषदेने व दिनांक १४.०६.२०१६ रोजी संपन्न झालेल्या व्यवस्थापन परिषदेने मान्यता प्रदान केलेली आहे. तसेच मा. कुलगुरूंनी एम.एस.सी. (फॉरेंसिक सायन्स) अभ्यासक्रमांचे निर्देश क्रमांक ५३/२०१६ आणि एम.एससी. अभ्यासक्रमाचे निर्देश क्र. ५४/२०१६ कार्यान्वीत करण्याकरीता महाराष्ट्र विद्यापीठ अधिनियम १९९४ च्या कलम १४(८) अंतर्गत खालील नमुद अभ्यासक्रमांचे निर्देश क्रमांक ३० जून २०१६ रोजी निर्गमित केला आहे.

All M.Sc.Courses Syllabus:

Physics, Chemistry, Mathematics, Statistics, Computer Science, Electronics, Information Technology, Botany, Zoology, Microbiology, Biochemistry, Biotechnology, Environmental Science, Geology, M.Sc. Tech. Applied Geology, Molecular Biology & Genetic Engineering, Medicinal Plant, M.Sc. (Forensic Science)

उपरोक्त पदव्युत्तर अभ्यासक्रमांचे निर्देश, परिक्षा योजना व अभ्यासक्रमीका राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर. www.naguniversity.org या संकेतस्थळावर उपलब्ध करण्यात आलेले आहे.

कृपया संबंधीतानी नोंद घ्यावी

मा.कुलगुरूंच्या आदेशान्वये.

(पुरणचंद्र मेश्राम)
कुलसचिव

प्रतिलिपी माहिती व पुढील कार्यवाहीसाठी अग्रेषित:

१. संलग्नित महाविद्यालयांचे सर्व प्राचार्य/संचालक/विभाग प्रमुख
२. सर्व सभासद, विशेष कार्य समिती,
३. मा. समन्वयक, विज्ञान विद्याशाखा,
४. मा. परिक्षा नियंत्रक,
५. उपकुलसचिव (परिक्षा, पुर्व व परिक्षा उपरांत),
६. सहायक कुलसचिव (सामान्य परिक्षा),
७. सहायक कुलसचिव (गोपनीय),
८. सहायक कुलसचिव (व्यावसायीक परिक्षा)
९. अधिक्षक (निकाल विभाग),
१०. प्रभारी अधिकारी (प्रकाशन विभाग),
११. स्वीय सहाय्यक, मा. कुलगुरूचे कार्यालय
१२. स्वीय सहाय्यक, मा. प्र- कुलगुरूचे कार्यालय
१३. स्वीय सहाय्यक, मा. कुलसचिवांचे कार्यालय
१४. श्रीमती विना प्रकाशे, माहितीशास्त्रज्ञ,

राष्ट्रसंत तुकडोजी महाराज
नागपूर विद्यापीठ, नागपूर.

(मनिष झोडपे)
उपकुलसचिव (विद्या)

नागपूर विद्यापीठ

क्र.म.वि./ L/1366

दिनांक :- 16.8.02

प्रेषक :- सहायक कुलसचिव (म.वि.)
नागपूर विद्यापीठ,
नागपूर.

प्रति,

प्राचार्य,
हिस्लॉप कॉलेज,
नागपूर.

विषय :- सत्र 2002-2003 पासून नवीन अभ्यासक्रम/विषय/तुकड्या/विद्याशाखा
यांना प्रथम संलग्नता देण्याबाबत.

संदर्भ :- महाराष्ट्र शासनाच्या उच्च व तंत्र शिक्षण विभागाचे पत्र क्र. एनजीसी-२००२/[८६/०२]महिा-३
मंत्रालय, मुंबई-३२ दिनांक २७ जून, २००२

महोदय,

संदर्भाकित शासन निर्णयानुसार आपल्या महाविद्यालयात सत्र 2002-2003 पासून खालील
अभ्यासक्रम/विषय/तुकड्या सुरु करण्यासाठी शासनाने दिलेल्या मंजूरीला अनुसरून महाराष्ट्र विद्यापीठ
अधिनियम 1994 च्या कलम 14 (7) अन्वये, विद्वत परिषदेच्या वतीने मा.कुलगुरुंनी संबंधित
अभ्यासक्रम/विषय/तुकड्यांना प्रथम संलग्नीकरण प्रदान करण्यास मान्यता दिली आहे.

अ.क्र.	विषय/अभ्यासक्रम	प्रवेश क्षमता
१.	<u>वाणिज्य विद्याशाखा</u> बी.कॉम. ^{कॉम. आर्थीक विभाग} भाग-१ [इंग्रजी माध्यम] <u>बॅंकर ऑफ कॉमर्स इन कॉम्प्युटर अप्लीकेशन</u>	१ तुकडी
२.	एम.कॉम. भाग-१ [इंग्रजी माध्यम] जनरल	८० विद्यार्थी
३.	एम.एस.सी. -१ [बायो टेक्नॉलॉजी]	२२ विद्यार्थी

प्रथम संलग्नीकरण खालील अटीच्या अधीन राहिल.

- शासनाने वेळोवेळी दिलेल्या आदेशानुसार विद्यार्थी संख्येचे निकष पाळण्याच्या अटीवर कायम विना अनुदान तत्वावर मंजूरी देण्यात येत आहे.
- शासनाने मान्यता दिलेल्या अभ्यासक्रमपैकी ज्या अभ्यासक्रमांना विद्यापीठामार्फत केंद्रिभूत प्रवेश पध्दतीने प्रवेश दिले जातात, अशा अभ्यासक्रमासाठी चालू वर्षासाठी प्रक्रिया पूर्ण झाली असल्यास ते



RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

Direction No. 40 of 2016

**DIRECTION GOVERNING THE EXAMINATION LEADING TO THE DEGREE OF
MASTER OF COMMERCE (CREDIT BASE SEMESTER PATTERN) FACULTY OF
COMMERCE**

(Issued under section 14(8) of the Maharashtra University Act 1994)

WHEREAS, Maharashtra University act No. xxxv of 1994 has come into force with effect from 22nd July 1994 and has been amended from time to time,

AND

WHEREAS, the University Grants Commission, New Delhi vide letter no. D.O. No. F-2/2008/(XI Plan), Dated 31st January 2008 regarding new initiatives under the XI Plan-Academic reforms in the University has suggested for improving quality of higher education and to initiate the Academic reform at the earliest.

AND

WHEREAS, faculty of commerce act its meeting held on 14.2.2012 has decided to update the existing syllabus for award of the degree of Master of Commerce commensurate with the curricula existing in the various universities in India and with a view to include the latest trends in the commerce stream as well as to design it to suit to the needs of the industries and corporate houses,

AND

WHEREAS, University Grants Commission, New Delhi has prescribed the Model Curriculum for award of the Postgraduate degree in the Faculty of commerce and directed to implement the same from the academic session 2012-2013,

AND

WHEREAS, Chairman of all the Board of Studies in the Faculty of Commerce in their meeting held on 24.2.2016 prepared the Scheme of Credit Based Semester pattern for conduct of the M.Com. Examination,

AND

WHEREAS, Board of Studies viz. (1) Business Administration and Business Management, (2) Commerce, (3) Accounts and Statistics, (4) Business Economics and (5) Ad-hoc Board in Computer Application in its meetings held on 24.2.2016 respectively updated the existing syllabi and recommended some modifications in the scheme of examination for post graduate courses,

AND

WHEREAS, Dean of Commerce has consented to the changes in the syllabus and the scheme of examination for the award of M.Com Degree,

AND

WHEREAS the Vice-Chancellor, Nagpur University, Nagpur approved the recommendations so made by the Special Task Committee in the Faculty of Commerce duly concurred by the Coordinator, Faculty of Commerce as required under Section 38 (a) of the Act on

AND

WHEREAS As per the Advice of the Vice Chancellor, Coordinator, Faculty of Commerce & Coordinator, Special Task Committee in the meeting held on 4.1.2016 constituted sub-committee for syllabus restructuring of M.Com with CBCS pattern.

The Sub-committee submitted the Draft Syllabus of M.Com with CBCS pattern in meeting held on 24.02.2016.

AND

WHEREAS, ordinance making involve a time consuming process, Now, therefore, I, Dr. S. P. Kane, Vice-Chancellor, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in exercise of the powers vested in me under Section 14(8) of the Maharashtra University Act of 1994 do hereby issue the following direction:

- This direction shall be called “DIRECTION GOVERNING THE EXAMINATION LEADING TO THE DEGREE OF MASTER OF COMMERCE (CREDIT BASED CHOICE SYSTEM) FACULTY OF COMMERCE RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY NAGPUR”.
- The Direction shall come in to force with effect from the date of its issuance by Honourable Vice-Chancellor.
- The duration of the course shall be of two academic years consisting of the four semesters with university examination at the end of each semester namely
 - M.ComSemesterI Examination
 - M.ComSemesterIIExamination
 - M.ComSemesterIIIExamination
 - M.ComSemesterIVExamination

The examination shall be held at such places and on such dates which are notified by the University.



राष्ट्रसंततुकडोजी महाराज नागपूर विद्यापीठ, नागपूर

“ (सेंट्रल प्रोव्हिन्सेस शासन शिक्षण विभागाची अधिसूचना क्रमांक ५१३ दिनांक १ ऑगस्ट, १९२३ द्वारा स्थापित व महाराष्ट्र विद्यापीठ अधिनियम, १९९४ द्वारा संचालित राज्य विद्यापीठ) ”
(विद्या विभाग)

छत्रपती शिवाजी महाराज प्रशासकीय परिसर, रविन्द्रनाथ टागोर मार्ग, नागपूर — ४४० ००१.

दूरध्वनी क्रमांक: कार्यालय: ०७१२-२५३२०६३ फॅक्स : ०७१२-२५५५७०१

क्र. रातुमनावि/विद्या/१५/२१७

दिनांक १५जून, २०१५

अधिसूचना

सर्व संबंधीतांच्या माहितीकरीता सुचित करण्यात येते की, प्राणिशास्त्र अभ्यासमंडळाने शिफारशीत केलेल्या बी. एस.सी. आणि एम. एस. सी. (प्राणिशास्त्र) प्रात्याक्षिक अभ्यासक्रमीकेमध्ये विद्यापीठ अनुदान आयोगाचे प्राप्त पत्रानुसार काहि किरकोळ दरूस्तीला दिनांक २०.०५.२०१५ रोजी संपन्न झालेली विज्ञान विद्या शाखेने सत्र २०१५-२०१६ पासून लागू करण्यास मान्यता प्रदान केलेली आहे. विज्ञान विद्याशाखेच्या शिफारशीला मा. कुलगुरू महोदयांनी महाराष्ट्र विद्यापीठ अधिनियम १९९४ च्या कलम १४ (७) अंतर्गत विद्वत परिषद आणि व्यवस्थापन परिषदेच्या वतीने मान्यता दिलेली आहे. प्राणिशास्त्र अभ्यासमंडळांनी निर्देशित केल्याप्रमाणे सदर अभ्यासक्रमिकेत किरकोळ बदल सत्र २०१५-२०१६ या शैक्षणिक सत्रापासून लागू करण्यात येत आहे. वरील अभ्यासक्रमाची प्रत सोबत संलग्न केली आहे.

सहपत्र वरील प्रमाणे

(पुरणचंद्र मेश्राम)

स्वाक्षरीस/—

कुलसचिव
राष्ट्रसंत तुकडोजी महाराज
नागपूर विद्यापीठ

प्रतिलिपी माहिती व पुढील कार्यवाहीसाठी अग्रेषित:

१. राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठाशी संनग्नीत विज्ञान विद्याशाखेतील सर्व संबंधित महाविद्यालयांचे प्राचार्य
२. मा. अधिष्ठाता, विज्ञान विद्याशाखा
३. मा. परिक्षा नियंत्रक,
४. उपकुलसचिव (पुर्वपरीक्षा /परिक्षा उपरांत)
५. सहायककुलसचिव (सा.परीक्षा/सा परीक्षा व चौकशी)
६. सहायककुलसचिव (गोपनीय)
७. सहायककुलसचिव (व्यावयायीक परिक्षा)
८. अधिक्षक(अध्यादेश विभाग)
९. अधिक्षक(निकाल विभाग)
१०. प्रभारी अधिकारी (प्रकाशन विभाग)
११. मा. कुलगुरूंचे स्वीय सहायक,
१२. मा. प्र-कुलगुरूंचे स्वीय सहायक,
१३. मा. कुलसचिवांचे स्वीय सहायक,
१४. श्रीमती विना प्रकाशे, माहिताशास्त्र

स्वाक्षरीस/—

(मनिष झोडपे)
उपकुलसचिव (विद्या)



राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर

“ (सेंट्रल प्रोव्हिन्सेस शासन शिक्षण विभागाची अधिसूचना क्रमांक ५१३ दिनांक १ ऑगस्ट, १९२३ द्वारा स्थापित व महाराष्ट्र विद्यापीठ अधिनियम, १९९४ द्वारा संचालित राज्य विद्यापीठ) ”

(विद्या विभाग)

छत्रपती शिवाजी महाराज प्रशासकीय परिसर, रविन्द्रनाथ टागोर मार्ग, नागपूर — ४४० ००१.

दूरध्वनी क्रमांक: कार्यालय: ०७१२-२५३२०६३ फॅक्स : ०७१२-२५५५७०१

क्र. रातुमनावि/विद्या/१५/२१६

दिनांक १५ जुन, २०१५

अधिसूचना

सर्व संबंधीताच्या माहितीकरीता सुचित करण्यात येते की, विज्ञान विद्याशाखेअंतर्गत येणारे खालील पदव्युत्तर अभ्यासक्रम सत्र २०१५-२०१६ पासून निव्वळ आधारीत श्रेयांक प्रणाली (CBCS) क्रेडीट बेसड सत्र पद्धतीसह) लागू करण्यात येत आहे. सदर अभ्यासक्रमांच्या परिक्षा योजना व अभ्यासक्रमांकांना दिनांक २०.०५.२०१५ रोजी संपन्न झालेल्या विज्ञान विद्या शाखेने मान्यता प्रदान केलेली आहे. मा. कुलगुरुंनी सदर अभ्यासक्रमांना २०१५-२०१६ पासून निव्वळ आधारीत श्रेयांक प्रणाली (CBCS) क्रेडीट बेसड सत्र पद्धतीसह) कार्यान्वीत करण्याकरीता म.वि. अधिनियम १९९४ च्या कलम १४ (७) अंतर्गत विद्वत परिषद व व्यवस्थापन परिषदेच्या वतीने तसच कलम १४ (८) अंतर्गत निर्देश क्रमांक १०/२०१५, दिनांक १५.०६.२०१५ रोजी निर्गमित केला आहे.

विज्ञान विद्याशाखा, पदव्युत्तर अभ्यासक्रम

M.Sc.- Physics, Chemistry, Mathematics, Statistics, Computer Science, Electronics Information Technology, Botany, Zoology, Sericulture, Microbiology, Biochemistry, Biotechnology, Environmental Science, Geology, M.Sc. Tech. Applied Geology.

उपरोक्त सर्व पदव्युत्तर सत्र अभ्यासक्रमांचे निर्देश, परिक्षा व अभ्यासक्रमीका राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर. www.naguniversity.org या संकेतस्थळावर उपलब्ध करण्यात आलेली आहे.

कृपया संबंधीतानी नोंद घ्यावी

स्वाक्षरीत/—
(पुरणचंद्र मेश्राम)

कुलसचिव
राष्ट्रसंत तुकडोजी महाराज
नागपूर विद्यापीठ.

प्रतिलिपी माहिती व पुढील कार्यवाहीसाठी अग्रेषित:

१. राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठाशी संलग्नीत विज्ञान विद्याशाखेतील सर्व संबंधित महाविद्यालयांचे प्राचार्य
२. मा. अधिष्ठाता, विज्ञान विद्याशाखा
३. मा. परिक्षा नियंत्रक,
४. उपकुलसचिव (पुर्वपरीक्षा / परिक्षा उपरांत)
५. सहायक कुलसचिव (सा.परीक्षा/ सा परीक्षा व चौकशी)
६. सहायक कुलसचिव (गोपनीय)
७. सहायक कुलसचिव (व्यावयायीक परिक्षा)
८. अधिक्षक(अध्यादेश विभाग)
९. अधिक्षक(निकाल विभाग)
१०. प्रभारी अधिकारी (प्रकाशन विभाग)
११. मा. कुलगुरुंचे स्वीय सहायक,
१२. मा. प्र-कुलगुरुंचे स्वीय सहायक,
१३. मा. कुलसचिवांचे स्वीय सहायक,
१४. श्रीमती विना प्रकाशे, माहिताशास्त्र

स्वाक्षरीत/—
सहायक कुलसचिव (विद्या)

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

NOTIFICATION

No. Acad/215.

Date : 15th June, 2015

To,

The Principal
of all the affiliated Science Colleges
of Rashtrasant Tukadoji Maharaj
Nagpur University, Nagpur

Subject:- Direction No. 10 of 2015.

Sir/Madam,

I am forwarding herewith a copy of the Direction No. 10 of 2015 issued by the Hon'ble Vice-Chancellor under Section 14(8) of Maharashtra Universities Act, 1994 **“DIRECTION RELATING TO THE EXAMINATION LEADING TO THE DEGREE OF MASTER OF SCIENCE, SEMESTER PATTERN (CHOICE BASED CREDIT SYSTEM) AND DEGREE OF MASTER OF SCIENCE AND TECHNOLOGY (APPLIED GEOLOGY). SEMESTER PATTERN, (CHOICE BASED CREDIT SYSTEM) “along with the examination scheme and Syllabi to be implemented from Academic Session 2015-2016.**

You are requested to kindly bring it to the notice of all teachers and students of your college.

Thanking you,

Direction and Syllabi available on the Rashtrasant Tukadoji Maharaj Nagpur University.(www.nagpur university. org.)

Encl: As above.

Yours faithfully,

Sd/-

(Puran Meshram)

Registrar,

Rashtrasant Tukadoji Maharaj

Nagpur University, Nagpur.

Copy for information and necessary action along with the Direction, Examination Scheme and Syllabi as mentioned above to :-

- 1) The Dean Faculty of Science, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 2) The Controller of Examinations, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 3) The Director, B.C.U.D., Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 4) The Deputy Registrar (Examinations) Rashtrasant Tukadoji Maharaj Nagpur University,
- 5) The Deputy Registrar (Coll. Sec.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 6) The Asstt. Registrar (Prof. Exam.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 7) The Asstt. Registrar (Conf.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 8) The Asstt. Registrar (Exams & Enquiry.), Rashtrasant Tukadoji Maharaj Nagpur University,
- 9) The Officer-in-Charge, Publication Section, R.T.M. Nagpur University, Nagpur.
- 10) The Asstt. Registrar, Ordinance Section, R.T.M. Nagpur University, Nagpur
- 11) The P. A. to the Hon'ble Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 12) The P. A. to the Hon'ble Pro-Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 13) The P. A. to the Registrar, R.T.M. Nagpur University, Nagpur
- 14) Mrs. Veena Prakashe, Information Scientist, R.T.M. Nagpur University, Nagpur

Sd/-

(Manish Zodpey)

Deputy Registrar(Acad.)



Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur.

M. A. PSYCHOLOGY

CHOICE BASED CREDIT SYSTEM (CBCS)

SEMESTER PATTERN

RULES & REGULATIONS

R.T.M. Nagpur University regulations governing Post Graduate Programmes under Semester, Credit & Grade system. This System is offered to Psychology students appearing for post graduate programmes offered by the R.T.M. Nagpur University from the Academic Year 2016-2017.

These Regulations shall come into from the Academic Year 2016-2017.

1. Papers :-

There are five compulsory papers in each semester. Each semester includes four theory' paper and a separate one paper for "Practicum". Each Semester includes four theory paper of 100 marks each and one paper for 'Practicum' of 200 marks. In all Five papers are compulsory in each semester and student will earn total 600 marks in each semesters and grand total of the four semester would be 2400 marks.

In semester III first two paper are Core papers .Core paper I and core paper II .

Third paper is Elective –I that consists of two Core Electives: Core Elective -I-a or Core Elective -I-b) .(students should select any one)

The forth paper is consists of two papers. Foundation course-I or core III. .(students should select any one)

The fifth paper will be 'psychology practicum'

In semester IV first two papers are core papers –core paper-I and core paper II

The third paper is Core Elective –II that consists of two Electives, Core Elective -II- a or Core Elective- II- b. .(Students should select any one)

The fourth paper consists of two papers. Foundation course-II or core III (students should select any one)

The fifth paper will be 'psychology practicum'

2. Units:-

There are Four units in each theory paper. Minimum two questions will be set from each unit. Students will have to answer 'One' question from each unit. (One question from each unit with internal choice.)

3. Credits & Marks:-

Each semester will offer total 24 credits per week running for 15 weeks. The student will earn total 600 marks in each semester and grand total of all the four semesters will be 2400 marks.

4. Examination :-

Examination of all subjects of Post Graduate Programmes shall be conducted by the R.T.M. Nagpur University as per the scheme of Examination prescribed by the Board of Studies of a particular discipline / subject. Every student desirous for appearing at M.A. Psychology examination will have to complete practical work as per the directions of the concerned teachers and obtain completion certificate to that effect duly signed by Head of the department. The student who fails to produce completion certificate will not be eligible to appear for the related practical or theory examination.

1. The term end examination, however, shall be conducted by the RTM Nagpur University, Nagpur in the allotted centres.
2. Academic calendar showing dates of commencement and end of teaching, internal assessment tests & term end examination shall be duly notified before commencement of each semester every year by the University / Department / Affiliated Colleges.
3. One credit shall be given for every 25 marks, two credits for every 50 marks, four credits for 100 marks and six credits for 150 marks.
4. The proportion of internal and external marks for each theory / practical subjects shall be of 20:80 marks (Internal Examination weightage 20%, external examination weightage 80%).

5. Pattern of Question Paper

1. There will be four units in each paper
2. Question paper will consist of five questions.
3. First four questions will be from first four units.(One questions from each unit with internal choice.)
4. The fifth question will be compulsory consisting of short questions will be based on all four units.
5. Maximum marks in each theory paper will be 80
6. Each paper will be of 3 hours duration.
7. Practical Papers/ laboratory examination shall be of 200 marks for each semester and distribution of marks shall be 160 External and 40 internal.
8. Minimum passing marks in each theory, practical and internal assessment will be 40%.

Scheme of teaching and Examination under Credit Based Semester pattern for

M.A. Psychology

Semester I

S. N.	Paper SEM I	SUB Code	Teaching Scheme (Hrs/Wk)			Credits	Examination Scheme					
			Th	Pr	Total		Duration (Hrs/Wk)	Max Marks		Total Marks	Min Passing Marks [40%] (Combined passing)	
								External	Internal			
1	I	CP-1T1	4		4	4	4	80	20	100	40	
2	II	RMS-1T2	4		4	4	4	80	20	100	40	
3	III	PERI-1T3	4		4	4	4	80	20	100	40	
4	IV	ASP-1T4	4		4	4	4	80	20	100	40	
5	Pract	P-1P1		14	14	8	14	160	40	200	80	
TOTAL			16	12	30	24	30	480	120	600	240	

Subject Code: 1=Semester 1, T-1=Theory- 1, P1=Practical 1,

CP=Cognitive Psychology, RMS=Research Method & Statistics, PERI-I= Personality Theories I,

ASP= Advanced Social Psychology. P=practical

M.A. Psychology

Semester II

S. N.	Paper SEM II	SUB Code	Teaching Scheme (Hrs/Wk)			Credits	Examination Scheme					
			Th	Pr	Total		Duration (Hrs/Wk)	Max Marks		Total Marks	Min Passing Marks [40%] (Combined passing)	
								External	Internal			
1	I	AGP-2T1	4		4	4	4	80	20	100	40	
2	II	RD-2T2	4		4	4	4	80	20	100	40	
3	III	PERII-2T3	4		4	4	4	80	20	100	40	
4	IV	ISB-2T4	4		4	4	4	80	20	100	40	
5	Pract	P-2P1		14	12	8	14	160	40	200	80	
TOTAL			16	14	30	24	30	480	120	600	240	

Subject Code: 2=Semester 2, T-2=Theory- 1, P-1=Practical 1,

AGP=Advanced General Psychology, RD=Research Designs, PER-II= Personality Theories 2nd, ISB= Issues in Social Behaviour ,p=practical

M.A. Psychology – Semester III (Stream – A) Optional Specialization(Clinical Psychology)

S. N.	Paper SEM III-A	SUB Code	Teaching Scheme (Hrs/Wk)			Credits	Examination Scheme					
			Th	Pr	Total		Duration (Hrs/Wk)	Max Marks		Total Marks	Min Passing Marks [40%] (Combined passing)	
								External	Internal			
1	Core- I	ABP A- 3T1	4		4	4	4	80	20	100	40	
2	Core-II	PD& PTH A-3T2	4		4	4	4	80	20	100	40	
3	Ele-I-a or Ele-I-b	HP A-3T3a or PAST A- 3T3b	4		4	4	4	80	20	100	40	
4	F-coI* OR Core-III	FCI(psy) A-3T4a OR PS-I A-3T4b	4		4	4	4	80	20	100	40	
5	Pract	P A-3P1		14	14	8	14	160	40	200	80	
TOTAL			16	14	30	24	30	480	120	600	240	

Subject Code: A=CLINICAL PSYCHOLOGY, 3=Semester 3, T-1=Theory- 1, P-1=Practical 1,

ABP=Abnormal Psychology, PD&PTH=Psycho Diagnosis&Psycotherapy,

Ele- Elective HP= Health Psychology, PAS=Psychological Assessment & Specific Testing.,

FCI(Psy)-(FOUNDATION .* foundation paper from other discipline students):GENERAL PSYCHOLOGY, PS-I=POSITIVE PSYCHOLOGY –I(for psychology students)

M.A. Psychology - Semester III (Stream – B) Optional Specialization

(Organizational Psychology & Human Resource Management)

S.N	Paper SEM III-B	SUB Code	Teaching Scheme (Hrs/Wk)			Credits	Examination Scheme					
			Th	Pr	Total		Duration (Hrs/Wk)	Max Marks		Total Marks	Min Passing Marks [40%] (Combined passing)	
								External	Internal			
1	Core- I	HRM B- 3T1	4		4	4	4	80	20	100	40	
2	Core-II	OB B-3T2	4		4	4	4	80	20	100	40	
3	Ele-I-a or Ele-I-b	CB B-3T3a OR IND A- 3T3b	4		4	4	4	80	20	100	40	
4	F-coI* OR Core-III	FCI(psy) B-3T4a OR PS-I B-3T4b	4		4	4	4	80	20	100	40	
5	Pract	P B-3P1		14	14	8	14	160	40	200	80	
TOTAL			16	14	30	24	30	480	120	600	240	

Subject Code: 3=Semester 3, T-1=Theory- 1, P-1=Practical 1

HRM=Management of Personnel and Human Resources, OB=Organizational Behaviour,

Ele- Elective CB= Consumer Behaviour IND= Industrial Psychology,

FCI(Psy)- (FOUNDATION . * foundation paper from other discipline students):GENERAL PSYCHOLOGY, PS-I=POSITIVE PSYCHOLOGY –I(for psychology students)

M.A. Psychology - Semester III (Stream – C)

Optional Specialization (Counselling Psychology)

S.N	Paper SEM III-C	SUB Code	Teaching Scheme (Hrs/Wk)			Credits	Examination Scheme					
			Th	Pr	Total		Duration (Hrs/Wk)	Max Marks		Total Marks	Min Passing Marks [40%] (Combined passing)	
								External	Internal			
1	Core- I	GCP C- 3T1	4		4	4	4	80	20	100	40	
2	Core-II	BCS C-3T2	4		4	4	4	80	20	100	40	
3	Ele-I-a or Ele-I-b	ECG C-3T3a OR ACG C- 3T3b	4		4	4	4	80	20	100	40	
4	F-coI* OR Core-III	FCI(psy) C-3T4a OR PS-I C-3T4b	4		4	4	4	80	20	100	40	
5	Pract	P C-3P1		14	14	8	14	160	40	200	80	
TOTAL			16	14	30	24	30	480	120	600	240	

Subject Code: 3=Semester 3, T-1=Theory- 1, P-1=Practical 1,

GCP=Guidance and Counselling Psychology, BCS= Basic Counselling Skills,

Ele- Elective ECG=Educational Career Guidance, ACG= Assessment in Counselling & Guidance,

FCI(Psy)-(FOUNDATION . * foundation paper from other discipline students):GENERAL PSYCHOLOGY, PS-I=POSITIVE PSYCHOLOGY –I(for psychology students)

M.A. Psychology - Semester IV (Stream – A)

Optional Specialization (Clinical Psychology)

S.N	Paper SEM IV-A	SUB Code	Teaching Scheme (Hrs/Wk)			Credits	Examination Scheme					
			Th	Pr	Total		Duration (Hrs/Wk)	Max Marks		Total Marks	Min Passing Marks [40%] (Combined passing)	
								External	Internal			
1	Core- I	PP A- 4T1	4		4	4	4	80	20	100	40	
2	Core-II	TIS A-4T2	4		4	4	4	80	20	100	40	
3	Ele-II-a or Ele-II-b	CMM A-4T3a OR PT A- 4T3b	4		4	4	4	80	20	100	40	
4	F-coII* OR Core-III	FCII(psy)- A-4T4a OR PS-II A-4T4b	4		4	4	4	80	20	100	40	
5	Pract	P A-4P1		14	14	8	14	160	40	200	80	
TOTAL			16	14	30	24	30	480	120	600	240	

Subject Code: 4=Semester 4, T-1=Theory- 1, P-1=Practical 1,

PP= Psychopathology, TIS= Therapeutic Intervention Strategies,

Ele- Elective CMM= Community Mental Health and Medical Psychology,PT- Psychological Testing,

FCII(PSY)- (FONDATION .* foundation paper from other discipline students):APPLIED PSYCHOLOGY, PS-II=POSITIVE PSYCHOLOGY –II(for psychology students)

M.A. Psychology - Semester IV (Stream – B) Optional Specialization

(Organizational Psychology & Human Resource Management)

S.N	Paper SEM IV-B	SUB Code	Teaching Scheme (Hrs/Wk)			Credits	Examination Scheme					
			Th	Pr	Total		Duration (Hrs/Wk)	Max Marks		Total Marks	Min Passing Marks [40%] (Combined passing)	
								External	Internal			
1	Core- I	OD B- 4T1	4		4	4	4	80	20	100	40	
2	Core-II	EC B-4T2	4		4	4	4	80	20	100	40	
3	Ele-II-a or Ele-II-b	LCO B-4T3a OR OCO B- 4T3b	4		4	4	4	80	20	100	40	
4	F-coII* OR Core-III	FCII(psy)- B-4T4a OR PS-II B-4T4b	4		4	4	4	80	20	100	40	
5	Pract	P B-4P1		14	14	8	14	160	40	200	80	
TOTAL			16	14	30	24	30	480	120	600	240	

Subject Code: 4=Semester 4, B-Stream B, T-1=Theory- 1, P-1=Practical 1,

OD=Organizational Development, EC= Employee Counselling,

Ele- Elective LCO=Leadership and Communication in Organization, OCO= Organizational Culture and Organizational change,

FCII(PSY)-(FOUNDATION . * foundation paper from other discipline students):APPLIED
PSYCHOLOGY, PS-II=POSITIVE PSYCHOLOGY –II(for psychology students)

M.A. Psychology - Semester IV (Stream – C) Optional Specialization

(Counselling Psychology)

S.N	Paper SEM IV-C	SUB Code	Teaching Scheme (Hrs/Wk)			Credits	Examination Scheme					
			Th	Pr	Total		Duration (Hrs/Wk)	Max Marks		Total Marks	Min Passing Marks [40%] (Combined passing)	
								External	Internal			
1	Core- I	PD C- 4T1	4		4	4	4	80	20	100	40	
2	Core-II	ISC C-4T2	4		4	4	4	80	20	100	40	
3	Ele-II-a or Ele-II-b	SAC C-4T3a OR PCG C- 4T3b	4		4	4	4	80	20	100	40	
4	F-coII* OR Core-III	FCII(psy)- C-4T4a OR PS-II C-4T4b	4		4	4	4	80	20	100	40	
5	Pract	P C-4P1		14	14	8	14	160	40	200	80	
TOTAL			16	14	30	24	30	480	120	600	240	

Subject Code: 4=Semester 4, C-Stream C, T-1=Theory- 1, P-1=Practical 1,

PD=Psychological Disorders, ISC= Intervention Strategies in Counselling,

Ele- Elective SAC= Social Areas of Counselling. PCG=Psychological Testing in Counselling and Guidance

FCII(PSY)-(FONDATION .* foundation paper from other discipline students):APPLIED PSYCHOLOGY,
 PS-II=POSITIVE PSYCHOLOGY –II(for psychology students)

List of courses

M.A.Part-I –Semester-I

Core Course	
Paper No.	Title of the paper
I	COGNITIVE PSYCHOLOGY
II	RESEARCH METHOD, STATISTICS & PSYCHOLOGICAL TESTING
III	PERSONALITY THEORIES- I
IV	ADVANCED SOCIAL PSYCHOLOGY
V	PSYCHOLOGY PRACTICUM

M.A.Part-I –Semester-II

Core Course	
Paper No.	Title of the paper
I	ADVANCED GENERAL PSYCHOLOGY
II	RESEARCH DESIGNS
III	PERSONALITY THEORIES- II
IV	ISSUES IN SOCIAL BEHAVIOUR
V	PSYCHOLOGY PRACTICUM

M.A.Part-II –Semester-III

(Stream A) :Clinical psychology

Paper No.	Title of the paper
	Core paper
I	ABNORMAL PSYCHOLOGY
II	PSYCHODIAGNOSIS AND PSYCHOTHERAPY
	Elective Papers(select any one paper of the following two)
III(Elective I-a)	HEALTH PSYCHOLOGY OR
III(Elective I-b)	PSYCHOLOGICAL ASSESSMENT AND SPECIFIC TESTING
	Foundation Course(select any one paper of the following two)
IV	FOUNDATION COURSE-I(GENERAL PSYCHOLOGY) (<u>FONDATION .* foundation paper from other discipline students</u>) OR POSITIVE PSYCHOLOGY-I(<u> for psychology students</u>)
V	CLINICAL PSYCHOLOGY PRACTICUM

M.A.Part-II –Semester-III

(Stream B): Organizational Psychology and Human Resource Management

Paper No.	Title of the paper
	Core paper
I	MANAGEMENT OF PERSONNEL AND HUMAN RESOURCES
II	ORGANIZATIONAL BEHAVIOR
	Elective Papers(select any one paper of the following two)
III(Elective I-a)	CONSUMER BEHAVIOR OR
III(Elective I-b)	INDUSTRIAL PSYCHOLOGY
	Foundation Course(select any one paper of the following two)
IV	FOUNDATION COURSE-I(GENERAL PSYCHOLOGY) (<u>FONDATION .* foundation paper from other discipline students</u>) OR POSITIVE PSYCHOLOGY-I(<u> for psychology students</u>)
V	Organizational Psychology Practicum

M.A.Part-II –Semester-III
(Stream C-): Counselling Psychology

Paper No.	Title of the paper
	Core paper
I	GUIDANCE AND COUNSELLING PSYCHOLOGY
II	BASIC COUNSELLING SKILLS
	Elective Papers(select any one paper of the following two)
III(Elective I-a)	EDUCATIONAL & CAREER GUIDANCE
	OR
III(Elective I-b)	ASSESSMENT IN COUNSELLING AND GUIDANCE
	Foundation Course(select any one paper of the following two)
IV	FOUNDATION COURSE-I(GENERAL PSYCHOLOGY) <u>(FONDATION .* foundation paper from other discipline students)</u> OR POSITIVE PSYCHOLOGY-I(<u> for psychology students</u>)
V	COUNSELLING PSYCHOLOGY PRACTICUM

M.A.Part-II –Semester-IV
(Stream A) :Clinical psychology

Paper No.	Title of the paper
	Core paper
I	PSYCHOPATHOLOGY
II	THERAPEUTIC INTERVENTION STRATEGIES
	Elective Papers(select any one paper of the following two)
III(Elective- II-a)	COMMUNITY MENTAL HEALTH AND MEDICAL PSYCHOLOGY
	OR
III(Elective- II-b)	PSYCHOLOGICAL TESTING IN CLINICAL PSYCHOLOGY
	Foundation Course(select any one paper of the following two)
IV	FOUNDATION COURSE-II(APPLIED PSYCHOLOGY) <u>(FONDATION .* foundation paper from other discipline students)</u> OR POSITIVE PSYCHOLOGY-II(<u> for psychology students</u>)
V	CLINICAL PSYCHOLOGY PRACTICUM

M.A.Part-II –Semester-IV

(Stream B): Organizational Psychology and Human Resource Management

Paper No.	Title of the paper
	Core paper
I	ORGANIZATION DEVELOPMENT
II	EMPLOYEE COUNSELLING
	Elective Papers(select any one paper of the following two)
III(Elective II-a)	LEADERSHIP AND COMMUNICATION IN ORGANIZATIONS
	OR
III(Elective II-b)	ORGANIZATIONAL CULTURE, ORGANIZATIONAL LEARNING AND ORGANIZATIONAL CHANGE
	Foundation Course(select any one paper of the following two)
IV	FOUNDATION COURSE-II(APPLIED PSYCHOLOGY) (<u>FONDATION . * foundation paper from other discipline students</u>)
	OR
	POSITIVE PSYCHOLOGY-II(<u>for psychology students</u>)
V	ORGANIZATIONAL PSYCHOLOGY PRACTICUM

M.A.Part-II –Semester-IV

(Stream C): Counselling Psychology

Paper No.	Title of the paper
	Core paper
I	PSYCHOLOGICAL DISORDERS
II	INTERVENTION STRATEGIES IN COUNSELLING
	Elective Papers(select any one paper of the following two)
III(Elective II-a)	SPECIAL AREAS OF COUNSELLING
	OR
III(Elective II-b)	PSYCHOLOGICAL TESTING IN COUNSELLING AND GUIDANCE
	FOUNDATION COURSE(select any one paper of the following two)
IV	FOUNDATION COURSE-II(APPLIED PSYCHOLOGY) (<u>FONDATION . * foundation paper from other discipline students</u>)
	OR
	POSITIVE PSYCHOLOGY-II(<u>for psychology students</u>)
V	COUNSELLING PSYCHOLOGY PRACTICUM

M.A. Psychology
Semester I - Paper I

CODE – CP-1T1

COGNITIVE PSYCHOLOGY

UNIT- 1

Cognitive psychology: What is cognitive psychology? Origin and current status, Cognitive psychology and related fields

Characteristics of human information processing: feature analysis, hierarchical organization, parallel processing.

