

SUBJECT WISE SYLLABUS OF PART – I AND PART – II

The syllabus for each of the paper of Part-I and II is as appended below. It is desired that each units of theory papers be covered with at least 2-hr. of input in the form of didactic lectures, seminars, tutorials/topic discussion or review of journal articles as deemed fit depending on content nature of the units. Approximately 80-hr of theory teaching shall be required in each part of the course (in all 40 units have been worked out from three theory papers of Part-I and in Part-II), in addition to opportunities for learning through clinical case management and work-ups. For this purpose, various methods of input that are normally followed are accounted as follows:

Each didactic lecture on any of the topic of the syllabus is considered as one hour of theory input. Similarly, each seminar, tutorial/topic discussion or Journal Club in the form of review of research article is considered as two hour of input in the relevant area. Attention shall be given, however, to see that each method of teaching shall not exceed 25% of the required teaching input.

Part – I (Year – I)

PAPER – I: Psychosocial Foundations of Behavior and Psychopathology

Aim:

The psychosocial perspectives attempt to understand human cognition, motives, perceptions and behavior as well as their aberrations as product of an interaction amongst societal, cultural, familial and religious factors. The overall aim is to introduce conceptualizations of mental health problems within the psychosocial framework, giving due considerations to contextual issues. Each unit in this paper pays attention to the different types of causal factors considered most influential in shaping both vulnerability to psychopathology and the form that pathology may take.

Objectives:

By the end of Part – I, trainees are required to demonstrate ability to:

1. Demonstrate a working knowledge of the theoretical application of the psychosocial model to various disorders.
2. Make distinctions between universal and culture-specific disorders paying attention to the different types of sociocultural causal factors.
3. Demonstrate an awareness of the range of mental health problems with which clients can present to services, as well as their psychosocial/contextual mediation.
4. Carry out the clinical work up of clients with mental health problems and build psychosocial formulations and interventions, drawing on their knowledge of psychosocial models and their strengths and weaknesses.

5. Apply and integrate alternative or complementary theoretical frameworks, for example, biological and/or religious perspectives, sociocultural beliefs and practices etc. in overall management of mental health problems.
6. Describe, explain and apply current code of conduct and ethical principles that apply to clinical psychologists working in the area of mental health and illness.
7. Describe Mental Health Acts and Policies, currently prevailing in the country and their implications in professional activities of clinical psychologists.

Academic Format of Units:

Learning would be mainly through clinical workup of clients presenting with range of mental health problems, and supplemented by lectures, seminars and tutorials, allowing trainees to participate in collaborative discussion.

Evaluation:

Theory – involving long and short essays

Syllabus:

Part – A (Psychosocial Foundations of Behavior)

Unit - I: Introduction: Scope of clinical psychology; overview of the profession and practice; history and growth; professional role and functions; current issues and trends; areas of specialization; ethical and legal issues; code of conduct.

Unit - II: Mental health and illness: Mental health care – past and present; stigma and attitude towards mental illness; concept of mental health and illness; perspectives – psychodynamic, behavioral, cognitive, humanistic, existential and biological models of mental health/illness;

Unit - III: Epidemiology: Epidemiological studies in Indian context; socio-cultural correlates of mental illness, mental health, psychological well-being and quality of life.

Unit - IV: Self and relationships: Self-concept, self-image, self-perception and self-regulations in mental health and illness; learned helplessness and attribution theories; social skill model; interpersonal and communication models of mental illness; stress diathesis model, resilience, coping and social support.

Unit - V: Family influences: Early deprivation and trauma; neglect and abuse; attachment; separation; inadequate parenting styles; marital discord and divorce; maladaptive peer relationships;

communication style; family burden; emotional adaptation; expressed emotions and relapse.

Unit - VI: Societal influences: Discrimination in race, gender and ethnicity; social class and structure, poverty and unemployment; prejudice, social change and uncertainty; crime and delinquency; social tension & violence; urban stressors; torture & terrorism; culture shock; migration; religion & gender related issues with reference to India.

Unit - VII: Disability: Definition and classification of disability; psychosocial models of disability; impact, needs and problems; issues related to assessment/certification of disability – areas and measures.

Unit - VIII: Rehabilitation: Approaches to rehabilitation; interventions in the rehabilitation processes; models of adaptation to disability; family and caregivers issues; rights of mentally ill; empowerment issues; support to recovery.

Unit - IX: Policies and Acts: Rehabilitation Policies and Acts (Mental Health Act of 1987, National Mental Health Program 1982, the Persons With Disabilities (equal opportunities, protection of rights and full participation) Act 1995; Rehabilitation Council of India (RCI) Act of 1992, National Trust for Mental Retardation, CP and Autistic Children 1999, Juvenile Justice Act of 1986; Mental Health Care Bill 2011; ethical and forensic issues in psychiatry practice); assistance, concessions, social benefits and support from government and voluntary organizations; contemporary challenges; rehabilitation ethics and professional code of conduct.

Part – B (Psychopathology)

Unit - X: Introduction to psychopathology: Definition; concepts of normality and abnormality; clinical criteria of abnormality; continuity (dimensional) versus discontinuity (categorical), and prototype models of psychopathology; classification and taxonomies – reliability and utility; classificatory systems, currently in use and their advantages and limitations. Approach to clinical interviewing and diagnosis; case history; mental status examination; organization and presentation of psychiatric information; diagnostic formulation.

Unit - XI: Psychological theories: Psychodynamic; behavioral; cognitive; humanistic; interpersonal; psychosocial; and other prominent theories/models of principal clinical disorders and problems, viz. anxiety, obsessive-compulsive, somatoform, dissociative, adjustment, sexual, substance use, personality, suicide, childhood and adolescence, psychotic, mood disorders, and culture-specific disorders.

