Master of Arts in Clinical Psychology

RCI Regulated Programme

Guidelines & Syllabus

Effective from Academic Session 2025-26 Two Years Duration

(In place of present M.Phil. Clinical Psychology)

Rehabilitation Council of India New Delhi 2025

REHABILITATIONCOUNCILOFINDIA

(Statutory Body of the Ministry of Social Justice & Empowerment) Department of Empowerment of Persons with Disabilities (Divyangjan) Government of India B-22, Qutab Institutional Area New Delhi – 110 016

Preface

With the implementation of NEP 2020 there has been marked shift in higher education including professional education. One of the changes mandated by UGC is to discontinue all M.Phil. programmes including M.Phil. in Clinical Psychology. It has therefore, necessitated the present programme in place of M.Phil. Clinical Psychology. It is being nomenclated as "M.A. (Cinical Psychology) 2 year programme, RCI regulated"

The Rehabilitation Council of India (RCI), a statutory body developing and regulating rehabilitation education and training in the country keeping consistent with the NEP's recommendation has committed to revamp all its programs in the area of disability and make it compliant with the credit system as proposed by the UGC and National Higher Education Qualifications Framework (NHEQF).

Accordingly, the professional track in clinical psychology has been modified to comply with reforms suggested by UGC and NITI Aayog. The modifications implemented benefit not only prospective students community to acquire professional skills in an incremental way, but professionals already in service and desirous of enhancing their competency for a wider role.

The Council assesses the effectiveness of various training components through multisource feedback and uses these results for improvement. The present revised regulations and curriculum illustrates such an effort. The expert committee has considered all the recent advances in the field and wisdom based on decades of experience with M.Phil. Clinical Psychology programme, as well as to tune it with NEP 2020 and National Credit Framework. The expert committee therefore, recommends the present document to the Council. The Council is confident that this revised curriculum is consistent with current professional knowledge and universal praxis by scholars, professors, academicians, HODs and coordinators of the program. It is considered to be valuable by all concerned in furthering professional objectives and enhancing the likelihood of desired outcomes.

The Council is pleased to forward this replaced M.A. Clinical Psychology 'Guidelines_-and Syllabus'_to_Registrars_of_Universities,_Deans_of_concerned faculty, Heads of Departments and other stakeholders with request for an early action to implement the new syllabus w.e.f. academic year 2025.

The Council takes this opportunity to thank all those who contributed directly or indirectly to human resource development in the area of rehabilitation, and look forward to their continued active participation.

M.A. in Clinical Psychology

1. PREAMBLE

Clinical psychology as one of the core disciplines in the area of mental health/illness has grown significantly in the last two decades. Today, the clinical psychology training is being offered at more than seventy recognized centers across the country with utmost efficiency. Consequently, the number of clinical psychologists available in service sectors has increased significantly. Though there is an upward trend, number of professionals currently available at various levels is no match to the number specified to face the ever growing demands in the field of mental health.

Mental health problems are continuously on the rise owing to change in life style, habits and mounting stress in personal/occupational/social domains across various sections of the society. Clinical Psychologists apply knowledge and methods from all substantive fields of biopsychosocial sciences for promotion and maintenance of mental health of individuals. Varieties of techniques and methods derived from several branches of psychology are used in promotion of mental health, and in prevention, diagnosis, treatment and rehabilitation of mental and physical disorders/ problems where psychological factors play a major role. Different methods and forms of psychological techniques are used to relieve an individual's emotional distress or any other forms of dysfunction or disability. Thus, Clinical Psychologists play an important role for optimizing healthcare delivery system and there is an urgent need to train more number of professional clinical psychologists.

The Council is committed to give the needed impetus to human resource development in the field of clinical psychology and work towards establishing more centers for training in clinical psychology in the coming years. Also, efforts will be made to ameliorate unequal distribution and under utilization of human resource pool created to equip our professionals with the latest developments in the field through CRE programs, so that they deliver patient-centered services effectively and competently.

In the recent times, a trend has been observed for training in clinical psychology to be shifted from traditional mental hospital-based programs to programs offered by higher education institutions including medical colleges and NGOs. Consequently, there has been a steady progress in increasing manpower for practice and research in clinical psychology. Though, the feedback received from the participants of these training programs is encouraging, it is our endeavor to keep pace with changing times and make available the most updated information for trainees in various settings.

The Council hopes that the following revised guidelines would help centers conducting M.A. Clinical Psychology program to provide a cohesive and meaningful training so that the trainees develop to their fullest potential and shall be able to discharge their responsibilities competently as clinicians, teachers/trainers, researchers and administrators in the field of mental health. This document is also meant to serve as guidelines for institutions intending to start the training program in clinical psychology to strengthen their resource base in terms of infrastructure and personnel for providing an effective training in the field of clinical psychology.

The syllabus is specified in terms of hands-on experiential training with sound theoretical foundations. The teachers need to be aware of these components and impart training for progressive development of skills, knowledge and understanding of various techniques, theories, approaches and methods. This model will allow all trainees to develop a range of skills and knowledge essential to the practice of clinical psychology.