Representation and processing of knowledge: mental representation, mental procedures.

Cognitive neuroscience : brain lesion, brain imaging

UNIT –2

Cognitive phenomenon: Cognitive style, Cognitive structure, Cognitive consistency, Cognitive map

UNIT-3

Metacognition

Definition of metacognition: knowledge, monitoring and control.

Metamemory: judgement of learning, feeling of knowing. (Illusion of knowledge)

Tip of the tongue phenomenon, Metacomprehension, Application of metacognition

UNIT-4

Thinking and problem solving

Types of thinking: convergent and divergent thinking

Theories of thought process: association, gestalt, information processing.

Components of thinking: ideas, images, concepts

Functions of thinking: types of reasoning, problem solving

Decision making

Books Recommended

Bernstein, D.A., Penner, L.P., Clarke-Stewart, E.J. (2008). *Psychology* (8th Ed.). N.Y.: Houghton Mifflin

Smith, E. E. & Kosslyn, S. M.. (2007) *Cognitive Psychology Mind and Brain*. Prentice – Hall of India Private Limited.

Matlin, M. W. (2006) *Cognition*, John Wiley & Sons, Inc. U.S.A.

Baddeley, A. (1986). *Working memory*. Oxford: Clarendon Press.

Baron, R.(2004) *Psychology*. New Delhi : Prentice – Hall of India.

Galloti,K.M.(2006).*Cognitive psychology In and Out of the Laboratory*. USA:Wadsworth/ Thomson Learning.

Matlin, M.W.(2003). *Cognition*. USA: John Wiley and sons.

Jahnke, IC.,Nowaczyk, R.H.(1998). *Cognition*. New Jersey : Prentice Hall.

Glass ,Lewis, A, Hylock,James,K.(1986). *Cognition*. McGraw Hill book company.

M.A. Psychology

Semester I - Paper - II

CODE- RMS-1T2

RESEARCH METHOD, STATISTIC & PSYCHOLOGICAL TESTING

UNIT 1

Scientific thinking and common sense thinking,

Problem: concept, criteria and sources;

Hypothesis: concept, criteria, types, sources and information; significance of problem and hypothesis in psychological research.

UNIT 2

Experimentation in Psychology

Purpose, Nature of variables; Techniques of experimental manipulation, Impact and control in experiment. Sources of bias, Ethical issues in Psychological research.

UNIT 3

Psychological Testing

Function and origins of psychological testing; Nature and the use of Psychological test; Social and ethical implications of testing.

Standardized Test

Its meaning, its psychometric properties; item analysis, validity and reliability; norms and interpretation of test scores.

UNIT 4

- Parametric and non parametric Methods
, t- test, F -test, ANOVA, Sign test and U test.
- Correlation: [Product moment]; [Rank difference]; [Biserial, Phi]. Regression equation
- Types of sample, Standard score, percentile.

Books Recommended

Kerlinger, F.N.(1973). *Foundation of Behavioural Research* (2nd Ed.). N.Y.: Holt Rinehart & Wilson

Anastasi, A., Urbina, S. (2004).*Psychological Testing* (7th Ed.). India: Pearson Education Pvt. Ltd.
(Indian Branch

Guilford, J.P. & Fruchter, B. (1978). *Fundamental Statistics in Psychology and Education* (6th Ed.).
N.Y.: McGraw Hill

Mangal, S. K. (2007). *Statistics in Psychology and Education* (2nd Ed.). New Delhi: Prentice Hall of
India.

King, B. M. & Minium, E.M. (2003). *Statistical Reasoning in Psychology and Education* (4th Ed.).
U.S.A.: John Wiley & Sons

Aron, A., Aron, E.N. (1994). *Statistics for Psychology*. U.K.: Prentice Hall

Scott, W. A. & Wertheimer, M. (1962). *Introduction to Psychological Research*. N.Y.: John Wiley &
Sons

M.A. Psychology

Semester I - Paper - III

CODE- PERI-1T3

PERSONALITY THEORIES- I

AIM: To help student gain clearer insight

1] in understanding human behaviour

2] in multiple determinants of personality.

And

3] To provide solid foundation for further study and evaluation of human behaviour.

Unit – 1

Personality Psychology

Introduction to the discipline. The concept of personality (meaning, definition, heterogeneity etc..)
Theories of personality. Components of personality theory/ies. Criteria for evaluating personality theories. Important issues in personality theories.

Unit – 2

The psychodynamic approach to personality

Sigmund Freud.

Carl Jung.

Alfred Adler

Unit 3

Ego psychology. Hartman, A. Freud, Erikson, Mahler

Unit – 4

Trait and Type Approach

Cattell's trait approach

Eysenck's Trait – Type approach

The Five Robust Factors – Super traits

Books Recommended

Ewen R. B. (1988) An introduction to theories of personality. 6rd edn. Lawrence Erlbaum Associates Inc. Mahwah New Jersey, London

Boeree, C. G. (2006) Personality Theories

[<http://www.ship.edu/%7Ecgboree/perscontents.html>]

Hjelle, L. A. and Ziegler, D. J. (1992) Personality Theories. Basic assumptions, research and Applications, 3rd edn. McGraw-Hill Inc. International Edition.

Pervin, L. a Personality: Theory and Research, (1991) 6th edn, John Wiley & Sons, Inc. U.S.A.

Pervin, L (2003). The Science of Personality. 2nd edn. Oxford University Press. New York

Hall, C. s. & Linzey, G. (1991) Theories of Personality, 3rd edn.. John Wiley & Sons, Inc. U.S.A.

M.A. Psychology

Semester I - Paper - IV

CODE- ASP-1T4

Advanced Social Psychology

UNIT-1

Introduction to social psychology

Social psychology: definition, nature, scope and goals of social psychology.

Social psychology in the new millennium: cognitive perspective, multicultural perspective, biological and evolutionary perspective.

UNIT-2

Attitude and behaviour

Formation of attitudes

How attitude influences behaviour, attitude change

Persuasion: paths and elements of persuasion, resistance to persuasion, cognitive dissonance.

UNIT-3

Social psychology and sustainable future

Global crisis: sustainable life styles, creating incentives to conserve.

Psychology of materialism and wealth.

Creating sustainable future: adjusting adaptations and comparisons.

UNIT -4

Aggression

Aggression : theoretical perspectives, determinants of aggression and its causes.

The prevention and control of human aggression : punishment , catharsis, cognitive intervention and other techniques.

Books recommended

Myers, D.G. (2005). *Social psychology*. New Delhi; Tata McGraw- Hill.

Baron, R.A. ,Byrne, D. (2003). *Social Psychology*. New Delhi : Prentice – Hall of India.

Schneider, W.F., Gruman, J.A., Coutts, L.M. (2005). *Applied Social Psychology; Understanding and Addressing Practical Problems*. Sage Pub. @ www.sagepublications.com

Tripathi, R.C. (1988). *Applied Social Psychology*. In J. Pandey. (Ed.) *Psychology in India: The state-of-the art*. (pp. 95 -157). New Delhi: Sage Pub.

M.A. Psychology

Semester I - Paper – V

CODE - P-1P1

PSYCHOLOGY PRACTICUM (SEM I)

a) This paper consists of five laboratory experiments* and one mini field – study**; related to attitudes/current psychological issues.

Each student shall complete five experiments during the 1st semester period. Each student shall submit journal containing reports of experiments and a report of mini field study.

*(*Experiments to be conducted will be decided by concerned teachers' committee.)*

*(**Topics/areas for field study will be decided by the student(s) in consultation with concerned teachers' committee.)*

b) *calculating mean, std. dev, correlation with computer.*

Internal Assessment

Marks:40

- **Performance during academic session** - 20marks

- Experiment and mini field - study reports, - 20 marks

External Practical examination

MARKS:160

- Experiment and report writing - 50 marks
- o field - study written report: - 50 marks

- Viva voce - 60 marks

TOTAL MARKS:200

M.A. Psychology

Semester II - Paper I

CODE - AGP-2T1

ADVANCED GENERAL PSYCHOLOGY

UNIT –I

Intelligence and creativity
Development of intelligence
Biological bases of intelligence: nature & nurture
Theories of intelligence, diversity of mental abilities.
Contextual intelligence, Perceived intelligence, Artificial intelligence
Creativity: Meaning, problem
Creativity and intelligence relationship, Brain storming

UNIT-2

- Memory:
Biological bases of memory, models of memory, information processing approach to memory
- Emotion and motivation
Emotion: physiological bases of emotion, role of limbic system,
Theories of emotion: evolutionary, neo-jamesian, cognitive.
Motivation: process of motivation, theories of motivation.

UNIT-3

Altered States of consciousness: sleep, hypnosis, drug induced alteration, meditation
Forensic Psychology: Meaning, Nature, scope, applications
Lie detection, eye witness testimony, Psychological autopsy.

UNIT-4

Human development
Major theories of development: intellectual , moral, social, cognitive.
Adolescence: physical, cognitive, social and emotional development, anxiety and problems faced .Adulthood and aging: theories of aging. Death and bereavement..

Books Recommended

Matlin, M. W. (2006) *Cognition*, John Wiley & Sons, Inc. U.S.A.
Baddeley, A. (1986). *Working memory*. Oxford: Clarendon Press.
Baron, R.(2004) . *Psychology*. New Delhi : Prentice – Hall of India.
Jahnke, IC.,Nowaczyk, R.H.(1998). *Cognition*. New Jersey : Prentice Hall.
Bernstein, D.A., Penner, L.P., Clarke-Stewart, E.J. (2008). *Psychology* (8th Ed.).
N.Y.: Houghton Mifflin
Snyder, C. R., Lopez, S.J.(2007).*Positive Psychology; The Scientific and Practical Explorations of Human Strengths*.Sage publications@ www.sagepublication.com
Shafter, D.R., Kipp,K. (2007).*Developmental Psychology; Childhood & Adults*.
Haryana: Thomson Wadsworth
Papalia,D.E.,Olds,S.W.(1994).*Human development*. New Delhi : Tata McGraw Hill

Papalia,D.E.,Olds,S.W, Feldman,R.D.(2004).*Human development* (9th Ed.). New Delhi : Tata McGraw Hill

M.A. Psychology

Semester II - Paper - II

CODE - RD-2T2

RESEARCH DESIGNS

UNIT 1

Nature of research and its process

Experimental research and field experiment

Between and within group designs (single factor)

UNIT 2

- Randomized block design, Factorial design [fixed model], Latin square design, ANCOVA.
- Quasi Experimental Designs

Non Equivalent control group designs; Time series designs, Pre –post test design

Case study, Longitudinal, Cross-sectional, Panel design, correlational research, survey research

UNIT 3

Qualitative research method

Program evaluation, , Discourse (content) analysis, Narrative method

UNIT 4

Analysis, meta- analysis, trend analysis, analysis of qualitative data

Interpretation, meaning, description vs. discussion, narrow vs. broad

Research report writing

Books Recommended

- Banister, P., Burman, E., Parker, I., Taylor, M., & Tindall, C. (1994). *Qualitative Methods in Psychology: A Research Guide*. Philadelphia: Open University Press.
- Broota, K.D. (1992). *Experimental Designs in Behavioural Research*. New Delhi: Wiley Eastern.
- Camic, P.M., Rhodes, J.E., Yardley, S. (Eds.) (2003). *Qualitative Researches in Psychology*. Washington D.C.: APA
- Glaser, B. G. & Strauss, A. L. (1973). *The discovery of grounded theory: Strategies for qualitative research*. Chicago : Aldine Pub.
- Goodwin, C. J.(1995). *Research in Psychology Methods and Design*. New York: John Wiley & Sons.
- Helode R.D.(2012) *Basic of research in behavioural science*. Psycoscan ,58,Laxmi nagar, wardha.
- Kaplil, .H. K. (2007). *Research Methods (In Behavioural Science)*(13th Ed). Agra: H.P. Bhargava Book House
- Shaughnessy, J.J. & Zechmeister E. B.(1997). *Research Methods in Psychology* (4th Ed.). N.Y.: McGraw Hill
- Winer, B.J. (1971). *Statistical Principles in Experimental Design*. N.Y.: McGraw Hill

M.A. Psychology

Semester II - Paper - III

CODE – PERII-2T3

PERSONALITY THEORIES - II

Unit - I

Behavioural Approach, The behavioural view of the person

B. F. Skinner: radical Behaviourism.

Albert Bandura, Julian Rotter

Unit –2

- A Cognitive theory of personality

George Kelly. The psychology of personal constructs

Humanistic approach.

C. R. Rogers, Abraham Maslow

- Existential Approach

Rollo May, Viktor Frankle

Unit 3

The Indian Approaches to personality

Guna theory – Srimadbhagvadgeeta

View points of Sri Aurobindo

Abhidhama – Gautam Buddha.

Unit –4

The psychology of women

A relational approach – Miller

The ideals of personality, the Mature person [Adler], Fully Functioning person [Rogers], Self-actualizer [Maslow], Sthitpradnya / Trigunatēet (Srimadbhagwadgita), Arhat

Personality theories – new directions in the discipline

Books Recommended

Ewen R. B. (2003) An introduction to theories of personality. 3rd edn. Lawrence Erlbaum Associates Inc. Hillsdale, New Jersey, London

Hall, C. s. & Linzey, G. (1991) Theories of Personality, 3rd edn.. John Wiley & Sons, Inc. U.S.A.

Pervin, L. a Personality: Theory and Research, (1991) 6th edn, John Wiley & Sons, Inc. U.S.A.

Tilak B. G. (1986) Geeta Rahasya or Karma Yoga Rahasya, B. s. Sukhtankar (Eng. Tra.) 6th edn Geeta printers, Pune, India

Sri Aurobindo, The synthesis of Yoga (1970 - 73) Sri Aurobindo Birth Centenary Library, Sri Aurobindo Ashram Press, Pondicherry, India

Pandey, J. (ed.) (2001) Personality and Health Psychology In Psychology in India Revisited. Developments in the discipline, sage Publication India Pvt Ltd. New Delhi. India.

Nithyanandan, V. (2008) Buddhist and western psychology comparative study. Global vision publishing house.

Pervin, L (2003). The Science of Personality. 2nd edn. Oxford University Press. New York

M.A. Psychology

Semester II - Paper - IV

CODE : ISB-2T4

Issues In Social Behaviour

UNIT- I

- Poverty, gender issues, unemployment and its psychosocial consequences , population issues, media culture, effects of televiewing, AIDS.
- Conflict
- Conflict: social dilemma , competition, perceived injustice, misperception.
- Conflict management and resolution of inter-group conflict.

UNIT- 2

Prejudice and discrimination. Development of prejudice : social, motivational and cognitive sources of prejudice.

Social learning, social categorisation, mechanism of prejudice: collective and individual

Consequences of prejudice. Combating prejudice: techniques for countering its effects.

UNIT- 3

Group dynamics : what is group? Group polarization, group think, decision making in group, minority influence on group decision.

UNIT –4

Pro-social behaviour

Pro-social behaviour : altruism and bystander effect

Altruism: definition, egotism motive, motivated altruism, cultivating altruism and its measurement

Empathy: definition, empathy- altruism hypothesis, genetic and neural foundations of empathy.

Gratitude and forgiveness : defining, cultivating ,measuring and neurobiological bases.

Societal implications of altruism.

Books recommended

Myers, D.G(2005). Social psychology. New Delhi; Tata McGraw- Hill.

Baron, R.A. ,Byrne, D (2003) social psychology. New Delhi : Prentice – Hall of India.

Schneider, W.F., Gruman, J.A., Coutts, L.M. (2005). *Applied Social Psychology; Understanding and Addressing Practical Problems*. Sage Pub. @ www.sagepublications.com

Snyder, C. R., Lopez, S. J. (2006). *Positive Psychology; The Scientific and Practical Exploration of Human Strengths*. Sage Pub. @ www.sagepublications.com

Bunk, A.P., Van Vugt, M. (2007). *Applying Social Psychology; From Problems to Solutions*. Sage Pub. @ www.sagepublications.com

M.A. Psychology

Semester II - Paper - V

CODE - P-2P1

PSYCHOLOGY PRACTICUM

- This paper consists of Five Testing practical and one test evaluation*
- Each student shall complete Five Tests and one test evaluation during the II semester period. Each student shall submit journal containing reports of tests and a report of one test evaluation.

*(*Testing practical and test to be evaluated will be decided by the teachers committee)*

- *Preparing pi diagram, simple graphs with computer.*

Internal Assessment

Marks:40

- Performance during academic session

- 20 marks

- Testing and test evaluation reports,

- 20 marks

External Practical examination

MARKS:160

- Testing and report writing

- 60 marks

○ Evaluation of test written report:

- 40 marks

- Viva voce

- 60 marks

TOTAL MARKS:200

Semester – III (Stream-A)

Core Paper - I

Code: ABP A- 3T1

ABNORMAL PSYCHOLOGY

Objectives:

To provide an in-depth understanding of abnormal psychology.

To provide background knowledge regarding psychopathology, etiology and symptomatology of various psychological disorders.

UNIT 1

- Abnormal behavior: Its meaning, historical background, meaning of prevalence, incidence and risk factors.

Causes of abnormal behavior; biological, psycho-social, socio-cultural & neuro-psychological factors

- THEORETICAL PERSPECTIVE ON MALADAPTIVE BEHAVIOUR

Biological perspective, Psychodynamaic perspective, Behavioral perspective, Cognitive perspective, Humanistic-Existential perspective, Community-Cultural perspective, Integrative approach.

UNIT 2

STRESS, COPING AND MALADAPTIVE BEHAVIOR

Stress and coping, Stressful life situations and transitions, Clinical reaction to stress and its management; adjustment disorder, post traumatic stress disorder, dissociative disorder

UNIT 3

- Personality disorders: paranoid, histrionic, schizoid, dependent, avoidant, narcissistic, borderline, obsessive-compulsive type & antisocial personality disorder
- Mental retardation, its causes, degrees of mental retardation, problems, helping the child and family .
- Disorders usually first diagnosed in infancy, childhood or adolescence
- ADHD, Autism, Learning disorders, Conduct disorder, Stuttering, Tics,

UNIT 4

Other Conditions of Clinical Attention

Parent – child relational problem, Physical abuse of child; Physical abuse of adult, Non-compliance with treatment, Mallinger, Bereavement..

Books Recommended

Sarason , I.G. & Sarason, B. R. (1993). *Abnormal Psychology; The Problem of Maladaptive Behaviour*. New Jersey: Prentice Hall

Coleman, J.C. (1986). *Abnormal Psychology and modern Life*. Bombay: Taraporevala Sons & Co. Pvt. Ltd.