Unit - XII: Indian thoughts: Concept of mental health and illness; nosology and taxonomy of mental illness; social identity and stratification (Varnashrama Vyawastha); concept of – cognition, emotion, personality, motivation and their disorders.

Essential References:

- Achenback, T.M. (1974). *Developmental Psychopathology*. New York: Ronald Press. Brislin, R. W. (1990). *Applied Cross cultural psychology*. New Delhi: Sage publications. Buss, A.H. (1966). *Psychopathology*. NY: John Wiley & Sons.
- Carson, R.C, Butcher, T.N, Mureka, S. & Hooley, J.M. (2007). *Abnormal Psychology* (13th ed.). New Delhi: Dorling Kindersley Pvt Ltd.
- Cole, J.O. & Barrett, J.E. (1980). *Psychopathology in the aged*. New York: Raven Press. Fish, F, & Hamilton, M (1979). *Fish's Clinical Psychopathology*. Bristol:John Wright & Sons.
- Irallagher, B. J. (1995). *The sociology of mental illness* (3rd ed.). New York: Prentice hall. Kakar, S. (1981). *The Inner world: a psychoanalytic study of childhood and society in India*. New Delhi: Oxford University Press.
- Kapur, M. (1995). *Mental Health of Indian Children*. New Delhi: Sage publications.
- Klein, D.M. & White, J.M. (1996). *Family theories – An introduction*. New Delhi: Sage Publications.
- Krahe, B. (1992). *Personality and Social Psychology: Towards a synthesis*. New Delhi: Sage Publications.
- Kuppuswamy, B. (1965). *An Introduction to Social Psychology* (2nd ed.). New Delhi: Konark Publishers.
- Kuppuswamy, B. (1990). *Elements of ancient Indian Psychology* (1st ed.). New Delhi: Konark Publishers.
- Lindzey, G., & Aronson, E. (1975). *Handbook of Social Psychology* (Vols. 1 & 5). New Delhi: Amerind Publishing.
- Madan, G.R (2003). *Indian Social Problems* (Vols. 1-2). New Delhi: Allied Publishers Pvt. Ltd
- Mash, E.J & Wolfe, D.A. (1999). *Abnormal Child Psychology*. New York: Wadsworth Publishing
- Millon, T., Blaney, P.H. & Davis, R.D. (1999). *Oxford Textbook of Psychopathology*. New York: Oxford University.
- Pfeiffer, S.I. (1985). *Clinical Child Psychology*. New York: Grune & Stratton.
- Radley, A. (1994) . *Making sense of illness: The social psychology of health and disease*. New Delhi: Sage Publications.
- Rao, H.S.R & Sinha D. (1997). *Asian perspectives in Psychology* (Vol. 19). New Delhi: Sage publications:
- Saraswathi, T.S (1999). *Culture, Socialization and human development*. New Delhi: Sage publications.
- Walker, C.E & Roberts, M.C. (2001). *Handbook of Clinical Child Psychology* (3rd ed.). Canada: John Wiley & Sons.

PAPER - II: Statistics and Research Methodology

Aim:

The aim of this paper is to elucidate various issues involved in conduct of a sound experiment/survey. With suitable examples from behavioral field, introduce the trainees to the menu of statistical tools available for their research, and to develop their understanding of the conceptual bases of these tools. Tutorial work will involve exposure to the features available in a large statistical package (SPSS) while at the same time reinforcing the concepts discussed in lectures.

Objectives:

By the end of Part – II, trainees are required to demonstrate ability to:

1. Understand the empirical meaning of parameters in statistical models
2. Understand the scientific meaning of explaining variability
3. Understand experimental design issues - control of unwanted variability, confounding and bias.
4. Take account of relevant factors in deciding on appropriate methods and instruments to use in specific research projects.
5. Understand the limitations and shortcomings of statistical models
6. Apply relevant design/statistical concepts in their own particular research projects.
7. Analyze data and interpret output in a scientifically meaningful way
8. Generate hypothesis/hypotheses about behavior and prepare a research protocol outlining the methodology for an experiment/survey.
9. Critically review the literature to appreciate the theoretical and methodological issues involved.

Academic Format of Units:

The course will be taught mainly in a mixed lecture/tutorial format, allowing trainees to participate in collaborative discussion. Demonstration and hands-on experience with SPSS program are desired activities.

Evaluation:

Theory - involving long and short essays, and problem-solving exercises

Syllabus:

Unit - I: Introduction: Various methods to ascertain knowledge, scientific method and its features; problems in measurement in behavioral sciences; levels of measurement of psychological variables - nominal, ordinal, interval and ratio scales; test construction - item analysis, concept and methods of establishing reliability, validity and norms.

Unit - II: Sampling: Probability and non-probability; various methods of sampling - simple random, stratified, systematic, cluster and multistage sampling; sampling and non-sampling errors and methods of minimizing these errors.

Unit - III: Concept of probability: Probability distribution - normal, poisson, binomial; descriptive statistics - central tendency, dispersion, skewness and kurtosis.

Unit - IV: Hypothesis testing: Formulation and types; null hypothesis, alternate hypothesis, type I and type II errors, level of significance, power of the test, p-value. Concept of standard error and confidence interval.

Unit - V: Tests of significance - Parametric tests: Requirements, "t" test, normal z-test, and "F" test including post-hoc tests, one-way and two-way analysis of variance, analysis of covariance, repeated measures analysis of variance, simple linear correlation and regression.