Depending on the available resources and expertise at the centre, offering this programme, the appropriate academic formats in content area of each paper can be worked out. Though a standardized structure is adopted across different papers, sufficient flexibility to enrich the learning and training experience of the trainees is also incorporated. The practical and clinical work should be used to integrate all learning across the subjects, such as Psychiatry, Neurology, Cardiology, Oncology, Paediatrics etc. while learning being used at varying stages to integrate and apply knowledge and skills developed.

The current syllabus will accommodate the incorporation of any new and emerging practices/trends into the content areas as practice change. Therefore, inclusion of additional study, emerging concepts/practices etc. into the training program so that the training reflects current practices and trends, is the sole responsibility of the centre. For the wider exposure and enriched learning of the trainees, additional inputs may be required by deputing the trainees at the suitable settings such as school, community, sports and rehabilitation centres, defence (military and para-military) and forensic centres etc. The training institute can act at its discretion as long as it reflects national and international practices, and does not compromise with the mandate of this programme and learning activities suggested in the core model.

Teachers are required to apprise themselves of the latest developments in the field of clinical psychology through conferences, seminars, workshops and other national and international professional development programmes to ensure delivery of quality education and training. The centers should therefore make enough provisions for the teachers to upgrade their knowledge/skills as often as it required.

Dissertation projects could be flexible or specialized to suit the center needs and priorities. However, the topic of study should reflect contemporary developments and practices, and the trainees would have had an opportunity to use a range of techniques, tools and approaches to solve problem while executing the research project.

AIM&OBJECTIVES

Aim

The aim of this programme is to prepare trained Clinical Psychologist to function as an independent clinician, competent to deliver mental, physical and rehabilitative healthcare services.

Objectives

The course is developed as a rigorous two-year program with extensive theoretical inputs and widespread clinical experience to acquire the necessary skills in the area of Clinical Psychology. On completion of the course, the trainee is expected to perform the following functions:

- 1. Diagnose and assess mental health problems.
- Conceptualize specific child, adolescent, adult and geriatric mental health problems within a
 psychological framework, giving due consideration to psychosocial/ contextual factors, and carryout
 relevant treatment/management.
- 3. Apply psychological principles and techniques in rehabilitating persons with mental health problems and disabilities.
- 4. Work with the psychosocial dimensions of physical diseases, formulate and undertake focused/targeted psychosocial interventions.
- 5. Work with community to promote health, quality-of-life and psycho-logical well-being.
- 6. Undertake research in the areas of clinical psychology such as, mental health/illness, physical health/diseases and relevant societal issues viz. misconception, stigma, discrimination, social tension, gender construction, life style etc.
- 7. Undertake responsibilities associated with teaching and training in core and allied areas of Clinical Psychology.
- 8. Undertake administrative and supervisory/decision-making responsibilities in mental health area.
- 9. Provide expert testimony in the court of law assuming different roles.

REQUIREMENTS_TO_START_M.A. CLINICAL_PSYCHOLOGY PROGRAMME

There shall be an independent Department of Clinical Psychology, headed by a qualified senior most Clinical Psychologist at the level of Professor/Additional/Associate Professor having valid RCI CRR registration in the institute/ university.

There shall be minimum two clinical psychology faculty members on full time basis at the department, and ancillary staff as specified below:

i)At the level of Associate Professor or above – one member ii)At the level of Assistant Professor/Lecturer or above – one member

Ancillary staff

- 1. One Office staff /Clerk for documentation and records keeping
- 2. One Lab Assistant
- 3. One OPD Assistant
- 4. One Attendant

Guidelines for faculty recruitment and promotion

Professor/Additional Professor: M. Phil. Clinical Psychology, and Ph.D.(in Psychology/ Clinical Psychology) with 9 years of teaching experience, out of which 3 years as Associate Professor + 5 research publications in indexed journal as first/corresponding author.

Associate_Professor:_M.Phil_Clinical Psychology and Ph.D. (in Psychology/ Clinical Psychology) with 5 years_of_teaching_experience either as Lecturer or Assistant Professor + 3 publications in indexed journal as first/ corresponding author.

Assistant Professor: M.Phil Clinical Psychology with one year clinical/research/teaching experience with valid RCI CRR registration.

NB:-The term 'experience' refers to post-M. Phil. clinical teaching experience/ research experience in any institute or organization recognized by Statutory Bodies such as RCI/ MCI/ UGC, etc. It is mandatory as per the RCI Act of 1992 that core faculty members are registered professionals of RCI under the category of "Clinical Psychologist".