Carson, R.C., Butcher, J. N. & Mineka, S. (1996).). *Abnormal Psychology and modern Life* (10th Ed.).N.Y.: HarperColins

Plante, T.G. (2005). *Contemporary Clinical Psychology* (2nd Ed.) New Jersey:. John Wiley & Sons

Ottmanns, T. F., Emery R. E. (1995). *Abnormal Psychology*. U. S. A.: Prentice Hall

Holmes, D.S. (1997). *Abnormal Psychology* (3rd Ed.). N.Y.: Addison –Wesley Education. Pvt. Ltd

Nevid, J.S., Rathus, S. A., Greene, B. (1997). *Abnormal Psychology in Changing World* (3rd Ed.). U.K.: Prentice Hall

Hales, R.E., Yudofsky, S.G.(2003). *Text Book of Clinical Psychiatry*. Washington D C: American Psychiatric Publishing, inc.

Semester III

(Stream A: Core Paper –II)

Code: PD& PTH A-3T2

PSYCHODIAGNOSIS AND PSYCHOTHERAPY

Objectives:

- 1) To provide the students a chance to study various therapeutic approaches.
- 2) To help in developing a balanced view of the various therapies and practical techniques employed.

UNIT 1

Concept of diagnosis, objective of psycho diagnosis, Indian and International classification, DSM and ICD revisions. Ethical issues, client -therapist relationship, confidentiality, legal liability, malpractice.

Historical trends, personal characteristics of therapist, personal counseling for therapist, problems faced by beginning therapist.

UNIT 2

Approaches to Counseling and Therapy: Directive, Non-directive-

The Psychoanalytic Psychotherapy, Rogers – Basic Concepts- Techniques – Evaluation

UNIT 3

Logo therapy, Brief psychotherapy, Reality therapy, Gestalt therapy

UNIT 4

Play therapy. Couple Counselling, Workplace Counselling, Transactional analysis

Books Recommended

Corey, G. (1991). *Theory and Practice of Counselling and Psychotherapy* (4th Ed.). California: Brooks.

Corey, G. (2006). *The Art of Integrative Counseling*. California: Brooks

Flanagan, J.S., Flanagan, R.S. (2004). *Counselling and Psychotherapy, Theories in Context and Practice*. New Jersey: John Wiley & Sons.

Korchin, S. J. (1976). *Modern Clinical Psychology: Principles of Intervention in the Clinic and Community*. New York: Basic Books

Plante, T.G. (2005). *Contemporary Clinical Psychology* (2nd Ed.) New Jersey: John Wiley & Sons

Bellack, A. S., Hersen, M., Johnston, D. W., & Johnston, M. (Eds.). (1998). *Comprehensive Clinical Psychology* (Vol. 8). New York: Pergamon

Stricker, G., Widiger, T.A. (Eds.)(2003). *Handbook of Psychology; Vol .8 Clinical Psychology*. New Jersey : John Wiley & Sons

Feltham C, Horton I (Ed), (2006): *The Sage Handbook of Counselling and Psychotherapy*, 2nd Ed. Sage Publication; New Ddelhi.

Gilliland B, Richard, J. Bowman, J: *Theories and Strategies in Counselling and Psychotherapy*, 2nd Ed. Allyn and Bacon Publishers

Flangan,J.S.,Flagman,R,S.(2004) *Counselling and Psychotherapy,Theories in context and Practice*.New Jersey: John Wiley and sons

Semester – III

(Stream A: Paper – III, Core Elective -I-a)

Code: HP A-3T3

HEALTH PSYCHOLOGY

Objectives :

To acquaint the students with various aspect of health psychology, mental health

UNIT 1

Health psychology: definition, history, mind-body relation, bio-psycho-social model in health psychology, research.

The systems of body: Nervous system, endocrine system, cardiovascular system, respiratory system, digestive system, renal system, reproductive system, immune system.

UNIT 2

Health compromising behavior: alcoholism, smoking, indisciplined and rash driving, indiscriminate use of mobile phone

Health enhancing behavior: proper diet, exercise, regular medical checkup for senior citizens, weight control

UNIT 3

Health behaviour and Primary prevention. What is health behaviour? Barriers to effective health promotion. Factors influencing the practice of health behaviour.

Modification of health behavior. Changing health behaviours by changing health beliefs.

Changing health behaviours through social engineering.

UNIT 4

Stress management:, Basic techniques of stress management - identifying the stressors, self monitoring, recognizing negative self talk, handling negative emotions, relaxation, meditation.

Spiritual methods: avoiding negative thinking, fear, use of will, faith and prayer, establishing peace

Books Recommended

Taylor, S.E. (1991). *Health Psychology* . N.Y. McGraw Hill

Pitts, M., Phillis, K. (2003). *The psychology of Health; An introduction*. E-library: Taylor & Fransis

Khubalkar, R.(2008). *Know Your Stress Manage Your Stress*. New Delhi: NeelKamal Publication Pvt. Ltd.

Drifte, C. (2008). *Encouraging Positive Behavior in the Early Years*. Sage Pub. @
www.sagepublications.com

Hamilton-West, K. (2010). *Psychobiological Processes in Health and Illness*. . Sage Pub. @
www.sagepublications.com

Marks, D. F.(2010). *Health Psychology: Theory, Research and Practice (3rd Ed.)*. . Sage Pub. @
www.sagepublications.com

Mitra, B.K. (2011). *Personality Development & Soft Skills*. U.K.: Oxford

Compilation from writings of mothers and Sri Arbindoo (2006). *Towards Perfect Health*. Pondichery: Sri Arbindoo Ashram Publication Department

Compilation from works of mothers and Sri Arbindoo (2004). *Integral Healing*. Pondichery: Sri Arbindoo Ashram Publication Department

Semester – III

(Stream A: Paper – III, Core Elective- I-b)

Code: PAST A- 3T4

Psychological Assessment and Specific Testing

Objective: 1) To train students for clinical diagnosis and assessment.
2) To acquaint them with various psychological tests for assessment and diagnostic purposes

UNIT 1

Informal assessment: person perception, clinical sensitivity, empathy, sources of error, communication strategies, importance of rapport, clinical relationship.

Informal assessment: clinical interview, method of behavioral assessment, case history, mental status examination,

UNIT 2

Interpreting and synthesizing assessment findings, impressionistic and psychometric approach, statistical method in decision making.

Process of interpretation, sources of error in interpretation.

Writing psychological report, ethical issues, research on the process of clinical judgment

UNIT 3

1. Psychological Assessment of Development:
Vineland Social maturity Scale

Developmental Screening Test

Goddard's Seguin Form Board

Diagnostic Test of Learning Disability

Gilliam Autism Rating Scale

UNIT 4

. Intelligence Testing

- a) Stanford Binet Scales and its Indian Adaptation
- b) Wechsler's Intelligence Scale: Adults and Children
- c) Cross Cultural Test- Culture Fair Intelligence Tests (CFIT),
- d) Progressive Matrices
- e) Draw a Man test,
- f) Bhatia Battery

Books Recommended

Aiken R. L, Marnat. G (2009): Psychological Testing and Assessment, Dorling Kingdersley, India Pvt. Ltd

Plante, T.G. (2005): Contemporary Clinical Psychology (2nd Ed) New Jersey: John Wiley & sons

Hecker, J.E & Thorpe G.L (2007). Introduction to Clinical Psychology, Science and Ethics. India: Dorling Kindersley (India) Pvt. Ltd

Weiner, B. (1983) : Clinical Methods in Psychology, N.Y. John - Wiley and sons

Neizal, M.T., Bernstein (1995) : Introduction to clinical Psychology, 2nd edi.

Third semester

Paper IV- Foundation Course -I (Stream A)

Paper – IV (CBCS)

GENERAL PSYCHOLOGY

CODE: FCI(psy) A-3T5

Unit I:

Introduction to Psychology:

Definition and nature of psychology; Approaches: Biological, Psychodynamic, Behaviourist, and Cognitive.

Psychological Testing ,Function and origins of psychological testing ,Nature and the use of Psychological test; Social and ethical implications of testing.

Types of psychological tests.

Unit II :

Learning: Definition and nature of learning and.

Methods of learning: Trial and error, Insight, modelling.

Memory

Definition, Nature of memory, models of memory,- Encoding, Storage retrieval, Retention, Recall Recognition, Relearning, Reconstruction

Stages of Memory systems – Sensory memory, Short-term memory, Long -term memory; Nature and causes of forgetting- decay, Interference.

Unit III :

Motivation: Meaning of Motivation, Types of Motivation, Primary motive, General motive, Secondary Motives and Motivational process. Theories of Motivation.

Emotion: What is emotion?, Components of emotion, Expressing and Recognizing Emotion. Theories of Emotion.

Unit IV :

Personality:The concept of personlity(meaning ,definition,nature) .Approaches to Personality:Freud’s psychoanalytic approach,The Neo-Freudian psychoanalysts Approach: Carl Jung,Alfred Adler, Trait and Type Approach:Cattell’s trait approach,Eysenck’s Tait-Type approach,The Five Robust Factors-Super traits.

REFERENCES:

- Anastasi, A., Urbina, S. (2004).*Psychological Testing* (7th Ed.). India: Pearson Education Pvt. Ltd. (Indian Branch
- Baran, R. A. (2001). *Psychology*.New Delhi: Pearson Education Pvt. Ltd.
- Baron R.A and Byrne (2000) *social psychology*. Delhi: Pearson Education Asia.
- Benjamin, L. T. (1997). *History Of Psychology: Original Sources and ContemporaryResearch*.New Delhi: McGraw-Hill Companies.
- Bernstein, D. A., Roy, E. J., Wickens, C. D. and Srull, T. K. (1988). *Psychology*.Boston:Houghton Mifflin co.
- Boeree, C. G. (2006) *Personality Theories*
- Borkar P. M. (2009). *ManasashastraiManavivadvaVikas*. Nagpur: PimpalasurePrakashan.
- Ciccarelli, S. & Meyer, G. E. (2006). *Psychology*. New Delhi: Pearson Education.

- Coon, D. & Mitterer, J. O. (2007). *Introduction to Psychology: Gateways to Mind and Behaviour*. Singapore: Thomson Wadsworth.
- Ewen R. B. (1988) *An introduction to theories of personality*. 6th Ed. Lawrence Erlbaum Associates Inc. Mahwah New Jersey, London
- Hall C.S. & Lindzey (1991) *Theories of personality*, 4th edn. John Wiley & Sons, Inc U.S.A.
- Hjelte, L. A. and Ziegler, D. J. (1992) *Personality Theories. Basic assumptions, research and Applications*, 3rd edn. McGraw-Hill Inc. International Edition.
- Inamdar, M. K., Gadekar, K. N. & Patil, A. M. (2005). *Adhunik Manasashastra*. Pune: Diamond Publication
- Kerlinger, F.N. (1973). *Foundation of Behavioural Research* (2nd edn). N.Y.: Holt Rinehart & Wilson
- Lahye, B. B. (2003). *Psychology: An Introduction*. New Delhi: Tata McGraw-Hill.
- Morgan, C. T., King, R. A., Weisz, J. R. & Schopler, J. (1986). *Introduction to Psychology*. McGraw-Hill Book Co.
- Myers D.G. (2006) *Social Psychology*. New Delhi: Tata McGraw Hill.
- Myres, Sahajpal and Behera (2012). *Social Psychology*. New Delhi: Tata McGraw Hill.
- Pandit, Kulkarni and Gore (1999). *Samanya Manasashastra*. Nagpur: Pimpalpure Pub.
- Pandit, R. V., Borude, R. R. Abhnyakar, S. & Golvilkar, V. (2006). *Manasashastra*. Pune: Continental Publishing.
- Passer, M. W. & Smith, R. E. (2007). *Psychology: The Science of Mind and Behaviour*. New Delhi: Tata McGraw-Hill.
- Pervin, L. A. (1991) *Personality: Theory and Research*, 6th edn, John Wiley & Sons, Inc. U.S.A.
- Robert S. Feldman (2004) *Understanding psychology*. Tata McGraw Hill Sixth Edition, New Delhi.
- Smith, D. B. (1908). *Psychology: Science and Understanding*. Boston: McGraw-Hill.
- Smith, E. E., Hocksema, S. N., Fredrickson, B. & Loftus, G. R. (2003). *Atkinson and Hilgard's Introduction to Psychology*. Singapore: Thompson Wadsworth.
- Zimbardo, P.G. and Weber, A. L. (1997). *Psychology*. N. Y.: Longman.

- **Third semester**
- **Paper IV- CORE III(Stream A)**

CODE- PS-I A-3T6 POSITIVE PSYCHOLOGY -I

Unit 1

Positive psychology and its historical perspective

Understanding positive psychology

Eastern and western perspective

Unit 2

Positive emotional states

Understanding positive affect, Positive emotions: wellbeing, happiness,

Emotional hardiness

Unit 3

Positive cognitive states

Optimism, hope, wisdom, courage, self efficacy, resilience

Mindfulness, spirituality

Unit 4

Prosocial behaviour

Empathy, gratitude, forgiveness

Altruism, love

Reference books

- Snyder, C. R., & Lopez, S. J. (2007). *Positive Psychology: The Scientific and Practical Exploration of Human Strengths*. New Delhi: Sage Publications.
- Snyder, C. R., & Lopez, S. J., (Eds.), (2004). *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington DC: APA, DOI 10.1037/10612.000
- Linley, P. A., Joseph, S. (Eds.), (2004). *Positive psychology in Practice*. USA: John Wiley & Sons

Semester – III

(Stream A: Paper – V)

Code: P A-3P1

Clinical Psychology Practicum (SEM III)

- a) Student/s shall critically evaluate one recent research article and present the same in clinical / journal club meeting orally using audio- visual aids.
- b) Practice sessions / exercise(s) – history taking, MSE and writing report of the same and submit for perusal
- c) relevant tests to be administered interpreted and reported any **two** from among the following areas

Testing areas:

Giftedness

Mental Retardation

Diagnostic – anxiety, depression, brain function, memory, perception etc

Neuropsychological

Personality

Mood

Adjustment

Interest

Aptitude

D) Writing references from book, book chapters, journal articles, online magazine ,etc as per APA format.

e)Writing abstract as per APA FORMAT

Each student is required to complete practical file containing **five reports** and submit the same for practical examination.

The maximum marks for practical examination will be as per the following scheme of distribution of marks->

Internal Assessment

Marks: 40

- **performance during academic session :**

assessment, evaluation → journal article presentation, testing,

conduct of practice / structured exercise

- 20 marks

- journal article, testing, practice/structured exercise reports

- 20marks

External Practical examination

MARKS:160

- testing and report writing for one simulated case

- 60 marks

- **MSE and report writing of one case and visits**

60 Marks

- Viva voce

- 40 marks

TOTAL MARKS:200

Semester III (Stream- B)
(Organizational Psychology and Human Resource Management)

Core Paper - I

Code: HRM B- 3T1

Management of Personnel and Human Resources

UNIT – I

Personnel & Human Resource Management: -

- Why Study PHRM

The PHRM functions and activities and objectives; Relationship influencing PHRM functions and activities; Relationship with the internal and external environment; PHRM growing importance; Organizing the PHRM department; Roles and responsibilities of PHRM department, Staffing the PHRM department.

- Emerging trends in PHRM

WORK force diversity and PHRM; Business strategy and PHRM; Impact of information technology on PHRM; International PHRM.

- Human resource planning system

Purpose and importance of human resource planning; Human resource planning and other personnel activities; Human resource planning process-gathering analyzing and forecasting supply and demand data, establishing human resource objectives and policies, human resource programmes; control and evaluation of human resource planning; Human resource accounting, audit and information system.

UNIT – II

Recruitment and Selection:-

- Purpose and importance of recruitment and selection; Recruitment strategies in diverse workforce; Recruiting methods, External recruiting; Internal recruiting; Effectiveness of various recruiting methods.

- Internal staffing process-recruitment-selection for promotions, transfer and placement.

- The total selection process.
- Fundamentals of personnel measurement; Personnel measurement as psychological measurement; Measurement of individual differences; Predictors; Criteria and their relationship; Validation of predictors; Reliability of predictors; Interpreting scores on selection measures.
- Validity generalization, concept, importance and methodology
- Selection method

Application blanks; Measurement of cognitive abilities; Personality assessment; Other simulation techniques, In-basket, Behavioral Event Interviewing (BEI), Psychometric properties of various methods.

UNIT – III

Training and Development:-

- What is training and development; Purpose and importance of training and development; Types of training-substantive knowledge and skill training, human process, attitudinal and sensitivity (T group) training.
- Training process
- Evaluation of training, Kirkpatrick and CIPRO models.
- Human process Training-Intervention theory; Action research; stages of OD change.
- Coaching and mentoring
- Career Planning-Occupational choice and occupational adjustment, Career stages of development and adjustment; Career anchors.
- Management Development – What is management development, Managerial competencies – various competency models, Planning and administering the management development program. Development through work experience.

UNIT - IV

Performance Appraisal System:-

- Define performance, its determinants and consequences
- Purpose, importance and uses of appraisal
- Performance appraisal process and procedures – identifying performance dimensions; establishing performance standards; choice of factors.
- Methods of performance appraisal – norm referenced methods, Behavioral methods; MBO; output methods, 360 degree performance appraisal, self-appraisal- advantages, disadvantages.
- Issues related to performance appraisal; Assessing the effectiveness of appraisal system.
- Feedback in appraisal; Performance appraisal interview, Performance counseling.

Books Recommended –

Ashwathappa, K. (2008) Human Resource Management: Text and Cases (5th Ed.) Tata McGraw Hill, New Delhi.

1. Dessler, G. (2006) Human Resource Management (10th Ed.) Pearson Education.

2. DeCENZO, D.A., & Robbins, S.P. (2001) Personnel/Human Resource Management (3rd Ed.) Prentice Hall India, New Delhi.
3. Dwivedi, R.S. (2006) Managing Human Resources: Personnel Management in Indian Enterprises (2nd Ed.) Galgotia Publishing Company, New Delhi.
4. Ghanekar, A. (2000) Human Resource Management: Managing Personnel the HRD Way (4th Ed.) Everest Publishing House.
5. Kandula, R.S. (2003) Human Resource Management in Practice with 300 Models, Techniques and Tools. Prentice Hall of India, New Delhi.
6. Mondy, W. R. & Noe R.M., (2006) Human Resource Management (9th Ed.) Pearson Education.
7. Mamoria, C.B. & Gankar, S.V. (2006) Personnel Management: Text & Cases Himalaya Publishing House, Mumbai.

Semester III

Stream B: Core PAPER – II

Code: OB B-3T2

Organizational Behavior

UNIT – I

Foundations of Individual Behavior -

- Personal Factors; Environmental Factors; Organizational Systems and Resources; Models of Individual Behavior

UNIT – II

Dynamics of Group Behavior –

- Defining and classifying groups; stages of group development; group structure; group decision making;
- Types of teams – problem solving teams, self managed work teams, cross functional teams, virtual teams.
- Creating effective teams – Context, Composition, Work Design, and Process.
- Teams and Quality Management.