Unit – VI : Tests of significance – Non –parametric tests : Assumptions; One-sample tests (sign test, Mc Nemer test); two sample test (Mann Whitney U test, Wilcoxon rank sum test); k-sample tests (Kruskal Wallies test, and Friedman test) and chi-square test.

Unit - VII: Experimental design: Randomization, replication, completely randomized design, randomized block design, factorial design, crossover design, single subject design, non-experimental design.

Unit - VIII: Epidemiological studies: Epidemiological studies: Rates- Prevalence and incidence; Types- Prospective and retrospective studies; Diagnostic Efficiency Statistics (sensitivity, specificity, predictive values); Risk Estimation- odds ratio and survival analysis.

Unit - IX: Multivariate analysis: Introduction, Multiple regression, logistic regression, factor analysis, cluster analysis, discriminant function analysis, path analysis, MANOVA, Canonical correlation, and Multidimensional scaling.

Unit - X: Sample size estimation: Sample size determination for estimation of mean, estimation of proportion, comparing two means and comparing two proportions.

Unit - XI: Qualitative analysis of data: Content analysis, qualitative methods of psychosocial research.

Unit - XII: Use of computers: Use of relevant statistical package in the field of behavioral science and their limitations.

Essential References:

- B.L. (2007). *Qualitative Research: Methods for the social sciences* (6th ed.). New York: Pearson Education.
- Daniel, W.W. (2005). *Biostatistics: a foundation for analysis in health sciences* (8th ed.). New York: John Wiley and Sons.
- Dillon, W.R. & Goldstein, M. (1984). *Multivariate analysis: Methods & Applications*. New York: John Wiley & Sons.
- Hassart, T.H. (1991). *Understanding Biostatistics*. ST. Louis: Mosby Year Book.
- Kerlinger, F.N. (1995). *Foundations of Behavioral Research*. New York: Holt, Rinehart & Winston.
- Kothari, C. R. (2003). *Research Methodology*. New Delhi: Wishwa Prakshan.
- Siegal, S. & Castellan, N.J. (1988). *Non-parametric statistics for the behavioral sciences*. McGraw Hill: New Delhi

PAPER – III: Psychiatry

Aim:

The aim is to train in conceptualization of psychopathology from different etiological perspectives, eliciting phenomenology and arrive at the clinical diagnosis following a classificatory system and propose/carry out psychological interventions including psychosocial treatment/management for the entire range of psychological disorders. Also, to train in assessing the caregivers' burden, disability and dysfunctions that are often associated with mental disorders and intervene as indicated in a given case.

Objectives:

By the end of Part – I, trainees are required to demonstrate ability to:

1. Demonstrate an understanding of a clinically significant behavioral and psychological syndrome, and differentiate between child and adult clinical features/presentation.
2. Understand that in many ways the culture, societal and familial practices shape the clinical presentation of mental disorders, and understand the role of developmental factors in adult psychopathology.
3. Carry out the clinical work up of clients presenting with the range of mental health problems and make clinical formulations/diagnosis drawing on their knowledge of a pertinent diagnostic criteria and phenomenology.
4. Summarizes the psychosocial, biological and sociocultural causal factors associated with mental health problems and neuropsychological disorders with an emphasis on biopsychosocial and other systemic models.
5. Carry out with full competence the psychological assessment, selecting and using a variety of instruments in both children and adults.
6. Describe various intervention programs in terms of their efficacy and effectiveness with regard to short and longer term goals, and demonstrate beginning competence in carrying out the indicated interventions, monitor progress and outcome.
7. Discuss various pharmacological agents that are used to treat common mental disorders and their mode of action.
8. Demonstrate an understanding of caregiver, and family burden and their coping style.
9. Assess the disability/dysfunctions that are associated with mental health problems, using appropriate measures.
10. Discuss the medico-legal and ethical issues in patients requiring chronic care and institutionalization.

Academic Format of Units:

The learning would be primarily through clinical workups of cases having psychiatric disorders. A mixed lectures/seminar format, allowing trainees to participate in collaborative discussion, could be adapted in addition, for imparting theory components.

Evaluation:

Theory – involving long and short essays, practical/clinical exam in psychological assessment of psychiatric cases and comprehensive viva.

Syllabus:

Unit - I: Signs and symptoms: Disorders of consciousness, attention, motor behavior, orientation, experience of self, speech, thought, perception, emotion, and memory.

Unit - II: Psychoses: Schizophrenia, affective disorders, delusional disorders and other forms of psychotic disorders – types, clinical features, etiology and management.

- Unit - III: Neurotic, stress-related and somatoform disorders: types, clinical features, etiology and management.
- Unit - IV: Disorders of personality and behavior: Specific personality disorders; mental & behavioral disorders due to psychoactive substance use; habit and impulse disorders; sexual disorders and dysfunctions – types, clinical features, etiology and management.
- Unit - V: Organic mental disorders: Dementia, delirium and other related conditions with neuralgic and systemic disorders – types, clinical features, etiology and management.
- Unit - VI: Behavioral, emotional and developmental disorders of childhood and adolescence: types, clinical features, etiology and management.
- Unit - VII: Mental retardation: Classification, etiology and management.
- Unit - VIII: Neurobiology of mental disorders: Neurobiological theories of psychosis, mood disorders, suicide, anxiety disorders, substance use disorders and other emotional and behavioral syndromes.
- Unit - IX: Therapeutic approaches: Drugs, ECT, psychosurgery, psychotherapy, and behavior therapy, preventive and rehabilitative strategies – half-way home, sheltered workshop, daycare, and institutionalization.
- Unit - X: Consultation-liaison psychiatry: Psychiatric consultation in general hospital; primary care setting.
- Unit - XI: Special populations/Specialties: Geriatric, terminally ill, HIV/AIDS, suicidal, abused, violent and noncooperative patients; psychiatric services in community, and following disaster/calamity.