Sufficient clinical material/facilities shall be available at the department to meet the requirements outlined in the syllabus. A minimum turnover of 150 cases (old and new together) on an average per month shall be required for an annual intake of FOUR candidates, and_there_on for_every 30 case increase in_the_monthly_clinical_turnover,_the_intake_shall_be increased_by_ONE_candidate,_provided_the faculty-candidate ratio as given in 4.1 is fulfilled. Of the_total turnover at least 50% of the cases shall be undergoing psychological treatment(s) of some form viz. psychotherapy, behavior therapy, biofeedback, hypnosis, counseling, marital therapy, group therapy, sex therapy etc. Clinical work-ups or psychological assessments alone without therapy interventions are considered suboptimal for professional training in clinical psychology.

Acceptable infrastructure in terms of adequately furnished rooms for every faculty members and trainees to carry out professional activities like working up of cases, interviewing, counseling, therapies, testing etc. for indoor or outdoor cases basis shall be available at the department. Standard psychological tests, equipment /apparatus, questionnaires, scales, inventories, clinical rating scales related to all primary domains shall be available in sufficient quantity, and freely accessible to all concerned. Wherever possible the vernacular versions of the tests materials along with local norms shall be made available. The required minimum infrastructure (for an annual intake of Four candidates) include, but not necessarily limited to;

- i)Psychological tests 4 copies/sets each of the core tests as given in section on 'Practical-Psychological Assessments'
- ii) Clinical rating scales-For common conditions of childhood, adolescence and adult such as anxiety, mood, speech, language and thought, adjustment, personality, developmental, behavior, cognitive, pain, conduct, sexual disorders, and in specialty areas
- iii) Computerised psychological assessement tools 5 numbers
- iv) Behavior therapy apparatus -2 numbers
- v) Biofeedback -leach, atleast for 2 parameters
- vi) Classroom-1number with multimedia facilities for conducting in-house academic activities, on routine basis
- vii) Computers 5 numbers with printer and internet facilities+statistical software packages
- viii) Photocopier Machine 1

Active liaison with departments like Psychiatry, Medicine, Surgery, Neurology, Neurosurgery, Pediatrics, Social Work and such other allied specialties shall exist in addition to direct or self-referrals, so that exposure to a broad range of clinical problems shall be possible. Depending on the presence/absence of facilities at the parent institute, the trainees may be posted to other centers as deemed necessary for an exposure in specialty areas such as child guidance, family therapy, addiction, neuro/cognitive rehabilitation, palliative/hospice center, cancer and such other areas of expertise while training incoreareas continues at the parent institute. In such events, the periodof posting for extra-institutional learning shall not exceed three calendar months in an academic year and should happen under the appropriate supervision of an expert in the area.

Adequate and updated library facilities with textbooks, reference books, important national and international journals (hard or soft copy), educational audio/video CDs, and access to Internet shall be easily available and accessible to all trainees. In addition, certain reference books, therapy manuals, index books etc. those required by the trainees for a quick reference during the working hours shall be stocked at the departmental library and shall be made accessible easily.

The following is the Checklist on the prerequisites to start M. Phil program. Even if one of the items is "no", the center cannot start the program, and therefore centers are advised to remedy the shortcomings, if any, before applying to the Council for approval.

*=Action required at the time of applying

<u>Prerequisite—I</u>: Is there an Independent Department of Clinical Psychology at the Institute for rendering mental health services and for imparting academic training?

* Attach documents in evidence of having created and/or established an independent department for professional services and training

<u>Prerequisite–II</u>: Is_the_Department_of_Clinical_Psychology_functioning_with_minimum_Two_permanent and fulltime qualified Clinical Psychology faculty members? Is one of them at Associate Professor or above ranking (see aforementioned criteria), and has been put in-charge of the Department?

* Attach qualification and experience details of all faculty members functioning at the department along with a copy of appointment order and joining report

<u>Prerequisite-III</u>: Are the faculty members appointed have registered with the Council under Clinical Psychology category and have a valid CRR number?

* Attach a copy of the registration certificate along with are cent passport photograph

<u>Prerequisite–IV</u>: Does the department have atleast one office staff/clerk for documentation and records keeping, one Lab Assistant, one OPD Assistant and one attendant?

* Attach a copy of the document

<u>Prerequisite-V</u>: Does the Department of Clinical Psychology has a minimum turnover of 150 _cases (old and new together) with mental health issues/problems, on an average per month?

* Attach extracts of previous 6 month outpatient/in patient register and monthwise break-up of cases seen

<u>Prerequisite – VI</u>: Has the Department been equipped with standard psychological tests, equipment/apparatus, and questionnaires/scales in primary domains relating to mental disorders?

* Attach a list of all materials

<u>Prerequisite–VII</u>: Does the Department has adequate library support for the proposed training program which includes minimum number of books/journals in the field of mental health including clinical assessments, therapies and techniques?

* Attach a list of books/journals/audio & video educational CDs/e-books & journals available in each of the specialty areas

<u>Prerequisite-VIII:</u> Does the Department has adequate access and use of Information and Communication Technology?

* Attach a list of facilities available in the department/campus

<u>Prerequisite-IX</u>: Has institute obtained a No Objection Certificate(NOC) by the competent State Government Authority? However the government institutios (state or central) shall be exempted of it.