UNIT – III

Work Motivation –

- Concept of Work Motivation
- Early theories of Motivation
- Contemporary theories of Motivation
- Integrating Contemporary Theories of Motivation
- Management By Objectives. Employee Recognition Programs

Employee Involvement Program

Job Redesign and Scheduling Programs

UNIT – I V

Applied Motivation Practices

Rewards – Membership and Seniority-Based Rewards, Job Status-Based Rewards, Contemporary-Based Rewards, Performance Based Rewards; Job Design – Factors affecting Job Design, Job Design Approaches; Some Cautions About Environment; Behavioral Modification – Identifying Behavior Problem, OB Models in Practice; Empowerment; Goal Setting Theory; Participative Management; Problem Employees; Quality of Work Life.

Books Recommended –

1. Luthans F., Organization behaviour (10th Ed.) McGraw Hill International
2. Matthewman L. Work Psychology Oxford University Press
3. Newstorm J. & Davis K. Organization behaviour at work (11th Ed.) Tata McGraw Hill
4. Robbins, S.P. (2005) Organization Behaviour (11th Ed.) Prentice Hall India, New Delhi
5. Rose A., & Hetherington A., Introduction to human behaviour at workplace
6. Schermerhorn J.R., Hunt J.G. & Osborn R. N. (2006) Organization Behaviour (9th Ed.) Wiley Student Edition
7. Sekaran, U. (2004) Organization Behaviour: Text & Cases (2nd Ed.) Tata McGraw Hill, New Delhi

Semester III

Stream B: (Organizational Psychology and Human Resource Management)

PAPER - III Core Elective I-a

Code- CB B-3T3a

Consumer Behaviour

UNIT – I

- Concept, Importance
- Bases for segmenting consumer market
- Consumer Perception
- Learning and Brand Loyalty

-

UNIT – II

- Consumer needs and motivation
- Personality and Consumer Behavior: Personality Concept and Nature,
- Personality and Product/Brand Usage. Consumer Innovators.
- Personality and Store Choice.

UNIT – III

Consumer Attitudes: Consumers' Attitude Formation, Structural Models of Attitude; Attitude Measurement; Attitude Change.

UNIT-I V

Consumer Decision Making –

- Different views on consumer decision making

- Models of consumer decision making
- Nicosia Model. Howard-Sheth Model. Engel-Kollat-Blackwell Model. Sheth Family Decision Making Model.

Books Recommended –

Stanon, William J., Fundamentals of Marketing, 7th Ed., McGraw-Hill Book Company, 1984.

Rogers, E. W. and Shoemaker, F. F., Communication of Innovations, 2nd Edition. The Free Press, New York, 1971.

Kassarjian H. H. and Robertson, T. H., Perspectives in Consumer Behavior. Scott, Foreman and Company, Glenview III, 1973.

Farley, J. U., Howard, J. A. and Ring, L. W., Consumer Behavior: Theory and Application, Allyn and Bacon, Inc, Inc., Boston, 1974.

SEMESTER III (Stream B)
(Organizational Psychology and Human Resource Management)

PAPER – III Core Elective I-b

Code- IND B- 3T3b

INDUSTRIAL PSYCHOLOGY

Objectives:

1. To explain the application of Psychology in industrial setting.
2. To impart knowledge and skills required for creating healthy work environment.

Unit I:

- Introduction to Industrial Psychology:

Definition, objectives and scope of Industrial Psychology; role of psychologist in industry, challenges for industrial psychology

- Work Environment:

Physical working conditions, work schedule, psychological and social issues

Unit II:

Ethical issues in Industrial Setting:

Ethics: Nature, sources of business ethics, importance, ethical dilemmas, ethical misconduct in personnel function, managing ethics

Unit III:

Safety and Health in the workplace:

- Purposes and importance occupational safety and health, causes and preventions of accidents; workplace health hazards: problems and remedies
- Health & well-being programmes- Alcoholism, Drug abuse, Smoking

Unit IV:

Human factor engineering:

Concept of human factor engineering and nature of man machine system, workspace design, control devices

Books Recommended

1. Ashwathappa K. (2008) Human Resource Management text and cases (5th Ed.) Tata McGraw Hill, New Delhi
2. Millward, L. (2006) Understanding Occupational & Organizational Psychology, Sage publications
3. Schultz D. & Schultz S. E. (2004) Psychology and work today (8th Ed.) Pearson education
4. Tiffin J. and Mc Cormick, E.J. (1971) Industrial Psychology, Prentice Hall of India. New Delhi
5. Muchinsky, P.M. (2000) Psychology applied to work (6th Ed.) Wadsworth

Foundation Course –I (Stream B)

Third semester

Paper – IV (CBCS)

GENERAL PSYCHOLOGY

CODE: FCI(psy) B-3T4a

Unit I:

Introduction to Psychology:

Definition and nature of psychology; Approaches: Biological, Psychodynamic, Behaviourist, and Cognitive.

Psychological Testing ,Function and origins of psychological testing ,Nature and the use of Psychological test; Social and ethical implications of testing.

Types of psychological tests.

Unit II :

Learning: Definition and nature of learning and.

Methods of learning: Trial and error, Insight, modelling.

Memory

Definition, Nature of memory, models of memory,- Encoding, Storage retrieval, Retention, Recall Recognition, Relearning, Reconstruction

Stages of Memory systems – Sensory memory, Short-term memory, Long -term memory; Nature and causes of forgetting- decay, Interference.

Unit III :

Motivation: Meaning of Motivation, Types of Motivation, Primary motive, General motive, Secondary Motives and Motivational process. Theories of Motivation.

Emotion: What is emotion?, Components of emotion, Expressing and Recognizing Emotion. Theories of Emotion.

Unit IV :

Personality:The concept of personlity(meaning ,definition,nature) .Approaches to Personality:Freud’s psycoanalytic approach,The Neo-Freudian psychoanalysts Approach: Carl Jung,Alfred Adler, Trait and Type Approach:Cattell’s trait approach,Eysenck’s Tait-Type approach,The Five Robust Factors-Super traits.

REFERENCES:

- Anastasi, A., Urbina, S. (2004).*Psychological Testing* (7th Ed.). India: Pearson Education Pvt. Ltd. (Indian Branch
- Baran, R. A. (2001). *Psychology*.New Delhi: Pearson Education Pvt. Ltd.
- Baron R.A and Byrne (2000) *social psychology*. Delhi: Pearson Education Asia.
- Benjamin, L. T. (1997). *History Of Psychology: Original Sources and Contemporary Research*.New Delhi: McGraw-Hill Companies.
- Bernstein, D. A., Roy, E. J., Wickens, C. D. and Srull, T. K. (1988). *Psychology*.Boston:Houghton Mifflin co.
- Boeree, C. G. (2006) *Personality Theories*
- Borkar P. M. (2009). *ManasashastraiManavivadvaVikas*. Nagpur: PimpalapurePrakashan.
- Ciccarelli, S. & Meyer, G. E. (2006). *Psychology*. New Delhi: Pearson Education.
- Coon, D. &Mitterer, J. O. (2007). *Introduction to Psychology: Gateways to Mind andBehaviour*.Singapore: Thomson Wadsworth.
- Ewen R. B. (1988) *An introduction to theories of personality*. 6th Ed. Lawrence Erlbaum Associates Inc. Mahwah New Jersey, London

- Hall C.S.&Lindzey(1991) *Theories of personality*,4th edn.john wily&sons,Inc U.S.A.
- Hjelle, L. A. and Ziegler, D. J. (1992) *Personality Theories. Basic assumptions, research and Applications*, 3rd edn. McGraw-Hill Inc.International Edition.
- Inamdar, M. K., Gadekar, K. N. &Patil, A. M. (2005). *AdhunikManasashastra*. Pune:Diamond Publication
- Kerlinger, F.N.(1973). *Foundation of Behavioural Research* (2nd edn). N.Y.: Holt Rinehart & Wilson
- Lahye, B. B. (2003). *Psychology: An Introduction*. New Delhi: Tata McGraw-Hill.
- Morgan, C. T., King, R. A., Weisz, J. R. &Schopler, J. (1986). *Introduction to Psychology*.McGraw-Hill Book Co.
- Myers D.G. (2006) *Social Psychology*. New Delhi: Tata McGraw Hill.
- Myres, Sahajpal and Behera (2012). *Social Psychology*. New Delhi: Tata McGraw Hill.
- Pandit, Kulkarni and Gore (1999). *SamanyaManasashastra*. Nagpur: Pimpalpure Pub.
- Pandit, R. V., Borude, R. R. Abhnyakar, S. &Golvilkar, V. (2006). *Manasashastra*.Pune: Continental Publishing.
- Passer,M. W. & Smith, R. E. (2007). *Psychology: The Science of Mind and Behaviour*. NewDelhi: Tata McGraw-Hill.
- Pervin, L. A.(1991) *Personality: Theory and Research*, 6th edn, John Wiley & Sons, Inc. U.S.A.
- Robert S.Feldman (2004)*Understanding psychology*. Tata Mcgraw Hill Sixth Edition ,New Delhi.
- Smith, D. B. (1908). *Psychology: Science and Understanding*. Boston: McGraw-Hill.
- Smith, E. E., Hocksema, S. N., Fredrickson, B. & Loftus, G. R. (2003). *Atkinson andHilgard's.Introduction to Psychology*.Singapore: Thompson Wadsworth.
- Zimbardo, P.G. and Weber, A. L. (1997). *Psychology*.N. Y.: Longman.

CORE-III (Stream B)

Third semester

Paper – IV (CBCS)

POSITIVE PSYCHOLOGY –I

CODE- PS-I B-3T4b

Unit 1

Positive psychology and its historical perspective

Understanding positive psychology

Eastern and western perspective

Unit 2

Positive emotional states

Understanding positive affect, Positive emotions: wellbeing, happiness,

Emotional hardiness

Unit 3

Positive cognitive states

Optimism, hope, wisdom, courage, self efficacy, resilience

Mindfulness, spirituality

Unit 4

Prosocial behaviour

Empathy, gratitude, forgiveness

Altruism, love

Reference books

- Snyder, C. R., & Lopez, S. J. (2007). *Positive Psychology: The Scientific and Practical Exploration of Human Strengths*. New Delhi: Sage Publications.
- Snyder, C. R., & Lopez, S. J., (Eds.), (2004). *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington DC: APA, DOI 10.1037/10612.000
- Linley, P. A., Joseph, S. (Eds.), (2004). *Positive psychology in Practice*. USA: John Wiley & Sons

Semester – III (Stream B)

Paper – V

Code: P B-3P1

Organizational Psychology Practicum (SEM III)

A) Student/s shall critically evaluate one recent research article and present the same in journal club meeting orally using audio-visual aids.

B) relevant tests' to be administered interpreted and reported: any Five from among the following areas:

Testing areas:

Job analysis

Job Design

Job attitudes

Job stress

Job attitudes

Communication

Organizational climate

Organizational commitment

Organizational culture

Leadership

Motivation

Self-perception

C) field visits to industries / organizations: 3

D) Writing references from book, book chapters, journal articles, online magazine, etc as per APA format.

e)Writing abstract as per APA FORMAT

Each student is required to complete practical file containing **five reports** and submit the same for practical examination.

The maximum marks for practical examination will be as per the following scheme of distribution of marks->

Internal Assessment

Marks: 40

- **performance during academic session :**

assessment, evaluation → journal article presentation, testing,
conduct of practice / structured exercise

- 20 marks

- journal article, testing, practice/structured exercise reports

- 20marks

External Practical examination

MARKS:160

- testing and report writing for one simulated case

- 60 marks

- **MSE and report writing of one case and visits**

60 Marks

- Viva voce

- 40 marks

TOTAL MARKS:200

Stream C: COUNSELLING PSYCHOLOGY

SEMESTER-III

(Stream C: Core PAPER- I)

Code- GCP C- 3T1

GUIDANCE AND COUNSELLING PSYCHOLOGY

UNIT-I

- Counselling psychology: definition, nature and scope, counselling psychology's roots in vocational guidance, historical development and current status. principles of counselling psychology.
- What is guidance? Basic principles of guidance. Guidance movement in India.
- The counsellor and the therapist.
- Introduction, personal characteristics, personal counselling for the counsellor, values philosophy, multiculturally skilled counsellor, problems and issues faced by the beginning counsellor.

UNIT- 2

Ethical issues:

Introduction ,therapists, competence, education & training foundation of ethical practice, issues in the client/therapist, relationship, confidentiality, legal liability and malpractice.

UNIT-3

Counselling process:

Counselling relationship

Counselling interview

Types of Counselling: Counsellor –oriented counselling; Counselee – oriented counselling; Eclectic – Counselling equally oriented to both the counsellor and counselee.

UNIT-4

Creative approaches to counselling:

Art, imagery, guided imagery, hypnotherapy, music, writing: structured writing, poetry, play - games,

Crisis intervention:

Books Recommended

Kinra, A. K. (2008). Guidance and counselling. Dorling Kinderseley (India) pvt. Ltd. Pearson Longman

Nugent, Frank A.(1995): An Introduction to the profession of counselling ,Maxwell Macmillan Canada, Inc. Toronto.

Gibson, R.L. and Marianne, H.M.(2008):Introduction to counselling and Guidance,7th edition, Prentice Hall of India, New Delhi.

Narayan Rao S.:(1991) A counselling psychology: Tata McGraw Hill Book company, New Delhi.

Forrest, C. (2011). Therapy Skills for Health Care; An introduction to brief psychological technics.UK: M & C Publishing

Korchin, S. J. (1976). *Modern Clinical Psychology: Principles of Intervention in the Clinic and Community*. N. Y.: Basic Books.

Semester III
Stream C: Core Paper - II

CODE : BCS C-3T2

BASIC COUNSELLING SKILLS

UNIT-I

Basic skills and concepts:

- a) Attending : eye contact, attentive body language, distance, vocal tone, verbal tracking
- b) Basic listening skills: active listening, client observation, verbal behaviour, encouraging, paraphrasing, summarising, reflection of feelings, use of open end and closed questions.

UNIT-2

- c) Self attending skills: self awareness, centering and relaxing, humor, non judgemental attitude towards self and others, genuineness, concreteness.
- d) Advanced skills and concepts: self disclosure, confrontation, immediacy, action skills, termination skills.

UNIT-3

- Stress and coping: stress management

Stress and coping, coping skills, coping process, social support, stressful situations and life transition.

- Treating stress related problems:

Supportive therapy

Relaxation training

Systematic desensitization

Cognitive modification

Social intervention

UNIT-4

Assertiveness training, Self-monitoring, goal setting, Thought stopping, communication skills - TA

Spiritual methods; avoiding negative thinking, fear, use of will, faith and prayer, establishing peace

Books recommended

Drifte, C. (2008). Encouraging Positive Behavior in the Early Years. Sage Pub. @ www.sagepublications.com

Flanagan, J.S., Flanagan, R.S. (2004). Counselling and Psychotherapy, Theories in Context and Practice. New Jersey: John Wiley & Sons.

Davis, M., Eshelman, E.R., McKay, M.(1996). The Relaxation & Stress Reduction Workbook. Mumbai: Jaico Publishing House

Compilation from writings of Mother & Sri Aurobindo (2006). Towards Perfect Health. Pondicherry: Sri Aurobindo Ashram Publication Dept.

Compilation from works of Sri Aurobindo & Mother (2004). Integral Healing. Pondicherry: Sri Aurobindo Ashram Publication Dept.

Khubalkar, R.(2008). Know Your Stress Manage Your Stress. New Delhi: NeelKamal Publication Pvt. Ltd

Snyder, C. R., Lopez, S. J. (2006). Positive Psychology; The Scientific and Practical Exploration of Human Strengths. Sage Pub. @ www.sagepublications.com

Semester III Stream C:
Paper III: Core Elective I-a
EDUCATIONAL & CAREER GUIDANCE

CODE : ECG C-3T3a

UNIT – 1

Educational Guidance

What is education? Relationship between Education and Guidance. Educational Guidance.

Importance of Guidance at various stages of Education

Career Masters

UNIT –2

Perspectives on career guidance and counselling: vocational guidance, comprehensive career guidance, perspectives on counsellor's role in career guidance

Preschool career guidance, career guidance techniques in the preschool age.

UNIT –3

Career guidance in the elementary school, organization of guidance program in the elementary school, objectives, functions of elementary career guidance, career counsellor and his role, career guidance techniques.

UNIT-4

Career guidance in senior high school: organization of guidance program, objectives, functions and career guidance techniques.

Information in career guidance and counselling: types of delivery system.

Career development and choice behaviour, influencing factors: theories of career development and choice.

Books recommended

Kinra, A. K. (2008). Guidance and counselling. Dorling Kindersley (India) pvt. Ltd. Pearson Longman

Narayan Rao S.:(1991) A counselling psychology: Tata McGraw Hill Book company, New Delhi.

Greenhaus, J.H., Callanan, G.A., Godshaik, V. M.(2010). *Career Management* (4th Ed.). Sage Pub. @ www.sagepublications.com

Herr, E.L. & Cramer, S.H. (1987). *Career Guidance and Counselling through the life span, Systematic approach* (3rd Ed.). London: Scoot, Oresman & Co.

Drummond, R.J. & Ryan, C.W. (1995). *Career Counselling ;A developmental approach*. New Delhi: Prentice Hall India

Noonam, E. (1983). *Counselling Your People*. N.Y.: Methuen Inc.

Betz, N.E., Fit Garald, L.E. (1987). *The Career Psychology of Women*. N.Y.: Academic Press

Subesh, D. (2010). *Managing people at work; Employment relations in Globalizing India*. Sage Pub. @ www.sagepublications.com

Arulmani, G. Arulmani, S.N. (2004). *Career Counselling; A Handbook*. New Delhi: Tata McGraw Hill

Crow & Crow. (1962). *An Introduction to Guidance*. New Delhi: Eurasia Publishing House

McLean & Holan. (1955). *Counselling Psychology*. London: Tata McGraw Hill

Semester III
Stream C: Paper – III Core Elective I-b

CODE- ACG C- 3T3b

ASSESSMENT IN COUNSELLING AND GUIDANCE

UNIT-I

- The history and meaning of assessment: introduction, the use of tests, the psychometric and impressionistic approach, diagnosis and assessment, measurement and assessment, tests and assessment.

- Empathy, person perception, errors in person perception, good judge of personality.

UNIT- 2

Ethics of psychological assessment.

Writing case study report and preparing profile.

Report writing.

UNIT-3

The assessment of development:

The Vineland Social Maturity Scale

Bayley Scale for Infant Development

Developmental screening test.

UNIT –4

The assessment of intelligence:

Kamat- Binet verbal test of intelligence

Wechsler Intelligence Scale for Children (WISC- R), Wechsler Adult Intelligence Scale (WAIS- R)

Culture fair intelligence test,

Progressive matrices, CPM

Seguine form board, Draw a man test

Bhatia's performance test of intelligence.

Books recommended

Aiken, L.R.(2000):*Psychological Testing and Assessment* (10th ed.). Allyn and Bacon, inc.

Walsh, W.B. and Betx, N.E.(1997): *Tests and Assessment*, 3rd edition, Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Anastasi, A & Urbana, S(1997): *Psychological Testing*, 7th edition, Prentice Hall, Inc., Englewood Cliffs, New Jersey.

Graham, J. R., Naglieri, J.A. (Eds.), (2003). *Handbook of Psychology; vol.10 Assessment Psychology*. New Jersey: John Wiley

Freeman (1960). *Theory and Practice of Psychological Testing*

Korchin, S. J. (1976). *Modern Clinical Psychology: Principles of Intervention in the Clinic and Community*. New York: Basic Books.