Essential References:

- Gelder, M., Gath, D., & Mayon, R. (1989). *Oxford Textbook of Psychiatry* (2nd ed.). New York: Oxford University Press.
- Kaplan, B.J. & Sadock, V.A., (1995). *Comprehensive Textbook of Psychiatry* (6th ed.). London: William & Wilkins.
- Rutter, M. & Herson, L. (1994). *Child and Adolescent Psychiatry: Modern approaches* (3rd ed.). London: Blackwell Scientific Publications.
- Sims, A. & Bailliere, T. (1988). *Symptoms in mind: Introduction to descriptive psychopathology*. London: WB Saunders.
- Vyas, J.N. & Ahuja, N. (1999). *Textbook of postgraduate psychiatry* (2nd ed., Vols. 1-2). New Delhi: Jaypee brothers.

PRACTICAL – Psychological Assessments (Part – I)

Aim:

To provide hands-on experience in acquiring the necessary skills and competency in selecting, administering, scoring and interpreting psychological tests often employed in clients with mental or neuropsychological disorders. Since psychological assessment involves integration of information from multiple sources, the trainees are required to be

given extensive exposure in working up of cases and carrying out the assessment at all levels. Typical areas of focus for psychological assessment includes (not necessarily limited to): cognition, intelligence, personality, diagnostic, levels of adjustment, disability/functional capacity, neuropsychological functions, clinical ratings of symptomatology, variables that help/direct treatment, and assess treatment outcomes.

Objectives:

By the end of Part – I, trainees are required to demonstrate ability to:

1. Use relevant criteria to assess the quality and appropriateness of a psychological test and evaluate its strengths and weaknesses for clinical purposes.
2. Able to carry out the clinical work-up and discuss the diagnostic possibilities based on the history and mental status examination of the clients with psychological/neuropsychological problems.
3. Synthesize and integrate collateral information from multiple sources and discuss the rationale for psychological assessment as relevant to the areas being assessed.
4. Select and justify the use of psychological tests and carry out the assessment as per the specified procedures in investigating the relevant domains.
5. Interpret the findings in the backdrop of the clinical history and mental status findings and arrive at a diagnosis.
6. Prepare the report of the findings as relevant to the clinical questions asked or hypothesis set up before the testing began, and integrate the findings in service activities.

Academic Format of Units:

Acquiring the required competency/skills would be primarily through clinical workups of cases having psychological/neuropsychological disorders and carrying out the indicated psychological assessments within the clinical context. Demonstration and tutorials shall be held for imparting practical/theory components of the psychological tests.

Evaluation:

Practical/clinical – involve working up cases and carrying out the psychological assessment within clinical context and viva voce.

Syllabus:

- Unit - I: Introduction: Case history; mental status examination; rationale of psychological assessment; behavioral observations, response recording, and syntheses of information from different sources; formats of report writing.
- Unit - II: Tests of cognitive functions: Bender gestalt test; Wechsler memory scale; PGI memory scale; Wilcoxon card sorting test, Bhatia's battery of performance tests of intelligence; Binet's test of intelligence (locally standardized); Raven's progressive matrices (all versions); Wechsler adult intelligence scale – Indian adaptation (WAPIS – Ramalingaswamy's), WAIS-R.
- Unit - III: Tests for diagnostic clarification: A) Rorschach psychodiagnostics, B) Tests for thought disorders – color form sorting test, object sorting test, proverbs test, C) Minnesota multiphasic personality inventory; multiphasic questionnaire, clinical analysis questionnaire, IPDE, D) screening instruments such as GHQ, hospital anxiety/depression scale etc. to detect psychopathology.
- Unit - IV: Tests for adjustment and personality assessment: A) Questionnaires and inventories – 16 personality factor questionnaire, NEO-5 personality inventory, temperament and character inventory, Eysenck's personality inventory, Eysenck's personality questionnaire, self-concept and self-esteem scales, Rottor's locus of control scale, Bell's adjustment inventory (students' and adults'), subjective well-being questionnaires, QOL, B) projective tests – sentence completion test, picture frustration test, draw-a-person test; TAT – Murray's and Uma Chowdhary's.
- Unit - V: Rating scales: Self-rated and observer-rated scales of different clinical conditions such as anxiety, depression, mania, OCD, phobia, panic disorder etc. (including Leyton's obsessional inventory, Y-BOCS, BDI, STAI, HADS, HARS, SANS, SAPS, PANSS, BPRS), issues related to clinical applications and recent developments.
- Unit - VI: Psychological assessment of children: A) Developmental psychopathology check list, CBCL, B) Administration, scoring and interpretation of tests of intelligence scale for children such as SFB, C-RPM, Malin's WISC, Binet's tests, and developmental schedules (Gesell's, Illingworth's and other) Vineland social maturity scale, AMD adaptation scale for mental retardation, BASIC-MR, developmental screening test (Bharatraj's), C) Tests of scholastic abilities, tests of attention, reading, writing, arithmetic, visuo-motor gestalt, and integration, D) Projective tests – Raven's controlled

projection test, draw -a-person test, children's apperception test, E) Clinical rating scales such as for autism, ADHD etc.

Unit - VII: Tests for people with disabilities: WAIS-R, WISC-R (for visual handicapped), blind learning aptitude test, and other interest and aptitude tests, Kauffman's assessment battery and such other tests/scales for physically handicapped individuals.

Unit - VIII: Neuropsychological assessment: LNNB, Halstead-Reitan battery, PGI-BBD, NIMHANS and other batteries of neuropsychological tests in current use.