* Attach a copy of the document

<u>Prerequisite—X</u>: Has institute obtained an affiliation letter from the Registrar or a competent authority of the affiliating University with respect to the proposed training program?

* Attach a copy of the document

REGULATIONSOFTHECOURSE

Number of Seats

Since this is a fulltime clinical training course, the number of candidates being trained at the center will depend on number of qualified fulltime faculty members working in the department on regular/contractual basis, the clinical facilities and infrastructure available (refer 3.3 & 3.4). In order to make the training effective therefore, the intake of candidates in an academic year shall not exceed the following ratio.

Professor/ Additional Professor -1:8 Associate Professor – 1:6 Assistant Professor/Lecturer-1:4 Part-time / superannuated qualified professional members may render their input as deemed necessary to effective/ smooth conduct of the course as Guest Faculty member. However, these members are not considered as "Core Faculty" and annual intake of candidates shall not be linked to the presence of these faculty members at the center.

Entry requirement

Minimum educational requirement for admission to this course will be _4 years B.A./B.Sc. degree in Psychology from a university recognized by the UGC with a minimum of 55% marks in aggregate. For SC/ST category, minimum of 50% marks in aggregate is essential, as per GOI. The candidates who have completed their graduation programme in 3 years shall have to pass fourth year Bridge Course or first year of Masters Programme in Psychology with minimum of 55% marks. Are also ellipse.

Admission_Procedure

A selection committee that includes Head of the Department of Clinical Psychology shall make admission on the basis of an entrance examination, consisting of a written test and interview. The weightage of entrance test shall be 70% whereas the interview will be of 30%. List of candidates so selected/ admitted to the course must be sent to RCI within a month of admission formalities are completed. No changes shall be permitted once the list of admitted candidates for the academic year is sent to the Council. The institute shall advertise the admission dates, number of seats and the procedure in national daily, a regional paper, institute's website and social media platform. The admission procedure must be disabled friendly.

Duration

This is a fulltime clinical training course providing opportunities for appropriate practicum and apprenticeship experiences for 2 academic years.

Attendance

Course of the study must, unless special exemption is obtained, continuously be pursued. Any interruption in a candidate's attendance during the course of study, due to illness or other extraordinary circumstances must be notified to the Head of the Institution/concerned authority and permission should be obtained. Under any circumstances the course must be completed within 4-yr from the date of enrollment.

A_minimum_attendance_of_80% (in each year_including_in_all_academic_activities)_shall_be_necessary_for taking the respective examination.

Thirty days of casual leave, maximum of fifteen days per academic year, shall be permitted during the two-year course period.

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 socio-cultural 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 relapses.
- **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 care givers issues; rights of mentally ill; Empowerment issues; support to recovery.
- **Unit IX:** Rights issue: Importance of UNCRPD; empowerment issues; rights of disabled; support/assistance from the Government through Policies and Acts (Mental Health Care Act, Persons with Disabilities Act, National Trust Act, RCI Act, Juvenile Justice Act, POCSO, NMHP etc.); ethical and legal issues in Psychology practice; contemporary challenges; ethics and professional code of conduct as outlined by RCI and APA.

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—Anintroduction. New Delhi: Sage Publications.

Krahe, B. (1992). Personality and Social Psychology: Towards a synthesis. New Delhi: SagePublications.

Kuppuswamy,B.(1965). An Introduction to Social Psychology(2nded.).NewDelhi:KonarkPublishers.

Kuppuswamy,B.(1990). *Elements of ancient Indian Psychology* (1sted.). 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. NewYork: 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* (3rded.). Canada: John Wiley & Sons.

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 the course, 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. Carryout the clinical work up of clients presenting with a range of mental health problems and make clinical formulations/diagnosis drawing on their knowledge of a pertinent diagnostic criteria and phenomenology.
- 4. Summarize 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. Carryout 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
- 7. Short- and longer-term goals and demonstrate beginning competence in carrying out the indicated interventions, monitor progress and outcome.
- 8. Discuss various pharmacological agents that are used to treat common mental disorders and their mode of action.
- 9. Demonstrate an understanding of caregiver, and family burden and their coping style.
- 10. Assess the disability/dysfunctions that are associated with mental health problems, using appropriate measures

11. Discuss the medico-legal and ethical issues in patients requiring chronic care Institutionalization.

Academic Format of Units:

Learning would be mainly through clinical workups 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, practical/clinical exam in psychological Assessment of psychiatric cases and comprehensive viva.

Syllabus:

Unit-I: Psychoses and neurotic disorders: Schizophrenia, affective disorders, delusional disorders and other forms of psychotic disorders; neurotic, stress related and somatoform disorders; types, clinical features, etiology and management of all the above.

Unit- II: 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-III: Organic mental disorders: Dementia, delirium and other related conditions with neuralgic and systemic disorders – types, clinical features, etiology and management.