Manuals of the Psychological Tests mentioned in curriculum

Paper IV Foundation Course I

Third semester

Paper – IV (CBCS)

GENERAL PSYCHOLOGY

CODE: FCI(psy) C-3T4a

Unit I:

Introduction to Psychology:

Definition and nature of psychology; Approaches: Biological, Psychodynamic, Behaviourist, and Cognitive.

Psychological Testing ,Function and origins of psychological testing ,Nature and the use of Psychological test; Social and ethical implications of testing.

Types of psychological tests.

Unit II :

Learning: Definition and nature of learning and.

Methods of learning: Trial and error, Insight, modelling.

Memory

Definition, Nature of memory, models of memory,- Encoding, Storage retrieval, Retention, Recall Recognition, Relearning, Reconstruction
Stages of Memory systems – Sensory memory, Short-term memory, Long -term memory; Nature and causes of forgetting- decay, Interference.

Unit III :

Motivation: Meaning of Motivation, Types of Motivation, Primary motive, General motive, Secondary Motives and Motivational process. Theories of Motivation.

Emotion: What is emotion?, Components of emotion, Expressing and Recognizing Emotion. Theories of Emotion.

Unit IV :

Personality:The concept of personlity(meaning ,definition,nature) .Approaches to Personality:Freud’s psychoanalytic approach,The Neo-Freudian psychoanalysts Approach: Carl Jung,Alfred Adler, Trait and Type Approach:Cattell’s trait approach,Eysenck’s Tait-Type approach,The Five Robust Factors-Super traits.

REFERENCES:

- Anastasi, A., Urbina, S. (2004).*Psychological Testing (7th Ed.)*. India: Pearson Education Pvt. Ltd. (Indian Branch
- Baran, R. A. (2001). *Psychology*.New Delhi: Pearson Education Pvt. Ltd.
- Baron R.A and Byrne (2000) *social psychology*. Delhi: Pearson Education Asia.
- Benjamin, L. T. (1997). *History Of Psychology: Original Sources and ContemporaryResearch*.New Delhi: McGraw-Hill Companies.
- Bernstein, D. A., Roy, E. J., Wickens, C. D. and Srull, T. K. (1988). *Psychology*.Boston:Houghton Mifflin co.
- Boeree, C. G. (2006) *Personality Theories*
- Borkar P. M. (2009). *ManasashastraiManavivadvaVikas*. Nagpur: PimpalapurPrakashan.
- Ciccarelli, S. & Meyer, G. E. (2006). *Psychology*. New Delhi: Pearson Education.

- Coon, D. & Mitterer, J. O. (2007). *Introduction to Psychology: Gateways to Mind and Behaviour*. Singapore: Thomson Wadsworth.
- Ewen R. B. (1988) *An introduction to theories of personality*. 6th Ed. Lawrence Erlbaum Associates Inc. Mahwah New Jersey, London
- Hall C.S. & Lindzey (1991) *Theories of personality*, 4th edn. John Wiley & Sons, Inc U.S.A.
- Hjelte, L. A. and Ziegler, D. J. (1992) *Personality Theories. Basic assumptions, research and Applications*, 3rd edn. McGraw-Hill Inc. International Edition.
- Inamdar, M. K., Gadekar, K. N. & Patil, A. M. (2005). *Adhunik Manasashastra*. Pune: Diamond Publication
- Kerlinger, F.N. (1973). *Foundation of Behavioural Research* (2nd edn). N.Y.: Holt Rinehart & Wilson
- Lahye, B. B. (2003). *Psychology: An Introduction*. New Delhi: Tata McGraw-Hill.
- Morgan, C. T., King, R. A., Weisz, J. R. & Schopler, J. (1986). *Introduction to Psychology*. McGraw-Hill Book Co.
- Myers D.G. (2006) *Social Psychology*. New Delhi: Tata McGraw Hill.
- Myres, Sahajpal and Behera (2012). *Social Psychology*. New Delhi: Tata McGraw Hill.
- Pandit, Kulkarni and Gore (1999). *Samanya Manasashastra*. Nagpur: Pimpalpure Pub.
- Pandit, R. V., Borude, R. R. Abhnyakar, S. & Golvilkar, V. (2006). *Manasashastra*. Pune: Continental Publishing.
- Passer, M. W. & Smith, R. E. (2007). *Psychology: The Science of Mind and Behaviour*. New Delhi: Tata McGraw-Hill.
- Pervin, L. A. (1991) *Personality: Theory and Research*, 6th edn, John Wiley & Sons, Inc. U.S.A.
- Robert S. Feldman (2004) *Understanding psychology*. Tata McGraw Hill Sixth Edition, New Delhi.
- Smith, D. B. (1908). *Psychology: Science and Understanding*. Boston: McGraw-Hill.
- Smith, E. E., Hocksema, S. N., Fredrickson, B. & Loftus, G. R. (2003). *Atkinson and Hilgard's Introduction to Psychology*. Singapore: Thompson Wadsworth.
- Zimbardo, P.G. and Weber, A. L. (1997). *Psychology*. N. Y.: Longman.

• **Paper IV CORE-III**

Third semester

CODE: **PS-I C-3T4b**

POSITIVE PSYCHOLOGY -I

Unit 1

Positive psychology and its historical perspective

Understanding positive psychology

Eastern and western perspective

Unit 2

Positive emotional states

Understanding positive affect, Positive emotions: wellbeing, happiness,

Emotional hardiness

Unit 3

Positive cognitive states

Optimism, hope, wisdom, courage, self efficacy, resilience

Mindfulness, spirituality

Unit 4

Prosocial behaviour

Empathy, gratitude, forgiveness

Altruism, love

Reference books

- Snyder, C. R., & Lopez, S. J. (2007). *Positive Psychology: The Scientific and Practical Exploration of Human Strengths*. New Delhi: Sage Publications.
- Snyder, C. R., & Lopez, S. J., (Eds.), (2004). *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington DC: APA, DOI 10.1037/10612.000
- Linley, P. A., Joseph, S. (Eds.), (2004). *Positive psychology in Practice*. USA: John Wiley & Sons

Semester – III

Stream C: Paper - V

Code: P C-3P1

Counselling Psychology Practicum

Journal article evaluation

A) Student/s shall critically evaluate one recent research article and present the same in counseling - journal club meeting orally using audio- visual aids.

B) Practice exercises – history taking and writing report of the same and submit for perusal.

C) Relevant tests' to be administered interpreted and reported any Three from among the following areas:

Testing areas:

Aptitude

Adjustment

Attitude

Intelligence

Personality

Interest

Values

d) Out reach program: Guidance and or counseling workshop for specified groups → e.g., students, teachers, parents, old people or any other as decided by the concerned teachers' committee.

e) Institutional visits: 3

f) Writing references from book, book chapters, journal articles, online magazine ,etc as per APA format.

g) Writing abstract as per APA FORMAT

Each student is required to complete practical file containing five testing reports, two case history reports, visit report and workshop report and submit the same for practical examination.

The maximum marks for practical examination will be as per the following scheme of distribution of marks->

Internal Assessment	Marks:40
- performance during academic session :	
assessment and evaluation → journal article presentation, testing, conduct of workshop and case history taking	- 20 marks
- journal article written report, testing reports, - case history report, and workshop reports	- 20 marks
External Practical examination	MARKS:160
- testing and report writing for one simulated case	- 60 marks
o evaluation of journal article written report, testing, case history , and workshop reports	- 60 marks
- Viva voce	- 40 marks
	TOTAL MARKS:200

Semester IV
(Stream A: Core Paper – I)

Code: PP A- 4T1

PSYCHOPATHOLOGY

UNIT 1

i] Anxiety disorders and their management: generalized anxiety disorder, panic disorder, phobia, obsessive-compulsive disorder

ii] Impulse control disorders: kleptomania, pyromania, pathological gambling

UNIT 2

MOOD DISORDERS

Depression; major depressive disorder, Dysthymic disorder

Bipolar disorder I and II, Cyclothymic disorder

Suicide, Theories of Suicide

UNIT 3

- Schizophrenic disorders: Disorganized, catatonic, paranoid, undifferentiated, residual, schizoaffective, atypical
- Sleep Disorders: Parasomnias – nightmare disorder, sleepwalking disorder. Insomnia.
- ORGANIC MENTAL DISORDERS

i] Alzheimer's disease, Parkinson's disease, Epilepsy, Delirium, Dementia

ii] Substance induced, infections, tumors, head injury, toxin induced disorders

UNIT 4

i] Somatoform disorders: Somatization, conversion disorder, hypochondriasis

ii] Dissociative disorders: Dissociative amnesia. Dissociative Fugue,

iii] Sexual disorders: sexual dysfunction, gender identity disorder, paraphilias

iv] Sexual victimization: rape, pedophilia.

Books Recommended

Sarason, I.G. & Sarason, B. R. (1993). *Abnormal Psychology; The Problem of Maladaptive Behaviour*. New Jersey: Prentice Hall

ICD 10. Geneva: W.H.O. Publication

DSM IV (TR), Diagnostic Statistical Manual of Mental Disorder DSM-IV TR, American Psychological Association; Jaypee publication

Davidson, G.C. & Neal, J.M. (1990). *Abnormal Psychology*. N.Y.: John Wiley

Kaplan, H.I., Sadock, B.J. (Eds.), (2000). *Comprehensive Text book of Psychiatry (7th Ed.)*. London: Williams & Wilkins

Maddux, J.E., Winstead, B.A. (Eds.) (2005). *Psychopathology; Foundations for Contemporary Understanding*. New Jersey: Lawrence, Earlbaum Associates

Barlow D, and Durand M. (2nd Ed.) (1998): *Abnormal Psychology: An Integrative Approach*, India, Bangalore; Eastern Press

Walker, C.E, (Ed) (1983): *The Handbook Of Clinical Psychology*, Illinois, Dow Jones- Irwin

Carson, R.C, Butcher, J.N. & Mineka, S. (1996). *Abnormal Psychology and modern Life (10th Ed)*: N.Y.: HarperColins

Ottmanns, T.F., Emery R.E. (1995). *Abnormal Psychology*. U.S.A: Prentice Hall

Nevid, J.S., Rathus, S.A., Greene, B. (1997): *Abnormal Psychology in Changing World (3rd Ed)*. U.K.: Prentice Hall

Hales, R.E., Yudofsky, S.G. (2003): *Textbook of Clinical Psychiatry*. Washington D.C: American Psychiatry Publishing,inc.

Colman, J.C (1986): *abnormal psychology and Modern Life*. D.B.Taraporevala Sons & Co. Pvt. Ltd; Mumbai, India

Semester IV
(Stream A: Core Paper – II)

Code: **TIS A-4T2**

THERAPEUTIC INTERVENTION STRATEGIES

Objectives:

- 1) To provide the students a chance to study various therapeutic approaches.
- 2) To help in developing a balanced view of the various therapies and practical techniques employed.

UNIT 1

Biological approaches: Chemotherapy, E.C.T., Brain wave therapy, Bio-feedback, Narcoanalysis

Neuro- Linguistic Programming

UNIT 2

Behavioral techniques: Systematic desensitization, Contingency contracting, Shaping,

Aversive conditioning, Modeling REBT, CBT.

UNIT 3

- Group therapy, Family therapy, Psycho-drama, Play therapy

Supportive Psychotherapy

- Milieu therapy, Progressive relaxation, Flooding, Hypnosis, Crisis intervention, Hospitalization

UNIT 4

Traditional approaches: Yoga, Shavasan, Meditation, Vipashyana

Recent methods: Cyber therapy, tele-counseling

Books Recommended

Agras, W.S., Kazadin, A.E., Wilson, G.T. (1979). Behaviour Therapy. San Fransisco: Freeman &Co.

Lanyon, R.I., Layon, B.P. (1978).). Behaviour Therapy: A Clinical Introduction. Philippines: Addison-

Wesley. Korchin, S. J. (1976). Modern Clinical Psychology: Principles of Intervention in the Clinic and Community. New York: Basic Books

Plante, T.G. (2005). Contemporary Clinical Psychology (2nd Ed.) New Jersey:. John Wiley & Sons

Bellack, A. S., Hersen, M., Johnston, D. W., & Johnston, M. (Eds.). (1998). Comprehensive Clinical Psychology (Vol. 8). New York: Pergamon

Wolberg, L.S., Aronson, M.L. (1991). Group and Family Therapy. N.Y.: Brunner /Mazal

Davis, M., Eshelman, E.R., McKay, M.(1996). The Relaxation & Stress Reduction Workbook. Mumbai: Jaico Publishing House

Pandit, M.P. (1990). Dhyana. Pondicherry: Dipti Publication

Corey, G. (1991): Theory and Preactice Of Counselling and Psychotherpay, 4th Ed., California: Brooks

Feltham C, Horton I (Ed), (2006): The Sage Handbook of Counselling and Psychotherapy, 2nd Ed. Sage Publication; New Ddelhi.

Nelson. J,R: (2001): Therory and Practice of Counselling and Therapy 3rd Ed. Sage Publication, New Delhi

Agras,W.S.,Kazadin,A.E.,Wilson,G.T.(1979).Behavioral Therapy. San Fransisco: Freeman &Co

Lanyon, R.I., Layon, B.P.(1979). Behavioral Therapy: A Clinical Introduction.Philippines: Addison-

Semester IV

(Stream A: Paper – III Core Elective II-a)

Code: CMM A-4T3a

COMMUNITY MENTAL HEALTH AND MEDICAL PSYCHOLOGY

Objective: To acquaint the students with various aspect of community psychology and Medical Psychology

UNIT 1

Community psychology: evolution and orientation. Research in Community psychology,: evaluation research

.Ecology, effect of crowding,.

UNIT 2

Helping people with long-standing illness, psychiatric patients, physical disability or amputation, suicide prevention

Methods of community intervention:- day care centre, consultation, non-professional in community psychology, mental health education

UNIT 3

Medical psychology and behavioral medicine,: definition, role, history, area of work of psychologists in hospital set-up and problems encountered by them

UNIT 4

- Psychological assessment of: Cancer, Chronically ill geriatric patients, Arthritis; Type A behavior and CHD and Hypertension

- Modification and prevention of risk factors in cardio-vascular disorders

Psychological preparation for stressful medical procedures

Rehabilitation of patients with CNS dysfunction, intervention with cancer patients

Behavioral treatment of alcoholism, smoking

Books Recommended

Korchin, S. J. (1976). *Modern Clinical Psychology: Principles of Intervention in the Clinic and Community*. New York: Basic Books

Kapoor, M. (1995). *Mental Health of Indian Children*. India: Sage Pub.

Prokop, C.K.& Bardley, L.A. (1981). *Medical Psychology; Contribution to Behavioral Medicine*. N.Y.: Academic Press.

Kimble, D.P. (1998). *Biological Psychology*. N.Y.: Holt Rinehart

Ayers, S., De Visser, R (2010). *Psychology for Medicine*. . Sage Pub. @
www.sagepublications.com

Plante, T.G. (2005). *Contemporary Clinical Psychology (2nd Ed.)* New Jersey:. John Wiley & Sons

Ader,R.: (1981) *Psychoneuro Immunology*, San Diego Acad, Press.

Taylor, S.E.: (1991) *Health Psychology*, New York, McGraw Hill.

Semester IV

(Stream A: Paper – III Core Elective II-b)

Code: PT A- 4T3b

PSYCHOLOGICAL TESTING IN CLINICAL PSYCHOLOGY

Objective:

To acquaint students with various psychological tests for assessment and diagnostic purposes

UNIT I

- Testing – Concept – Purposes – Types – interest inventories and
- Aptitude Testing – Purposes–Techniques of measuring- Aptitude Scales

- Adjustment and Health Inventories
- Attitude and value tests

UNIT 2

Objective Tests of Personality: MMPI, 16PF, EPQ, MCMI

Projective techniques; Rorschach, TAT, CAT, DAPT, SCT, Rosenzweig Picture Frustration Study.

UNIT 3

Clinical Scales for anxiety, depression and psychopathology

Loneliness scale, Assertiveness assessment

UNIT 4

Psychological testing for Brain Damage: LNNPB, Halstead Reitan, Benton Retention Test, Neuropsychological batteries of AIMMS, NIMHANS, PGI.

Psychological testing for handicaps

Psychological testing for learning disability.

Books Recommended

Groth-Marnat, G. (2003). *Handbook Of Psychological Assessment* (4th ed.). New Jersey: John Wiley & Sons

Anastasi, A., Urbina, S. (2004). *Psychological Testing* (7th Ed.). India: Pearson Education Pvt. Ltd. (Indian Branch)

Graham, J. R., Naglieri, J.A. (Eds.), (2003). *Handbook of Psychology; vol.10 Assessment Psychology*. New Jersey: John Wiley

Urbina, S. (2004). *Essentials of Psychological Testing*. New Jersey: John Wiley & Sons

Freeman. *Theory and Practice of Psychological Testing*

Korchin, S. J. (1976). *Modern Clinical Psychology: Principles of Intervention in the Clinic and Community*. New York: Basic Books.

Weiner, B. (1983) : *Clinical Methods in Psychology*, N.Y. John - Wiley and sons

Lezak, M.D. (1995) : *Neuropsychological Assessment* N. Y. Oxford University, Press.
Manuals of the Psychological Tests mentioned in curriculum

Paper IV Foundation Course II (stream:A)

Forth Semester

Paper- IV (CBCS)

Applied Psychology

CODE: FCII(psy)-A-4T4a

Unit I:

Positive Psychology: Definitions, Goals and Assumption of positive psychology. Emotional perspective- positive Emotions. Broaden and Build theory of positive psychology. The meaning and measure of happiness.

Strategies to enhance happiness. Happiness and the facts of life-Happiness and the facts of life-Happiness across the life span-Gender and happiness-other facts of life. Spirituality and well-being.

Unit II:

Health Psychology: Introduction to health psychology, Concept of health – Models of health. Health behaviour and belief. Health awareness and Health seeking behaviour. Chronic illness-Causes and consequences; Management of health problems like obesity and chronic illness like cancer, cardiac problems and Diabetes.

Unit III:

Leadership:

What is Leadership? Types of Leadership. Basic Approaches to Leadership, Trait theory, Behavioral Theory, Contingency Theory.

Communication:

Function, process and direction of communication. Methods of communication.

Unit IV:

Stress and its management: Stress and Stressors, Basic techniques of stress management - identifying the stressors, self monitoring, recognizing negative self talk, handling negative emotions, relaxation, meditation, avoiding negative thinking, fear, use of will, faith and prayer, establishing peace.

Books Recommended:-

- Barannon L and Feist J (1989) *Health Psychology: An Introduction*. 4th Edition, Wordsworth
- Baron R.A and Byrne (2000) *social psychology*. Delhi: Pearson Education Asia.
- Baumgarder S.T and Crothers. (2009) *Positive psychology*. New Delhi: Pearson.
- Compilation from works of mothers and Sri Arbindoo (2004). *Integral Healing*. Pondichery: Sri Arbindoo Ashram Publication Department.
- Dimmates M.R and Martin L.R (2007). *Health Psychology*. Pearson.
- Health. Pondichery: Sri Arbindoo Ashram Publication Department.
- Khubalkar, R.(2008). *Know Your Stress Manage Your Stress*. New Delhi: Neel Kamal Publication Pvt. Ltd.
- Luthans F. (2002), *Organizational Behaviour*. McGraw Hill, Arvin, New Delhi.