Core Tests: (additions proposed)

1. Stanford Binet's test of intelligence (any vernacular version)
2. Raven's test of intelligence (all forms)
3. Bhatia's battery of intelligence tests
4. Wechsler adult performance intelligence scale
5. Malin's intelligence scale for children
6. Gesell's developmental schedule
7. Wechsler memory scale
8. PGI memory scale
9. 16 personality factor questionnaire
10. NEO-5 personality inventory
11. Temperament and character inventory
12. Children personality questionnaire
13. Clinical analysis questionnaire
14. Multiphasic questionnaire
15. Object sorting/classification test
16. Sentence completion test
17. Thematic apperception test
18. Children' apperception test
19. Rorschach psychodiagnostics
20. Neuropsychological battery of tests (any standard version)

A certificate by the head of the department that the candidate has attained the required competence in all of the above tests shall be necessary for appearing in the university examinations of Part – I. However, if the center opts to test and certify the competency in neuropsychological tests as part of the requirements for appearing in the university examinations of Part - II (i.e. excluding it from Part - I), it could be done so. In such case, the Practical/Clinical

examinations of Part – II shall include an examination in this area, in addition to examination in Psychological Therapies.

Essential References:

- Bellack, A.S. & Hersen, M. (1998). *Comprehensive Clinical Psychology: Assessment* (Vol. 4). London: Elsevier Science Ltd.
- Choudhary, U. (1960). *An Indian modification of the Thematic Apperception Test*. Calcutta: Shree Saraswathi Press.
- Exner, J.E. (2002). *The Rorschach – A Comprehensive System*, (4th ed., Vol.1). New York: John Wiley and Sons.
- Freeman, F.S. (1965). *Theory and practice of psychological testing*. New Delhi: Oxford and IHBN.
- Hersen, M., Segal, D.L., & Hilsenroth, M.J. (2004). *Comprehensive handbook of psychological assessment (Vols. 1-2)*. New York: John Wiley & Sons.
- Murray, H.A. (1971) *The Thematic Apperception Test manual*. London: Harvard University Press.

Part - II (Year - II)

PAPER – I: Biological Foundations of Behavior

Aim:

Brain disorders cause symptoms that look remarkably like other functional psychological disorders. Learning how brain is involved in the genesis of normal and abnormal behavioral/emotional manifestation would result in better clinical judgment, lesser diagnostic errors and increase sensitivity to consider and rule out a neuropsychological origin or biochemical mediation of the psychopathology. Also, current researches have indicated many pharmacological agents dramatically alter the severity and course of certain mental disorders, particularly the more severe disorders. Therefore, the aim of this paper is to provide important biological foundations of human behavior and various syndromes. The main focus is the nervous system and its command center – the brain.

Objectives:

By the end of Part – I, trainees are required to demonstrate ability to:

1. Describe the nature and basic functions of the nervous system.
2. Explain what neurons are and how they process information.
3. Identify the brain's levels and structures, and summarize the functions of its structures.
4. Describe the biochemical aspects of brain and how genetics increase our understanding of behavior.

5. State what endocrine system is and how it regulates internal environment and affects behavior.
6. Discuss the principles of psychopharmacology and review the general role of neurotransmitters and neuromodulators in the brain.
7. Describe the monoaminergic and cholinergic pathway in the brain and the drugs that affect these neurons.
8. Describe the role of neurons that release amino acid neurotransmitters and the drugs that affect these neurons.
9. Describe what kinds of clinical symptoms are often associated with lesions of frontal, parietal, temporal and occipital lobes of the brain.
10. Describe what kinds of neuropsychological deficits are often associated with lesions of frontal, parietal, temporal and occipital lobes of the brain, and carry out the indicated neuropsychological assessment employing any valid battery of tests.
11. Describe what kinds of neuropsychological deficits are often associated with subcortical lesions of the brain.
12. List symptoms that are typical of focal and diffuse brain damage.
13. Enumerate the characteristics of clinical syndrome and the nature of neuropsychological deficits seen in various cortical and subcortical dementias.
14. Describe the neuropsychological profile of principal psychiatric syndromes.
15. Demonstrate an understanding of functional neuroimaging techniques and their application in psychological disorders and cognitive neuroscience.

16. Demonstrate an understanding of the principles involved in neuropsychological assessment, its strengths and weaknesses, and its indications.
17. Describe the nature of disability associated with head injury in the short and longer term, methods of remedial training and their strengths and weakness.

Academic Format of Units:

The learning would be primarily through clinical assessment of cases with brain lesions and disorders. Lectures, seminars and demonstrations by the experts in specific discipline, disease, topics such as by Anatomist, Biochemist, Physiologist, Psychiatrist, Neurologist and Neurosurgeons are required to impart knowledge and skills in certain domains. Depending on the resources available at the center these academic activity can be arranged.

Evaluation:

Theory – involving long and short essays, practical/clinical exam in neuropsychological assessment with cases having a brain lesion/disorder and comprehensive viva.

Syllabus:

Part – A (Anatomy, Physiology and Biochemistry of CNS)

Unit – I: Anatomy of the brain: Major anatomical sub-divisions of the human brain; the surface anatomy and interior structures of cortical and sub-cortical regions; anatomical connectivity among the various regions; blood supply to brain and the CSF system; cytoarchitecture and modular organization in the brain.

Unit – II: Structure and functions of cells: Cells of the nervous system (neurons, supporting cells, blood-brain barrier); communication within a neuron (membrane potential, action potential); communication between neurons (neurotransmitters, neuromodulators and hormones).

Unit – III: Biochemistry of the brain: Biochemical, metabolic and genetic aspect of Major mental disorders, mental retardation and behavioural disorders.