Unit-IV: Behavioral, emotional and developmental disorders/condition of childhood and adolescence including intellectual disability: types, clinical features, etiology and management.

Unit-V: Neurobiology of mental disorders and current therapeutics: Theories of psychosis, mood disorders, suicide, anxiety disorders, substance use disorders and other emotional and behavioral syndromes; Psychotropic drugs; ECT; psychosurgery, psychological therapies; rehabilitation strategies – half-way home, sheltered workshop, daycare, and institutionalization.

Unit-VI: Liaison psychiatry and subspecialties: Liaison in general hospital and primary care setting; specialties – social, geriatric, child, forensic, addiction and other branches

References:

Gelder, M., Gath, D., & Mayon, R. (1989). Oxford Textbook of Psychiatry (2nd ed.). NewYork: Oxford University Press.

Kaplan, B. J. & Sadock, V. A., (1995). Comprehensive Textbook of Psychiatry (6th ed.). London: William & Wilkins.

Jahan, M. (2016). Mansik Rog, Ahuja Publishing House, New Delhi.

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

Statistics and Research Methods

Aim:

The advanced statistics course provides rigorous methodologies that are the foundation for leveraging big data and meaningful analytics in order to make better and faster decisions. The advanced course helps to analyze large amounts of clinical data to identify common patterns and trends for example, behavioral risks, treatment response, triggers of relapse or recurrence, multiple causative factors associated with a disorder etc., to convert them into meaningful information with large and important implications. The course is intended for graduate and doctoral students, requires familiarity with basic statistical concepts. Tutorials involve exposure to the features available in a large statistical package such as SPSS while reinforcing the concepts discussed in lectures and classroom discussion.

Objectives:

On completion of this course, trainees should be able to:

- 1. Use appropriate techniques draw meaningful conclusions from a random, raw and unstructured data.
- 2. Analyze a large database (available in public domain) and interpret output in a scientifically meaningful way.
- 3. Apply relevant design/statistical concepts in their own particular research projects.
- 4. Study the relationship between different variables or makes predictions for the whole population.
- 5. Demonstrate a clear understanding of the predictive statistical analysis that analyzes data to derive past trends and predict future events on the basis of them.
- 6. Become familiar with concepts like machine learning algorithms, data mining, data modelling, and artificial intelligence and clinical applications.
- 7. Understand the prescriptive analysis that conducts analysis of data and prescribes the best course of action based on the results that helps make an informed decision.
- 8. Understand the causal statistical analysis that focuses on determining the cause-and-effect relationship between different variables within the raw data (determines why something happens and its effect on other variables).
- 9. Understand exploratory data analysis that involves exploring the unknown data associations (it analyzes the potential relationships within the data).
- 10. 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 discussions. 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: A review of core concepts - hypothesis testing (level of significance, sample

size estimation, power and efficiency, standard errors, CI for proportions and probabilities); sampling methods and minimizing errors; experimental designs (pre-experimental, true-experimental, quasi experimental, statistical); level of measurement of a variable (various scales); establishing reliability, validity and norms; tests of significance – parametric and nonparametric tests

Unit-II: Epidemiological studies: Rates, prevalence and incidence; types- prospective and retrospective studies; diagnostic efficiency statistics (sensitivity, specificity, predictive values); risk estimation - measure of risk and differential risk, odds ratio and survival analysis.

Unit-III: Analysis of variance: Variations and models – fixed effects models, random effects models, mixed effects models, post hoc analysis (range and non-range tests), types of ANOVA – one-way, factorial, repeated measures, multivariate analysis and ANCOVA, MANCOVA, multiway ANOVA and linear regression

Unit-IV: Multivariate analysis: Introduction, multiple regression, logistic regression, PLS regression, OLS regression, penalized regression, phylogenetic regression, discriminant function analysis, path analysis, factor analysis, cluster analysis, survival analysis, MANOVA, canonical correlation, and multidimensional scaling, PCA to detect pattern in variables

Unit-V: Qualitative research: Qualitative methods of psychosocial research, method of analysis (content, thematic, narrative, grounded theory, discourse analysis), stages of data analysis (familiarization, identifying thematic framework, indexing, charting, mapping and interpreting), grounded theory – method and practice

Unit-VI: AI – Introduction, machine learning, neural network to make predictions and application of R software, and hands-on experience in use of statistical package in the field of behavioral science such as SPSS, SAS, Stat graphics

References:

Textbooks – None; reading will be from the primary literature (Journal articles and book chapters).