- Marks D.F(2002). *The Health Psychology*. Reader, Sage.
- Myers D.G. (2006) *Social Psychology*. New Delhi: Tata McGraw Hill.
- Myres, Sahajpal and Behera (2012). *Social Psychology*. New Delhi: Tata McGraw Hill.
- Proshansky, H. M. (1987). "The field of environmental psychology: securing its future." In *Handbook of Environmental Psychology*, eds. D. Stokols and I. Altman. New York: John Wiley & Sons.
- Slyder R. S (2007) *Positive Psychology*. New Delhi: Sage Publication.
- Steve B. R and Marie C. K. (2009) . *Positive psychology*. Dorling Kindersley: India
- Weinberg, R.S. & Gould, D. (2010). *Foundations of Sport and Exercise Psychology*. Champaign, IL: Human Kinetics.

Paper IV CORE III (stream:A)

Forth Semester

POSITIVE PSYCHOLOGY –II

CODE- PS-II A-4T4b

Unit 1

Changing human behaviour towards positive

Preventing the bad and enhancing the good

Unit 2

Positive environments

Positive schooling, psychology of gainful employment

Unit 3

Assessment of positive behaviour

Assessment of problem solving behaviour, locus of control, creativity, self-esteem, emotional intelligence, sense of humor

Unit 4

Community orientation towards positivity

Focusing on resources, focus on sports; physical activities, empowerment, person centered rehabilitation

Positive psychology in cultural context

Reference books

- Snyder, C. R., & Lopez, S. J. (2007). *Positive Psychology: The Scientific and Practical Exploration of Human Strengths*. New Delhi: Sage Publications.
- Snyder, C. R., & Lopez, S. J., (Eds.), (2004). *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington DC: APA, DOI 10.1037/10612.000
- Linley, P. A., Joseph, S. (Eds.), (2004). *Positive psychology in Practice*. USA: John Wiley & Sons

Semester – IV

(Stream A: Paper –V)

Code: P A-4P1

Clinical Psychology Practicum (SEM IV)

a) Each student shall evaluate 5 cases in this semester period and subsequently submit reports for perusal. The report of evaluated cases will include

- 2) clinical observation
- 3) case history
- 4) diagnostic impression
and

4) treatment strategies

b) In addition each candidate shall complete mini Field-work project based on a problem of his / her choice (in consultation with concerned teacher) from clinical psychology.

c) Practice sessions / exercise(s) to be – conducted interpreted and reported -
any two from the following –

- i) preparing hierarchy for anxiety / phobia case
- ii) relaxation / progressive muscle relaxation / Shavasan
- iii) abdominal breathing / pranayam
- iv) preparing strategic plan for behaviour modification for a simulated

c) Institutional visits : 3 with an aim to foster insight into working in clinical conditions.

d) Preparing charts (2 variable data) with computer.

e) Calculating “t”, ANOVA with computer.

Each student is required to complete practical file containing five case reports and project report and submit the same for practical examination.

The maximum marks for practical examination will be as per the following scheme of distribution of marks->

Internal Assessment

MARKS: 40

- performance during academic session :
assessment, evaluation → visit & case reports - 20 marks

- field- work project report - 20 marks

External Practical examination

MARKS:160

- simulated case presentation - 60 marks
- Presentation and evaluation of written report and
Structured exercise - 60 marks

- Viva voce - 40 marks

TOTAL MARKS:200

Semester IV (Stream B)
(Organizational Psychology and Human Resource Management)
Core PAPER - I

Code: OD B- 4T1

ORGANIZATION DEVELOPMENT

Objectives:

1. To develop an understanding of the theory and practice relating to the processes of organization development.
2. To develop insight and competence in diagnostic and intervention processes and skills for initiating and facilitating change in organisations.

Unit 1:

Introduction to Organization development:

- Definition, History of organization development; Values, Assumptions and beliefs; OD consultant

Foundations of Organization development:

- Models and theories of planned change: Kurt Lewin, Burke-Litwin Model, Porras and Robertson model
- Systems theory, Participation empowerment, Teams and teamwork, Parallel learning structures, A normative re-educative strategy of changing, Applied behavioural science

Unit 2:

Managing the OD process:

- Diagnosis, the action component, program management component
- Action research and OD: Process and approach, history and varieties, examples of action research

Unit 3:

Nature of Organization Development interventions:

- Classification of OD interventions
- Team interventions, inter-group and third party peacemaking interventions, comprehensive OD interventions, Structural intervention

Unit 4:

Challenges and future of OD

- Training experiences: T-groups, behavioural modelling, life and career planning
- Issues in consultant- client relationship
- Future of Organization Development

Books Recommended

1. French, W.L.; & Bell, C.H. Jr. (2004) Organizational Development (4th Ed.) Prentice Hall of India, New Delhi.
2. French, W.L., Bell, C.H. Jr. & Zawacki C. (2006) Organization Development and Transformation: Managing effective change (6th Ed.) Tata McGraw Hill, New Delhi
3. French, W.L., Bell, C.H. & Vohra V. (2006) Organization Development: Behavioural science interventions for organization improvement (6th Ed.) Pearson Education
4. Cummings T.G. & Worley C.G. (2007) Organization Development and Change (8th Ed.) Thomson-South Western

Semester IV

Stream B: (Organizational Psychology and Human Resource Management)

Core PAPER - II

Code: EC B-4T2

Employee Counselling

Unit 1: A] Nature, Scope and Need for employee Counseling.

Counseling process.

Employee Counseling: Types.

Employee counseling skills.

B] Workplace Counseling.

Models of Workplace Counseling

Performance counseling

Career Planning and counseling.

Unit-2.

- Stress and related concepts.

Nature, Types, Sources, Effects/Consequences.

Burn out.

- . Stress Management

Personal -Self Management. Increasing Self-awareness

through;Yoga,Meditation,Vipashana.

Unit 3. Biofeedback, Assertiveness training, Time management.

Enhancing coping with role stress, mergers, acquisitions and change.

Unit 4 Enhancing Quality of Work Life. Concept of subjective well-being.

Management by consciousness, A Spirituo-technical Approach

Books Recommended:-

Kamaraju P., N; Reddy, P.N.; and Ramana, W.D.V.(2008)Performance Appraisal and counseling. 1st Edition. Himalaya Publishing House Pvt.Ltd.Mumbai, India.

Ashwathappa, K. (2008):Organizational Behavior. 8th Revised Edition
Himalaya Publishing House Pvt.Ltd.Mumbai, India.

Shekaran,U. (2004) Organization Behaviour. Text and cases 2nd edn. Tata MxGraw Hill, New Delhi.
India.

Argyris,C (1957) Personality in Organization. New York. Harper Collins.

Hackman, R.J. and Shuttle, J.L.(eds).Improving life at Work: Behavioral Approach to
Organizational Change. Santa Monica; Goodyear.

Snyder, C. R. & Shane, J. L.(2007) Positive Psychology. The scientific and practical
explorations of human strengths, Sage South Asia edition, Sage publication India pvt. Ltd. New Delhi.
India

Gupta, G.P.:(2009) Management by consciousness, A Spirituo-technical Approach.Sri Aurbindo
Institute of research in Social –Sciences, Pondicherry, .India.

Semester IV

Stream B:

(Organizational Psychology and Human Resource Management)

PAPER - III Core Elective II- a

Code: LCO B-4T3a

Leadership and Communication in Organizations

Unit 1:

- Personality: Concept and Nature. Determinants of Personality. Personality Theories: Type, Trait and Psycho-analytic.

Unit 2:

- Leadership: Basic Approaches to Leadership.
What is Leadership? Trait theory, Behavioral theory, Contingency Theory. Implications for managers.
- Assessment tools.
MBTI, FIRO-B, Leadership Style, Leadership Effectiveness

Unit 3: Contemporary issues in Leadership

Trust: The foundation of leadership.

Framing: Using words to shape meaning and inspire

Others.

Online leadership, challenges to the leadership concept.

Finding and creating effective leaders.

Unit 4: Communication

Functions, Process and direction of communication.

Methods of communication. Organizational communication: formal small group network, the grapevine and computer aided communication.

Choice of communication channels. Barriers to effective communication. Current issues in communication.

Books recommended:

Robbins's. (2005) Organizational Behavior, 11thedi. New Delhi PHI Pvt. Ltd.

Luthans, F.(1998) Organization Behavior, 8th edn. Boston Irwin McGraw Hill.

Ashwathappa,K. (2008):Organizational Behavior. 8th Revised Edition

Himalaya Publishing House Pvt.Ltd.Mumbai, India.

Semester IV

(Stream B: Organizational Psychology and Human Resource Management)

PAPER - III Core Elective- II-b

Code: OCO B- 4T3b

Organizational Culture, Organizational Learning and Organizational Change.

Unit 1:

Organizational Culture: Meaning and Definition, Effects of culture, Creation of culture, Innovation in organization, Innovation process, Studies in culture & innovation.

Unit 2: Organizational Learning:

How organizations learn? Developing a learning strategy .Perspectives of Learning Organization. Advantages of Learning organization.

Learning organization: Difference between learning organizations and organizational learning. Five disciplines of learning organization.

Unit 3

- : Organizational Climate:

Meaning, Importance of Organizational Climate, Factors affecting Organizational Climate, Creating conducive Organizational Climate.

- : Organization Structure and Design: Concept. Importance. Types of Organizational designs. Organizational designs and employee behavior.

Unit 4: Organizational Change - Nature, levels and dilemmas of change, Pressures for change, The Domino effect, Responses to change, Force field analysis, Change process, Resistance to change, Dynamics of change.

Books Recommended:

Dassler,G. (2002) Human Resource Management>New Delhi. Pearson Education Pvt.Ltd.

Arnold, H. J.and Fieldman, D.E.(1988):Organizational Behavior. New York. McGraw Hill Book Company.

Paper IV Foundation Course II (stream:B)

Forth Semester

Paper- IV (CBCS)

Applied Psychology

CODE: FCII(psy)-B-4T4a

Unit I:

Positive Psychology: Definitions, Goals and Assumption of positive psychology. Emotional perspective- positive Emotions. Broaden and Build theory of positive psychology. The meaning and measure of happiness.

Strategies to enhance happiness. Happiness and the facts of life-Happiness and the facts of life-Happiness across the life span-Gender and happiness-other facts of life. Spirituality and well-being.

Unit II:

Health Psychology: Introduction to health psychology, Concept of health – Models of health. Health behaviour and belief. Health awareness and Health seeking behaviour. Chronic illness-Causes and consequences; Management of health problems like obesity and chronic illness like cancer, cardiac problems and Diabetes.

Unit III:

Leadership:

What is Leadership? Types of Leadership. Basic Approaches to Leadership, Trait theory, Behavioral Theory, Contingency Theory.

Communication:

Function, process and direction of communication. Methods of communication.

Unit IV:

Stress and its management: Stress and Stressors, Basic techniques of stress management - identifying the stressors, self monitoring, recognizing negative self talk, handling negative emotions, relaxation, meditation ,avoiding negative thinking, fear, use of will, faith and prayer, establishing peace.

Books Recommended:-

- Barannon L and Feist J (1989) *Health Psychology: An Introduction*. 4th Edition, Wordsworth
- Baron R.A and Byrne (2000) *social psychology*. Delhi: Pearson Education Asia.
- Baumgarder S.T and Crothers. (2009) *Positive psychology*. New Delhi: Pearson.
- Compilation from works of mothers and Sri Arbindoo (2004). *Integral Healing*. Pondichery: Sri Arbindoo Ashram Publication Department.
- Dimmates M.R and Martin L.R (2007). *Health Psychology*. Pearson.
- Health.Pondichery: Sri Arbindoo Ashram Publication Department.
- Khubalkar, R.(2008). *Know Your Stress Manage Your Stress*. New Delhi: Neel Kamal Publication Pvt. Ltd.
- Luthans F. (2002), *Organizational Behaviour*. McGraw Hill, Arvin, New Delhi.
- Marks D.F(2002). *The Health Psychology*. Reader, Sage.

- Myers D.G. (2006) *Social Psychology*. New Delhi: Tata McGraw Hill.
- Myres, Sahajpal and Behera (2012). *Social Psychology*. New Delhi: Tata McGraw Hill.
- Proshansky, H. M. (1987). "The field of environmental psychology: securing its future." In *Handbook of Environmental Psychology*, eds. D. Stokols and I. Altman. New York: John Wiley & Sons.
- Slyder R. S (2007) *Positive Psychology*. New Delhi: Sage Publication.
- Steve B. R and Marie C. K. (2009) . *Positive psychology*. Dorling Kindersley: India
- Weinberg, R.S. & Gould, D. (2010). *Foundations of Sport and Exercise Psychology*. Champaign, IL: Human Kinetics.

Paper IV CORE III (stream:B)

CODE: PS-II B-4T4b

POSITIVE PSYCHOLOGY -II

Unit 1

Changing human behaviour towards positive

Preventing the bad and enhancing the good

Unit 2

Positive environments

Positive schooling, psychology of gainful employment

Unit 3

Assessment of positive behaviour

Assessment of problem solving behaviour, locus of control, creativity, self-esteem, emotional intelligence, sense of humor

Unit 4

Community orientation towards positivity

Focusing on resources, focus on sports; physical activities, empowerment, person centered rehabilitation

Positive psychology in cultural context

Reference books

- Snyder, C. R., & Lopez, S. J. (2007). *Positive Psychology: The Scientific and Practical Exploration of Human Strengths*. New Delhi: Sage Publications.
- Snyder, C. R., & Lopez, S. J., (Eds.), (2004). *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington DC: APA, DOI 10.1037/10612.000
- Linley, P. A., Joseph, S. (Eds.), (2004). *Positive psychology in Practice*. USA: John Wiley & Sons

Semester – IV
Stream B: Paper V

Code: P B-4P1

Organizational Psychology Practicum (SEM IV)

- a) Each student shall conduct Structured Exercises (SE*) – SE to be conducted, interpreted and reported and subsequently submit reports for perusal.

*(*Generic Skills: Stress management, Conflict resolution techniques for effective management, Assertiveness Training, Importance of verbal and non verbal communication, Significance of body language in communication, Key communication skills: Active listening & feedback; Presentation Skills; Emotional intelligence and leadership effectiveness; Time management: tips and strategies)*

- b) In addition each candidate shall complete mini Field-work project based on a problem of his / her choice (in consultation with the concerned teacher) from Industrial psychology.

Each student is required to complete a practical file containing five reports of conducted structured exercises and field work project report and shall submit the same for practical examination.

c) Preparing charts (2 variable data) with computer.

d) Calculating “t”, ANOVA with computer.

The maximum marks for practical examination will be as per the following scheme of distribution of marks->

Internal Assessment Marks:40

- performance during academic session :

Structured exercises' assessment, evaluation → - 20 marks

- field- work project report - 20 marks

External Practical examination **MARKS:160**

- structured exercise: conduct and evaluation of written report - 80 marks

- Viva voce - 80 marks

-

TOTAL MARKS=200

Semester IV(COUNSELLING PSYCHOLOGY)
Stream C: Core Paper - I

Code: PD C- 4T1

PSYCHOLOGICAL DISORDERS

Unit 1

What is Abnormality?

Definition. Different ways to define abnormal behaviour. Statistical Definition, Social norm deviance, Subjective discomfort.

Models of Abnormality: The Biological Model, The Psychological Model,

DSM – IV – TR, ICD-10

Unit 2

Disorders usually first diagnosed in infancy, childhood or adolescence: mental retardation, learning disability, motor skills disorders.

Autism, attention deficit hyperactivity disorders, disruptive behaviour conduct disorder.

Communication disorder: stuttering

Pica, Bulimia

Elimination disorders: Encopresis and enuresis

Selective mutism,

Unit 3

- Generalised Anxiety Disorder, Phobic disorders: Social Phobias, Specific Phobias – Agoraphobia, Acrophobia, Claustrophobia,
- Obsessive - Compulsive Disorder; Panic disorder;
- Somatoform Disorders: Hypochondriasis, Somatization disorder, Conversion disorder.
- Adjustment disorders
- Dissociative Disorders: Dissociative amnesia; Dissociative fugue;, Dissociative identity disorder.
- Mood Disorders: Major depression, Bipolar disorders

Unit – 4

Schizophrenia: Main Symptoms, Categories of Schizophrenia: Disorganized, Catatonic, Paranoid, Undifferentiated, Residual.;

Important causes of Schizophrenia.

Personality Disorders: Antisocial personality disorder; Borderline personality disorder, Paranoid personality disorder.

Books recommended:

APA American Psychiatric Association. (2000). DSM – IV – TR: Diagnostic and statistical manual of mental disorders (4th ed., Text Revision). Washington D.C.

The ICD – 10. Classification of mental and behavioural disorders. Clinical descriptions and diagnostic guidelines. W.H.O., Geneva. A.I.T.B.S. Publishers & Distributors (regd.) Delhi-51. India

Sarason , I.G. & Sarason, B. R. (1993). *Abnormal Psychology; The Problem of Maladaptive Behaviour*. New Jersey: Prentice Hall

Holmes, D.S. (1997). *Abnormal Psychology* (3rd Ed.). N.Y.: Addison –Wesley Education. Pvt. Ltd

Nevid, J.S., Rathus, S. A., Greene, B. (1997). *Abnormal Psychology in Changing World* (3rd Ed.). U.K.: Prentice Hall

Coleman, J.C. (1986). *Abnormal Psychology and modern Life*. Bombay: Taraporevala Sons & Co. Pvt. Ltd.

Semester IV
Stream C: Core Paper - II

CODE : ISC C-4T2

INTERVENTION STRATEGIES IN COUNSELLING

UNIT-I

a) Biological approaches:

chemotherapy ,brain wave therapy, biofeedback.

b) Psychoanalytic approaches/intervention strategies:

Freudian: free association, resistance, transference, insight, working through.

neo Freudian: jung, adler, fromm, rank,orney and others.(?)

UNIT- 2

a) behavioural approaches: token economy, systematic desensitization , aversion technique, reinforcement, operant conditioning, shaping, modelling, biofeedback.

b) cognitive behaviour approaches: R.E.T. & others.

UNIT-3

- humanistic-existential approaches: person centered approach(empathy, congruence).
- Transactional analysis.
- Traditional approaches-yoga therapy, shavasan, meditation, vipashyana.
- Family therapy, group therapy ,drug therapy

UNIT-4

- a) Recent methods in psychotherapies: cybertherapy
- b) Brief psychotherapy & crisis intervention
- c) Hospitalization & milieu therapy

Books Recommended

Corey, G : (1991) Theory and practice of counselling and psychotherapy,4th edition, California :Brooks.

American psychological Asso. : (1981) ethical principles of psychologist Washington, D.C.: Author.

Pandit, M.P. : (1990) Dhyana, Dipti Pub.Sri Aurobindo Ashram, Pondicherry, India.