Unit – IV: Neurobiology of sensory-motor systems and internal environment: Organization of sensory-motor system in terms of receptors and thalamus- cortical pathways; and motor responses. Role of limbic, autonomic and the neuroendocrine system in regulating the internal environment

Unit – VII: Neurotransmitters and behaviour: Role of neurotransmitters and neuromodulators (acetylcholine, monoamines, amino acids, peptides, lipids) in various aspects of behaviour

Part – B (Neuropsychology)

Unit - VIII: Introduction: Relationship between structure and function of the brain; the rise of neuropsychology as a distinct discipline, logic of cerebral organization; localization and lateralization of functions; approaches and methodologies of clinical and cognitive neuropsychologists.

Unit- IX: Frontal lobe syndrome: Disturbances of regulatory functions; attentional processes; emotions; memory and intellectual activity; language and motor functions.

Unit-X: Temporal lobe syndrome: Special senses – hearing, vestibular functions and integrative functions; disturbances in learning and memory functions; language, emotions, time perception and consciousness.

Unit – XI: Parietal and occipital lobe syndromes: Disturbances in sensory functions and body schema perception; agnosias and apraxias; disturbances in visual space perception; color perception; writing and reading ability.

Unit – XII – Neuropsychological profile of neuro-psychiatric conditions : Neuropsychological profile of cortical and subcortical dementia; major mental disorders and substance use disorders.

Unit – XIII: Functional human brain mapping: QEEG, EP & ERP, PET, SPECT, fMRI

Unit – XIV: Neuropsychological assessment: Introduction, principles, relevance, scope and indications for neuropsychological assessment and issues involved in neuropsychological assessment of children.

Unit – XV: Neuropsychological rehabilitation: Principles, objectives and methods of neuro-rehabilitation of traumatic brain injury, organic brain disorders, major psychiatric disorders and behavioural disorders; scope of computer-based retraining, neurofeedback, cognitive aids.

Essential References:

- Bellack A.S. & Hersen M. (1998). *Comprehensive clinical psychology- Assessment (Vol. 4)*. London: Elsevier Science Ltd.
- Carlson, N.R. (2005). *Foundations of physiological psychology (6th ed.)*. New Delhi: Pearson Education Inc.
- Gazaaniga, M. S. (1984). *Handbook of cognitive neuroscience*. New York: Plenum Press.
- Golden, C.J. & Charles, C.T. (1981). *Diagnosis & Rehabilitation in clinical neuropsychology*. New York: Spring Field.
- Grant, I. & Adams, K.M. (1996). *Neuropsychological assessment of neuropsychiatric disorders (2nd ed.)*. New York: Oxford University Press.
- Grant, I. & Adams, K.M. (1996). *Neuropsychological assessment of neuropsychiatric disorders (2nd ed.)*. Oxford University Press: NY.
- Guyton, A.C. & Hall, J.E. (2006). *Textbook of medical physiology*. Philadelphia: Saunders Company.
- Jain, A.K. (2005). *Textbook of physiology (Vol. 2)*. New Delhi: Avichal Publishing Company.
- Kandel, E. R, & Schwartz, J. H (1985). *Principles of neural science*. New York: Elsevier.
- Kirshner H.S, (1986). *Behavioral Neurology*. New York: Churchill Livingstone.
- Kolb, B. & Whishaw, I.Q. (2007). *Fundamentals of human neuropsychology (6th ed)*. New York: Worth Publishers.
- Lezak, M.D. (1995). *Neuropsychological assessment*. New York: Oxford University Press.
- Prigatano, G.P. (1999). *Principles of Neuropsychological Rehabilitation*. New York: Oxford University Press.
- Rohrbaugh, J.W (1990). *Event Related brain potentials – Basic issues & applications*. New York: Oxford University Press.
- Snell, R.S. (1992). *Clinical Neuroanatomy for Medical Students*. Boston: Little Brown & Co.
- Stahl, S.M. (1998). *Essential psychopharmacology*. London: Cambridge University Press.
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PAPER - II: Psychotherapy and Counseling

Aim:

Impart knowledge and skills necessary to carry out psychological interventions in mental health problems with required competency. As a prelude to problem-based learning within a clinical context, the trainees are introduced to factors that lead to development of an effective working therapeutic alliance, pre-treatment assessment, setting therapy goals,

evaluation of success of therapy in producing desired changes, and variables that affect the therapy processes. Further, the aim is to equip the trainees with various theories of clinical problems, and intervention techniques, and their advantages and limitations.

Objectives:

By the end of Part – II, trainees are required to demonstrate ability to:

1. Describe what factors are important in determining how well patients do in psychotherapy?
2. Demonstrate an ability to provide a clear, coherent, and succinct account of patient's problems and to develop an appropriate treatment plan.
3. Demonstrate a sense of working collaboratively on the problem and ability to foster an effective alliance.
4. Demonstrate a working knowledge of theoretical application of various approaches of therapy to clinical conditions.
5. Set realistic goals for intervention taking into consideration the social and contextual mediation.
6. Carry out specialized assessments and interventions, drawing on their knowledge of pertinent outcome/evidence research.
7. Use appropriate measures of quantifying changes and, apply and integrate alternative or complementary theoretical approach, depending on the intervention outcome.
8. Demonstrate skills in presenting and communicating some aspects of current intervention work for assessment by other health professionals, give and receive constructive feedback.
9. Demonstrate ability to link theory-practice and assimilate clinical, professional, academic and ethical knowledge in their role of a therapist.
10. Present a critical analysis of intervention related research articles and propose their own methods/design of replicating such research.