Toprovidehands-onexperienceinacquiringthenecessaryskillsandcompetencyinselecting, 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 Year–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 setup 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 and for PwD: Bender gestalt test; Wechsler memory scale; PGI memory scale; Wilcoxen cord 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, WAIS-R); Tests for PwD -WAIS-R,WISCR (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-III: Tests for diagnostic clarification: A) Rorschach psycho diagnostics, B) Tests for thought disorders—color form sorting test, object sorting test, proverb test, C) Minnesota multi phasic 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—16personalityfactorquestionnaire,NEO-5personalityinventory, temperament and character inventory, Eyesenk'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 psycho pathology 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) Vinel and social maturity scale, AMD adaptation scale for mental retardation, BASIC-MR, developmental screening test (Bharat raj's), C)Tests of scholastic abilities, tests of attention, reading, writing, arithmetic, visuo-motorgestalt, 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: Neuropsychological assessment: LNNB, Halstead Reiten battery, PGI-BBD, NIMHANS and other batteries of neuropsychological tests in current use.

Core Tests:

- 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
- 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 psycho diagnostics
- 20. Personality assessment inventory
- 21. 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 Year – 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.

Clinical Placement – 1

Clinical Placement -1 for the 1st year begins from the date of enrollment into the program and concludes at the end of the first year. The placement is designed to provide hands-on experience

and learning in a clinical setting, allowing students to apply theoretical knowledge to clinical population. At the end of the year, students will undergo an internal evaluation and a Viva Voce

Aim:

The overall goal of the placement is to develop psychology professionals competent to practice patient care independently acquiring interviewing and assessment skills, developing rapport with patients, performing all aspects of an evaluation, including eliciting a clear and accurate history, performing mental status examinations, formulating a diagnosis, and carrying out appropriate diagnostic and psychological tests to clarify the diagnosis and to facilitate development of interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families and health professionals.

Objectives:

By the end posting, trainees are:

- 1. Expected to acquire skills of eliciting the relevant clinical history through a psychiatric interview of the clients and his/her caregivers; being sensitive to cultural diversity and religious and education background of the client/family.
- 2. Expected to conduct a thorough mental status examination and propose relevant differential diagnosis using latest ICD diagnostic criteria. Based on clinical findings, trainees select appropriate psychological tests/measures and conduct Psychological Evaluation to answer relevant clinical questions.
- 3. Expected to seek and seize all opportunities in IP and OP settings and in specialty clinics to get exposure and evaluate a wide variety of psychiatric disorders of Child, Adolescents, Adults and special Populations.
- 4. Demonstrate a comprehensive knowledge of various classes of psychotropic medications, clinical indications, and their side-effects.
- 5.Expected to have a reasonable understanding of Pharmacological basis of the mechanism of action and interaction of drugs commonly used in the treatment of psychological disorders, and hypothesized biological mediators of psychological interventions as the knowledge in these areas is considered essential to offer an effective psychoeducation as part of psychological interventions.

Evaluation:

The evaluation shall be conducted by faculty members providing clinical supervision and would include the level of mastery acquired for by giving short and long cases for examination and evaluation;

- A. Working up of a case and presenting the case history with detailed MSE
- B. Formulating the case and discussing differential diagnosis
- C. Conduct of appropriate Psycho-diagnostic assessment and reporting the findings (both oral and written format)
- D. Discussing the possible short and long-term interventions

E. Prognosticating the case

Psycho-diagnostic Records Submission

Guidelines for Submitting Full-length Psycho-diagnostic Records

Trainees are required to submit a total of five records, with one record each focusing on **child therapy** and **neuropsychological assessment**. These records should be printed with double line spacing and bound together in a single format. The following information must be displayed on the opening page of each record: the registration number at the center, the date the patient was first seen, the supervising consultant's name, and their signature. Additionally, the relevant test protocols should be submitted separately in a file. The records, endorsed by the supervisor, should include a summary of the clinical history and must be organized under the following headings:

- 1. Socio-demographic data
- 2. Presenting complaints
- 3. History of present illness
- 4. History of past illness (if any)
- 5. Family history
- 6. Personal history
- 7. Pre-morbid personality
- 8. Relevant findings on physical examination
- 9. Findings on Mental Status Examination
- 10. Diagnostic formulation
- 11. Differential diagnosis
- 12. Sociocultural and contextual factors
- 13. Short- and log-term management

Should include a discussion (in detail) on the:

- A. Rationale for psychological testing
- B. Area/s to be investigated
- C. Tests administered (mention full title of the tests/scales etc.) and rationale for their use
- D. Behavioral observations during testing and overall validity of the test results
- E.• Test findings and their interpretations
- F.• Impression

A summary of the test results and the management plan (including suggestion/s if any) should be incorporated at the end of each record.

Part-II (Year-11)

Biological Determinants of Behavior and Neuropsychology

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 more severe disorders. Therefore, the aim of this course 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: On completion of the course 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 functions of the structures
- 4. Describe the biochemical aspects of the brain and how genetics increase our understanding of behavior.
- 5. State what the endocrine system is and how it regulates the 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.

Academic Format of Units:

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 activities can be arranged.

Evaluation: Involving long and short essays and viva

Syllabus:

Unit-I: 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; cyto architecture and modular organization in the brain; Communication within (membrane potential, action potential) and between neurons (neurotransmitters, neuromodulators and hormones).