Plante, T.G. (2005). *Contemporary Clinical Psychology* (2nd Ed.) New Jersey:. John Wiley & Sons

Agras, W.S., Kazadin, A.E., Wilson, G.T. (1979). *Behaviour Therapy*. San Fransisco: Freeman & Co

Wolberg, L.S., Aronson, M.L. (1991). *Group and Family Therapy*. N.Y.: Brunner /Mazal

Davis, M., Eshelman, E.R., McKay, M.(1996). *The Relaxation & Stress Reduction Workbook*. Mumbai: Jaico Publishing H

SEMESTER IV
Stream C: Paper – III Core Elective II-a

CODE: SAC C-4T3a

SPECIAL AREAS OF COUNSELLING

UNIT-I

Counselling children and adolescent: emotionally disturbed, under achievers, slow learners, socially disadvantaged.

UNIT –2

Counselling marital, sexual and role related problems : premarital , marital counselling, identification of sex related problems, role conflict and counselling.

UNIT-3

Counselling for drug addicts, alcoholic and attempted suicides: identification of psychological problems and counselling.

UNIT-4

- Counselling the physically and mentally handicapped : psychological and vocational evaluation and rehabilitation.
- Counselling for terminal diseases and chronic illness : cancer , HIV ,AIDS etc; evaluation and counselling.
- Counselling the aged : identification of psychological problems and counselling.

Books recommended:

Nugent, Frank A.(1995): An Introduction to the profession of counselling ,Maxwell Macmillan Canada, Inc. Toronto.

Gibson, R.L. and Marianne, H.M.(2008):Introduction to counselling and Guidance,7th edition, Prentice Hall of India, New Delhi.

Narayan Rao S.:(1991) *A counselling psychology*: Tata McGraw Hill Book company, New Delhi.

Arulmani, G. Arulmani, S.N. (2004). *Career Counselling; A Handbook*. New Delhi: Tata McGraw Hill

Crow & Crow. (1962). *An Introduction to Guidance*. New Delhi: Eurasia Publishing House

McLean & Holan. (1955). *Counselling Psychology*. London: Tata McGraw Hill

Brian, B. (1982). *Vocational Adjustment of Disabled Persons*. Paper Text Ed. Pro. Ed.

Crites, J.O. (1981). *Career counselling – Models Methods and Materials*. N.Y.: McGraw Hill

De Board, R. (1981). *Career development for college students* (5th Ed.). Carrell Press

Loughary, J.W. & Ripley, T.M. *Career and Life Planning Guide* (Revised Ed.). Cambridge: B.K.

Semester IV
Stream C: Paper - III Core Elective -II-b

CODE:
PCG C- 4T3b

PSYCHOLOGICAL TESTING IN COUNSELLING AND GUIDANCE

UNIT-I

The assessment of personality:

Children personality questionnaire, High school personality questionnaire, 16 PF, CAQ

Eysenk personality inventory(EPQ-R); NEO –PI

UNIT- 2

- Projective techniques and tests:

Sentence Completion Test (SCT),Children apperception test-CAT

Rosenzweig Picture Frustration Test (children and adult), House Tree Personality (HTP)

- Behavioural techniques and tests:

Behavioural questionnaires, Problem checklist, Self monitoring, Observation in natural environment

UNIT-3

Bell's adjustment inventory

Edwards personal preference schedule

The assessment of aptitude and interest :

Differential Aptitude Tests (DAT), Scientific Aptitude Test (SAT)

Strong's Interest Inventory (SII),Vocational Interest Record

UNIT-4

Stanford –Binet Intelligence scale (SB-IV), Differential ability scales (DAS)

Wechsler scales

Peabody picture vocabulary test (PPVT_III), Kaufman’s intelligence tests (K-ABC)

Death anxiety, PGI-AMEE, Adjustment inventory (for adult)

Books recommended

Aiken, L.R.(2000):psychological testing and assessment,10th edition, Allyn and Bacon, inc.

Walsh, W.B. and Betx, N.E.(1997): tests and assessment,3rd edition, Prentice-Hall, Inc., Englewood Cliffs , New jersey.

Anastasi , A & Urbania, S(1997): psychological testing, 7th edition, Prentice Hall, Inc., Englewood cliffs, New jersey.

Graham, J. R., Naglieri, J.A. (Eds.), (2003). *Handbook of Psychology; vol.10 Assessment Psychology*. New Jersey:. John Wiley

Freeman (1960). *Theory and Practice of Psychological Testing*

Korchin, S. J. (1976). *Modern Clinical Psychology: Principles of Intervention in the Clinic and Community*. New York: Basic Books.

Manuals of the Psychological Tests mentioned in curriculum

Paper IV Foundation Course II (stream:C)

Forth Semester

Paper- IV (CBCS)

Applied Psychology

CODE: FCII(psy)-C-4T4a

Unit I:

Positive Psychology: Definitions, Goals and Assumption of positive psychology. Emotional perspective- positive Emotions. Broaden and Build theory of positive psychology. The meaning and measure of happiness.

Strategies to enhance happiness. Happiness and the facts of life-Happiness and the facts of life-Happiness across the life span-Gender and happiness-other facts of life. Spirituality and well-being.

Unit II:

Health Psychology: Introduction to health psychology, Concept of health – Models of health. Health behaviour and belief. Health awareness and Health seeking behaviour. Chronic illness-Causes and consequences; Management of health problems like obesity and chronic illness like cancer, cardiac problems and Diabetes.

Unit III:

Leadership:

What is Leadership? Types of Leadership. Basic Approaches to Leadership, Trait theory, Behavioral Theory, Contingency Theory.

Communication:

Function, process and direction of communication. Methods of communication.

Unit IV:

Stress and its management: Stress and Stressors, Basic techniques of stress management - identifying the stressors, self monitoring, recognizing negative self talk, handling negative emotions, relaxation, meditation, avoiding negative thinking, fear, use of will, faith and prayer, establishing peace.

Books Recommended:-

- Barannon L and Feist J (1989) *Health Psychology: An Introduction*. 4th Edition, Wordsworth
- Baron R.A and Byrne (2000) *social psychology*. Delhi: Pearson Education Asia.
- Baumgarder S.T and Crothers. (2009) *Positive psychology*. New Delhi: Pearson.
- Compilation from works of mothers and Sri Arbindoo (2004). *Integral Healing*. Pondichery: Sri Arbindoo Ashram Publication Department.
- Dimmates M.R and Martin L.R (2007). *Health Psychology*. Pearson.
- Health. Pondichery: Sri Arbindoo Ashram Publication Department.
- Khubalkar, R.(2008). *Know Your Stress Manage Your Stress*. New Delhi: Neel Kamal Publication Pvt. Ltd.
- Luthans F. (2002), *Organizational Behaviour*. McGraw Hill, Arvin, New Delhi.
- Marks D.F(2002). *The Health Psychology*. Reader, Sage.
- Myers D.G. (2006) *Social Psychology*. New Delhi: Tata McGraw Hill.

- Myres, Sahajpal and Behera (2012). *Social Psychology*. New Delhi: Tata McGraw Hill.
- Proshansky, H. M. (1987). "The field of environmental psychology: securing its future." In *Handbook of Environmental Psychology*, eds. D. Stokols and I. Altman. New York: John Wiley & Sons.
- Snyder R. S (2007) *Positive Psychology*. New Delhi: Sage Publication.
- Steve B. R and Marie C. K. (2009) . *Positive psychology*. Dorling Kindersley: India
- Weinberg, R.S. & Gould, D. (2010). *Foundations of Sport and Exercise Psychology*. Champaign, IL: Human Kinetics.

Paper IV CORE III (stream:C)

Forth Semester

CODE: PS-II C-4T4b

POSITIVE PSYCHOLOGY -II

Unit 1

Changing human behaviour towards positive

Preventing the bad and enhancing the good

Unit 2

Positive environments

Positive schooling, psychology of gainful employment

Unit 3

Assessment of positive behaviour

Assessment of problem solving behaviour, locus of control, creativity, self-esteem, emotional intelligence, sense of humour

Unit 4

Community orientation towards positivity

Focusing on resources, focus on sports; physical activities, empowerment, person centered rehabilitation

Positive psychology in cultural context

Reference books

- Snyder, C. R., & Lopez, S. J. (2007). *Positive Psychology: The Scientific and Practical Exploration of Human Strengths*. New Delhi: Sage Publications.
- Snyder, C. R., & Lopez, S. J., (Eds.), (2004). *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington DC: APA, DOI 10.1037/10612.000
- Linley, P. A., Joseph, S. (Eds.), (2004). *Positive psychology in Practice*. USA: John Wiley & Sons

Semester IV
Stream C: Paper – V

Code: P C-4P1

Counselling Psychology Practicum (SEM IV)

a) Each student shall evaluate 3 problem cases (scholastic, adjustment or emotional problems) in this semester period and subsequently submit reports for perusal. The report of evaluated cases will include

- 1) Case problem observation
- 5) case history
- 6) identification of problem: forming impression
- 7) suggested and employed intervention strategies

b) Each student shall complete field-work project based on a problem of his / her choice from counselling psychology in consultation with concerned teacher.

c) In addition each candidate will prepare and conduct one Structured exercise* on any one of the counseling skills and subsequently submit the report for perusal.

*(*Counselling skills / Listening skills / Communication skills / Decision making skills / stress inoculation / Swot analysis. Topic(s) / area will be decided by the concerned teachers committee)*

d) Preparing charts (2 variable data) with computer.

e) Calculating "t", ANOVA with computer.

Each student is required to complete practical file containing three case reports and project report and structured exercise report and submit the same for practical examination.

The maximum marks for practical examination will be as per the following scheme of distribution of marks->

Internal Assessment

Marks:40

- performance during academic session :

Assessment and evaluation of case reports,

Conduct and report of structured exercise

- 20 marks

- Field- work project report

- 20 marks

External Practical examination

MARKS:160

- simulated case presentation

- 50 marks

- and evaluation of written report

- 30 marks

- conduct of structured exercise

- 30 marks

- Viva voce

- 50 marks

-

TOTAL MARKS:

200

-



राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर

'' (सेंट्रल प्रोक्सिमस शासन शिक्षण विभागाची अधिसूचना क्रमांक ५१३ दिनांक १ ऑगस्ट, १९२३ द्वारा स्थापित व महाराष्ट्र विद्यापीठ अधिनियम, १९९४ द्वारा संशोधित राज्य विद्यापीठ)''
(विद्या विभाग)

छत्रपती शिवाजी महाराज प्रशासकीय परिसर, रविन्द्रनाथ टागोर मार्ग, नागपूर - ४४० ००१.

दूरध्वनी क्रमांक: कार्यालय: ०७१२-२५३२०६३ फॅक्स : ०७१२-२५५५७०१

क्र. रातुमनावि/विद्या/१६/१०६८

दिनांक ०५ जुलै, २०१६

अधिसूचना

सर्व संबंधितांच्या माहितीकरीता सूचित करण्यात येते की, विज्ञान विद्याशाखेअंतर्गत येणारे खालील पदवी व पदव्युत्तर अभ्यासक्रम सत्र २०१६-२०१७ पासून चौईस बेसड क्रेडीट सिस्टिम सत्र पद्धतीसह लागू करण्यात येत आहे. सदर अभ्यासक्रमाच्या परिक्षा योजना व अभ्यासकर्मीकांचे सेमीस्टर ३ व ४ मध्ये Foundation Course मध्ये नवीन विषय Core (Subject Centric) हयाला दिनांक ०८.०६.२०१६ रोजी संपन्न झालेल्या विद्वत परिषदेने व दिनांक १४.०६.२०१६ रोजी संपन्न झालेल्या व्यवस्थापन परिषदेने मान्यता प्रदान केलेली आहे. तसेच मा. कुलगुरूंनी एम.एस.सी. (फॉरेन्सिक सायन्स) अभ्यासक्रमांचे निर्देश क्रमांक ५३/२०१६ आणि एम.एससी. अभ्यासक्रमाचे निर्देश क्र. ५४/२०१६ कार्यान्वीत करण्याकरीता महाराष्ट्र विद्यापीठ अधिनियम १९९४ च्या कलम १४(८) अंतर्गत खालील नमुद अभ्यासक्रमांचे निर्देश क्रमांक ३० जून २०१६ रोजी निर्गमित केला आहे.

All M.Sc.Courses Syllabus:

Physics, Chemistry, Mathematics, Statistics, Computer Science, Electronics, Information Technology, Botany, Zoology, Microbiology, Biochemistry, Biotechnology, Environmental Science, Geology, M.Sc. Tech. Applied Geology, Molecular Biology & Genetic Engineering, Medicinal Plant, M.Sc. (Forensic Science)

उपरोक्त पदव्युत्तर अभ्यासक्रमांचे निर्देश, परिक्षा योजना व अभ्यासक्रमांका राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर. www.naguniversity.org या संकेतस्थळावर उपलब्ध करण्यात आलेले आहे.

कृपया संबंधीतानी नोंद घ्यावी

मा.कुलगुरूंच्या आदेशान्वये.

(पुरणचंद्र मेश्राम)
कुलसचिव

प्रतिलिपी माहिती व पुढील कार्यवाहीसाठी अग्रेषित:

१. संलग्नित महाविद्यालयांचे सर्व प्राचार्य/संचालक/विभाग प्रमुख
२. सर्व सभासद, विशेष कार्य समिती,
३. मा. समन्वयक, विज्ञान विद्याशाखा,
४. मा. परिक्षा नियंत्रक,
५. उपकुलसचिव (परिक्षा, पुर्व व परिक्षा उपरांत),
६. सहायक कुलसचिव (सामान्य परिक्षा),
७. सहायक कुलसचिव (गोपनीय),
८. सहायक कुलसचिव (व्यावसायिक परिक्षा)
९. अधिक्षक (निकाल विभाग),
१०. प्रभारी अधिकारी (प्रकाशन विभाग),
११. स्वीय सहाय्यक, मा. कुलगुरूंचे कार्यालय
१२. स्वीय सहाय्यक, मा. प्र- कुलगुरूंचे कार्यालय
१३. स्वीय सहाय्यक, मा. कुलसचिवांचे कार्यालय
१४. श्रीमती विना प्रकाशे, माहितीशास्त्रज्ञ,

राष्ट्रसंत तुकडोजी महाराज
नागपूर विद्यापीठ, नागपूर.

(मनिष झोडपे)
उपकुलसचिव (विद्या)

महाराष्ट्र शासन

क्रमांक: [नाविसं-२००५/विस्तार (१०/०५)/मशि-३]
उच्च व तंत्र शिक्षण विभाग,
मंत्रालय विस्तार भवन, मुंबई-४०००३२.
दिनांक:- २१ जून, २००५

प्रति,
कुलसचिव,
नागपूर विद्यापीठ,
नागपूर

विषय:- सन २००५-०६ या शैक्षणिक वर्षापासून नवीन विषय/
अभ्यासक्रम /तुकड्यांना शासन मंजूरी देण्याबाबत

संदर्भ:- कुलसचिव, नागपूर विद्यापीठ, नागपूर यांचे पत्र क्र.

म.वि.वि.मं/कुस/३८८, दिनांक १५ एप्रिल २००५ चे पत्र.

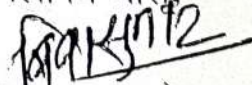
महोदय,

संदर्भाधीन पत्राने सादर केलेला प्रस्ताव विचारात घेऊन आपल्या विद्यापीठाच्या अखत्यारीतील खालील महाविद्यालयास त्याच्या नावासमोर दर्शविलेले अभ्यासक्रम/विषय/ तुकड्या सुरु करण्यास सन २००५-०६ या शैक्षणिक वर्षापासून महाराष्ट्र विद्यापीठ कायदा १९९४ च्या कलम ८३ (५) अन्वये संस्थेने भविष्यात अनुदानाची किंवा आर्थिक मदतीची मागणी करणार नाही अशा आशयाचे हमीपत्र सहसंचालक, नागपूर विभाग नागपूर यांना सादर करण्याच्या अटीवर कायम विना अनुदान तत्वावर शासनाची मंजूरी देण्यात येत आहे.

अ.क्र.	महाविद्यालयाचे नांव	अभ्यासक्रम
१.	हिस्लॉप कॉलेज, नागपूर-१	कला आणि समाजविज्ञान विद्याशाखा १) मानसशास्त्र विज्ञान विद्याशाखा २) एम.एस.सी. भाग-१ वनस्पतीशास्त्र

२. विद्यापीठाने संलग्नीकरण देण्याबाबत आवश्यक असलेली पुढील कार्यवाही करुन पूर्तता अहवाल संचालक, उच्च शिक्षण, पुणे व संबंधित विभागीय सहसंचालक, उच्च शिक्षण यांना कृपया पाठवावा.

आपला विश्वास


(बि. वा. सुतार)

अवर सचिव, महाराष्ट्र शासन

प्रत,
संचालक, उच्च शिक्षण, महाराष्ट्र राज्य, पुणे
सहसंचालक, उच्च शिक्षण, नागपूर विभाग, नागपूर.
प्राचार्य, हिस्लॉप कॉलेज, नागपूर-१

निवडनस्ती मशि-३



राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ

क्र.म.वि./150/14/1517
दिनांक :- 15-10-05

प्रति.

प्राचार्य,
हिस्लॉप कॉलेज,

नागपूर.

विषय :- सत्र 2005-2006 पासून नवीन अभ्यासक्रम/विषय/विद्याशाखा/तुकडया
यांना प्रथम संलग्निकरण देण्याबाबत.

संदर्भ :- महाराष्ट्र शासनाच्या उच्च व तंत्र शिक्षण विभागाचे पत्र क्र. नाविस-2005/विस्तार (10/05)
मशि-3, दिनांक 21 जून 2005.

महोदय,

संदर्भाकित पत्रान्वये आपल्या महाविद्यालयात सत्र 2005-2006 पासून जे
अभ्यासक्रम/विषय/विद्याशाखा/तुकडया सुरु करण्यासाठी शासनाने दिलेल्या परवानगीनुसार विद्वत
परिषदेने दि. 27.7.2005 व 28.7.2005 रोजी बाब क्र. 270 नुसार खालील अभ्यासक्रम/विषय/
विद्याशाखा/तुकडया यांना सत्र 2005-06 पासून प्रथम संलग्निकरण प्रदान करण्यास मान्यता दिली आहे.

अ.क्र.	विषय/अभ्यासक्रम/विद्याशाखा/तुकडया	प्रवेश क्षमता
१.	एम.ए. मानसशास्त्र	८० विद्यार्थी
२.	एम.एस.सी.भाग-१ वनस्पतीशास्त्र	२२ विद्यार्थी

टिप:- पत्र क्र.म.वि./१०५०/एल/१२११/
दि.९-९-२००५ चे पत्र रद्द समजण्यात यावे.

प्रथम संलग्निकरण खालील अटीच्या अधीन राहिल.

- शासनाने वेळोवेळी दिलेल्या आदेशानुसार विद्यार्थी संख्येचे निकष पाळण्याच्या अटीवर कायम विना अनुदान तत्वावर मंजूरी देण्यात येत आहे.
- शासनाने मान्यता दिलेल्या अभ्यासक्रमापैकी ज्या अभ्यासक्रमांना विद्यापीठामार्फत केंद्रीभूत प्रवेश पध्दतीने प्रवेश दिले जातात, अशा अभ्यासक्रमासाठी चालू वर्षासाठी प्रक्रिया पूर्ण झाली असल्याने