Academic Format of Units:

Acquiring the required competency/skills would be primarily through clinical workups and carrying out of various treatment techniques, under supervision, within clinical context. The trainees are required to be involved in all clinical service activities – institutional or community based, of the center. Demonstration, clinical issue seminar, clinical seminar, clinical case conferences are required to be planned to impart the necessary knowledge and skills.

Evaluation:

Theory - involving long and short essays, and practical/clinical - involving workup and assessment of clinical cases with viva voce.

Syllabus:

- Unit - I: Introduction to Psychotherapy: Definitions, objectives, issues related to training professional therapists; ethical and legal issues involved in therapy work; rights and responsibilities in psychotherapy; issues related to consent (assent in case of minors); planning and recording of therapy sessions; structuring and setting goals; pre- and post-assessment; practice of evidence-based therapies.
- Unit - II: Therapeutic Relationship: Client and therapist characteristics; illness, technique and other factors influencing the relationship.
- Unit - III: Interviewing: Objectives of interview, interviewing techniques, types of interview, characteristics of structured and unstructured interview, interviewing skills (micro skills), open-ended questions, clarification, reflection, facilitation and confrontation, silences in interviews, verbal and non-verbal components.
- Unit - IV: Affective psychotherapies: Origin, basis, formulation, procedures, techniques, stages, process, outcome, indications, and research & current status with respect to psychodynamic, brief psychotherapy, humanistic, existential, gestalt, person-centered, Adlerian, transactional analysis, reality therapy, supportive, clinical hypnotherapy, play therapy, psychodrama, and oriental approaches such as yoga, meditation, shavasana, pranic healing, reiki, tai chi etc.
- Unit – V: Behavior therapies: Origin, foundations, principles & methodologies, problems and criticisms, empirical status, behavioral assessment, formulations and treatment goals, Desensitization - (imaginal, in-vivo, enriched, assisted), Extinction - (graded exposure, flooding and response prevention, implosion, covert extinction, negative practice, stimulus satiation), Skill training - (assertiveness training, modeling, behavioral rehearsal), Operant procedures - (token economy, contingency management), Aversion - (faradic aversion therapy, covert sensitization, aversion relief procedure, anxiety relief procedure and avoidance conditioning), Self-control procedures - (thought stop, paradoxical intention, stimulus satiation), Biofeedback – (EMG, GSR, EEG, Temp., EKG), Behavioral counseling, Group behavioral approaches, Behavioral family/marital therapies.
- Unit - VI: Cognitive therapies: Cognitive model, principles and assumptions, techniques, indications and current status of rational emotive behavior therapy, cognitive behavior therapy, cognitive analytic therapy, dialectical behavior therapy, problem-solving therapy, mindfulness based cognitive therapy, schema focused therapy, cognitive restructuring, and other principal models of cognitive therapies.

Unit – VII: Systemic therapies: Origin, theoretical models, formulation, procedures, techniques, stages, process, outcome, indications, and research & current status with respect to family therapy, marital therapy, group therapy, sex therapy, interpersonal therapy and other prominent therapies.

Unit – VIII: Physiological therapies: Origin, basis, formulation, procedures, techniques, stages, process, outcome, indications, and current status with respect to progressive muscular relaxation, autogenic training, biofeedback, eye-movement desensitization and reprocessing, and other forms of evidence-based therapies.

Unit – IX: Counseling: Definition and goals, techniques, behavioral, cognitive and humanistic approaches, process, counseling theory and procedures to specific domains of counseling.

Unit - X: Therapy in special conditions: Therapies and techniques in the management of deliberate self harm, bereavement, traumatic, victims of man-made or natural disasters, in crisis, personality disorders, chronic mental illness, substance use, HIV/AIDS, learning disabilities, mental retardation, and such other conditions where integrative/eclectic approach is the basis of clinical intervention.

Unit - XI: Therapy with children: Introduction to different approaches, psychoanalytic therapies (Ana Freud, Melanie Klein, Donald Winnicott); special techniques (behavioral and play) for developmental internalizing and externalizing disorders; therapy in special conditions such as psycho-physiological and chronic physical illness; parent and family counseling; therapy with adolescents.

Unit – XII: Psychoeducation (therapeutic education): Information and emotional support for family members and caregivers, models of therapeutic education, family counseling for a collaborative effort towards recovery, relapse-prevention and successful rehabilitation with regard to various debilitating mental disorders.

Unit – XIII: Psychosocial rehabilitation: Rehabilitation services, resources, medical and psychosocial aspects of disability, assessment, group therapy, supportive therapy and other forms of empirically supported psychotherapies for core and peripheral members.

Unit - XIV: Indian approaches to Psychotherapy: Yoga, Meditation, Mindfulness –based intervention: methods , processes and outcome.

Unit - XV: Contemporary issues and research: Issues related evidence-based practice, managed care, and research related to process and outcome.

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PAPER - III: Behavioral Medicine

Aim:

Health psychology, as one of the subspecialties of applied psychology, has made a notable impact on almost the entire range of clinical medicine. The field deals with psychological theories and methods that contribute immensely to the understanding and appreciation of health behavior, psychosocial and cultural factors influencing the development, adjustment to, treatment, outcome and prevention of psychological components of medical problems. The aim of behavioral medicine is to elucidate the effects of stress on immune, endocrine, and neurotransmitter functions among others, psychological process involved in health choices individuals make and adherence to preventive regimens, the effectiveness of psychological interventions in altering unhealthy lifestyles and in directly reducing illness related to various systems. Further, to provide the required skills and competency to assess and intervene for psychological factors that may predispose an individual to physical illness and that maintain symptoms, in methods of mitigating the negative effects of stressful situations/events, and buffering personal resources.