Unit-II: Biochemistry of the brain: Biochemical and metabolic aspects of brain; medical genetics;

structure and function of chromosomes; molecular methods in genetics; single-gene inheritance; cytogenetic abnormalities; multifactorial inheritance; biochemistry of genetic diseases

Unit-III: Neurobiology of sensory-motor systems: Organization of sensory-motor system in terms of receptors, relay neurons, thalamus and cortical processing of different sensations; principle motor mechanisms of the periphery (muscle spindle), thalamus, basal ganglia, brain stem, cerebellum and cerebral cortex; neurobiology of drives, motivation, hunger, thirst, sex, learning, memory, emotion, and personality, regulation of internal environment: role of limbic, autonomic and the neuroendocrine system in regulating the internal environment; reticular formation and other important neural substrates regulating the state of sleep/wakefulness

Unit-IV: Psychopharmacology: Principles of psychopharmacology, sites of drug action (effects on production, storage, release, receptions, reuptake and destruction); drugs commonly used to treat psychiatric disorders and putative mechanisms of action, role of neurotransmitters and Neuro modulators (acetylcholine, monoamines (DA, NE and 5-HT), amino acids, peptides, lipids) in various aspects of behavior; neurobiology of mental disorders - neurochemical, metabolic and genetic aspect of major mental disorders, neurodevelopmental and behavioral disorders;

Part-B: Clinical Neuropsychology

Aim:

The course aims to provide an understanding of the relationships between the brain and cognition, affect and behavior across developmental stages through clinical evaluation and follow-up of a variety of cases with brain disease and injury.

Objectives: At the end of the course trainees,

- 1. Discuss at ease the functional aspects of different brain networks, and can explain how these would affect an individual in daily life situations and make recommendations for interventions and social rehabilitation in affected cases.
- 2. 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.
- 3. Describe what kinds of neuropsychological deficits are often associated with subcortical lesions of the brain.
- 4. List symptoms those are typical of focal and diffuse brain damage.
- 5. Enumerate the characteristics of clinical syndrome and the nature of neuropsychological deficits seen in various cortical and subcortical dementias.
- 6. Describe the neuropsychological profile of principal psychiatric syndromes.
- 7. Demonstrate an understanding of functional neuro-imaging techniques and their application in psychological disorders and cognitive neuroscience.
- 8. Demonstrate an understanding of the principles involved in neuropsychological assessment, its strengths and weaknesses, and indications.
- 9. 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, and supplemented by lectures, seminars and tutorials, allowing trainees to participate in

collaborative discussion.

Evaluation: Practical/clinical exam in neuropsychological assessment with cases having a brain lesion/disorder and theory aspects by long and short essays, and comprehensive viva.

Syllabus:

Unit-I: 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-II: Frontal and temporal lobe syndrome: Frontal lobe - disturbances of regulatory functions; attentional processes; emotions; memory and intellectual activity; language and motor functions; temporal lobe - special senses, hearing, vestibular functions and integrative functions; disturbances in learning and memory functions; language, emotions, time perception and consciousness.

Unit-III: Parietal and occipital lobe syndromes: Parietal lobe - disturbances in sensory functions and Body schema perception; agnosia's and apraxia's; occipital lobe - disturbances in visual space Perception; color perception; writing and reading ability.

Unit-IV: Neuropsychological assessment: Principles, approaches, scope and indications and issues involved in neuropsychological assessment of children, functional domains in children; Categorization of major brain functions, localization of functions in the brain, content of Empirically validated batteries such as LNNB, Halstead-Reitan battery, PGI-BBD, NIMHANS and other batteries of neuropsychological tests in current use and their application, Neuropsychological profile: Neuropsychological profile of cortical and subcortical dementia; major mental disorders, substance use disorders, neurodevelopmental disorders

Unit-V: Neuropsychological rehabilitation: Principles, objectives and methods of neurorehabilitation of traumatic brain injury, organic brain disorders, major psychiatric disorders and behavioural disorders; scope of computer-based retraining, neuro feedback, cognitive aids; application of functional human brain mapping techniques such as QEEG, EP & ERP, PET, SPECT, fMRI etc.

References:

Bellack A.S. &Hersen M. (1998). Comprehensive clinical psychology Assessment (Vol. 4). London: Elsiever Science Ltd.

Gazaaniga, M. S. (1984). Handbook of cognitive neuroscience. New York: Plenum Press.

Golden, C.J. & Charles, C.T. (1981). Diagnosis and 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: NY. Elsevier.

Kirshner H.S, (1986). Behavioral Neurology. New York: Churchill Livingstone.

Kolb, B. & Whishaw, I.Q. (2007). Fundamentals of human neuropsychology (6th ed). NewYork: 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. NewYork: Oxford University Press.

Vinken, P.J, & Bruyn, G. W. (1969). Handbook of clinical neurology (Vols. 2, 4, 45 & 46). Amsterdam: North Holland Publishing Co.