Objectives:

By the end of Part – II, trainees are required to demonstrate ability to:

1. Appreciate the impact of psychological factors on developing and surviving a systemic illness.
2. Understand the psychosocial impact of an illness and psychological interventions used in this context.
3. Understand the psychosocial outcomes of disease, psychosocial interventions employed to alter the unfavorable outcomes.
4. Understand the rationale of psychological interventions and their relative efficacy in chronic disease, and carry out the indicated interventions.
5. Understand the importance of physician-patient relationships and communication in determining health outcomes.
6. Understand of how basic principles of health psychology are applied in specific context of various health problems, and apply them with competence.
7. Demonstrate the required sensitivity to issues of death and dying, breaking bad news, and end-of-life issues.
8. Carry out specialized interventions during period of crisis, grief and bereavement.
9. Understand, assimilate, apply and integrate newer evidence-based research findings in therapies, techniques and processes.
10. Critically evaluate current health psychology/behavioral medicine research articles, and present improved design/methods of replicating such research.

11. Demonstrate the sense responsibility while working collaboratively with another specialist and foster a working alliance.

Academic Format of Units:

Format would be essentially same as Paper – I on Therapies. The competency/skills are imparted through supervised workups, assessment and practical work of carrying out various treatment techniques within clinical context. Depending on availability of resources at the parent center, the trainees may be posted for extra-institutional learning. Demonstration, clinical issue seminar, clinical seminar, clinical case conferences are required to impart the necessary knowledge and skills.

Evaluation:

Theory - involving long and short essays, and practical/clinical - involving workup and assessment of clinical cases with viva voce.

Syllabus:

Unit – I: Introduction: Definition, boundary, psychological and behavioral influences on health and illness, neuroendocrine, neurotransmitter and neuroimmune responses to stress, negative affectivity, behavioral patterns, and coping styles, psychophysiological models of disease, theoretical models of health behavior, scope and application of psychological principles in health, illness and health care.

Unit – II: Central nervous system: Cognitive, personality, behavioral, emotional disturbances in major CNS diseases like cerebrovascular (stroke, vascular dementia etc.), developmental (cerebral palsy), degenerative (Parkinson's etc.), trauma (traumatic brain and spinal cord injury), convulsive (epilepsy), and infectious (AIDS dementia), assessment and methods for psychological intervention and rehabilitation with such patients.

Unit – III: Cardiovascular system: Psychosocial, personality, lifestyle, and health practice issues, psychobehavioral responses including coping with illness and functional loss in hypertension, MI, following CABG and other cardiovascular conditions, salient issues with regard to quality-of-life and well-being, empirically proven methods of psychological management of CVS diseases.

Unit – IV: Respiratory system: precipitants, such as emotional arousal, and other external stimuli, exacerbants such as anxiety and panic symptoms, effects, such as secondary gain, low self-esteem in asthma and other

airway diseases, psychological, behavioral and biofeedback strategies as adjunct in the management.

Unit – V: Gastrointestinal system: Evaluation of psychological factors including personality characteristics and stress/coping style in functional GI disorder such as irritable bowel syndrome, inflammatory bowel disease, peptic ulcer disease, esophageal disorder etc., role of psychotherapy, behavior modification, cognitive restructuring, biofeedback and relaxation training.

Unit – VI: Genitourinary/renal/reproductive system: Psychosocial issues in male/female sexual dysfunctions, micturition/voiding problems including primary/secondary enuresis, end-stage renal disease, dialysis treatment, primary and secondary infertility, empirically validated psychological and behavioral interventions in these conditions.

Unit – VII: Dermatology: Role of stress and anxiety in psychodermatological conditions such as psoriasis, chronic urticaria, dermatitis, alopecia and the impact of these on self-esteem, body image and mood, role of psychological interventions such as relaxation, stress management, counseling and biofeedback strategies.

Unit – VIII: Oncology: Psychosocial issues associated with cancer - quality of life, denial, grief reaction to bodily changes, fear of treatment, side effects, abandonment, recurrence, resilience, assessment tools, and goals of interventions for individual and family, and therapy techniques.

Unit – IX: HIV/AIDS: Model of HIV disease service program in India, pre- and post-test counseling, psychosocial issues and their resolutions during HIV progress, psychological assessment and interventions in infected adults and children, and family members/caregivers, highly active anti-retroviral treatments (HAART), neuropsychological findings at different stages of infection, issues related to prevention/spreading awareness and interventions in at risk populations.

Unit – X: Pain: Physiological and psychological processes involved in pain experience and behavior, assessment tools for acute and chronic pain intensity, behavior, and dysfunctions/disability related to pain, psychological interventions such as cognitive, behavioral, biofeedback and hypnotic therapies.

Unit – XI: Terminally ill: Medical, religious and spiritual definition of death and dying, psychology of dying and bereaved family, strategies of breaking bad news, bereavement and grief counseling, management of pain and other physical symptoms associated with end-of-life distress in patients with cancer, AIDS, and other terminal illness, professional issues related to working in hospice including working through one's

own death anxiety, euthanasia – types, arguments for and against.

Unit – XII: Other general clinical conditions: Application of psychological techniques and their rationale in the clinical care of patients in general medical settings where psychological services appears to affect the outcome of medical management positively, for example in diabetes, sleep disorders, obesity, dental anxiety, burns injury, pre- and post-surgery, preparing for amputation, evaluation of organ donors/recipient, pre- and post-transplantation, organ replacement, hemophiliacs, sensory impairment, rheumatic diseases, abnormal illness behavior, health anxiety etc.

Unit – XIII: Contemporary Issues: Research and developments in health psychology, psychophysiology, psychoneuroimmunology, psychobiology, sociobiology and their implications, and effects of psychotherapy on the biology of brain.

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