Vyas, J.N. & Ahuja, N (1999). Textbook of postgraduate psychiatry (2nd ed., Vols. 1- 2). New Delhi: Jaypee brothers.

Walsh, K. (2003). Neuropsychology- A clinical approach (4th ed.). Edinburgh: Churchill Livingstone.

Carlson, N.R. (2005). Foundations of physiological psychology (6th ed.). New Delhi: Pearson Education

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.

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.

Vinken, P.J, & Bruyn, G. W. (1969). Handbook of clinical neurology (Vols. 2, 4, 45 & 46). Amsterdam: North Holland Publishing Co.

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: On completion of the course, 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 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:

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: Psycho-behavioral influence on neuroendocrine, neurotransmitter and neuroimmune responses to stress, negative affectivity, behavioral patterns, and coping styles, psychophysiological models of disease, theoretical models of health behavior, scope andapplication of psychological principles in health and illness; research and developments in health

psychology, psychophysiology, psychoneuroimmunology, psychobiology, socio biology and their implications; demonstrated effects of psychological interventions on the biology of brain and Implications.

Unit-II: Central nervous system: Cognitive, 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), psychological assessment, intervention and rehabilitation of this population.

Unit-III: Cardiovascular system: Psychosocial, personality, lifestyle, and health practice issues, psycho-behavioral 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, exacerbates 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: 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-VI: Gastrointestinal system and Dermatology: Evaluation of psychological factors including personality characteristics and stress/coping style in functional GI disorders (such as irritable bowel syndrome, inflammatory bowel disease, peptic ulcer disease, esophageal disorder etc.); role of stress and anxiety in psycho-dermatological conditions (such as psoriasis, chronic urticarial, dermatitis, alopecia etc..); impact of these on self-esteem, body image and mood, role of psychological interventions such as relaxation, stress management, counseling, cognitive restructuring and biofeedback strategies.

Unit-VII: Oncology and Pain: Psychosocial issues associated with cancer - quality of life, denial, grief reaction to bodily changes, fear of treatment, abandonment, side effects, recurrence, resilience; 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.

References:

Basmajian J.V. (1979). Biofeedback – Principles and practice for clinicians. Baltimore: Williams & Wilkins Company.

Bellack, A.S., Hersen, M., &Kazdin, A.E. (1985). International handbook of behavior modification and therapy. New York: Plenum Press.

Bellack, A. S. & Hersen, M. (1985). Dictionary of behavior therapy. New York: Pergamon Press.

Jena, S. P. K. (2008). Behaviour therapy: Research and Applications. Sage, New Delhi.

Lambert, M. J. (2004). Handbook of Psychotherapy and behaviour change (5th ed.). NewYork: John Wiley and Sons.

Rimm D.C. & Masters J. C. (1979). Behavior therapy: Techniques and empirical findings. New York: Academic Press. Clinical Psychology -2024-25 Rehabilitation Council of India 46

Sweet, J.J, Rozensky, R. H. & Tovian, S. M. (1991). Handbook of clinical psychology inmedical settings. New York: Plenum Press.

Turner, S.M., Calhown, K.S., & Adams, H. E. (1992). Handbook of clinical behavior therapy. New York: Wiley Interscience.

Weinman, J., Johnston, M. & Molloy, G. (2006). Health Psychology (Vols. 1-4). London: Sage Publications.

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: Issues related to training therapists; ethical and legal issues; rights and responsibilities; consent/assent issues; planning and recording of therapy sessions; structuring and setting goals; factors influencing the therapeutic relationship; pre- and post-assessment; practice of evidence-based therapies; managed care.

Unit-II: Affective psychotherapies: Historical aspects and empirical status of psychodynamic, brief, 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-III: Behavior therapies: Indications and empirical status of behavioral techniques such as 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-IV: Cognitive therapies: Indications and empirical 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, trans diagnostic cognitive

behavior therapies

Unit-V: Systemic and Physiological therapies: Indications, and empirical status of family therapy, marital therapy, group therapy, sex therapy, interpersonal therapy; progressive muscular relaxation, autogenic training, biofeedback, eye- movement desensitization and reprocessing and other major therapies.

Unit-VI: Counseling and Psychoeducation: Behavioral, cognitive and humanistic approaches; counseling process; theory and procedures to specific domains of counseling; 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-VII: Psychotherapy research: Defining and estimating treatment effects, comparators issues, RCTs, causality in therapy research, biases and allegiance, common factors, specific effects, studying mechanisms, mediation and moderators, mediation analysis, non-inferiority and equivalence tests, identifying responders and moderators, therapist effect, design effect, nested and crossed designs, qualitative methods in understanding the causation, process-based therapy, client preference in therapy work and its implications, ethical issues in psychotherapy research

References:

Aronson, M. J. & Scharfman, M. A. (1992). Psychotherapy: The analytic approach. NewYork: Jason Aronson, Inc.

Baker, P, (1992). Basic family therapy. New Delhi: Blackwell Scientific Pub.

Bellack, A. S. & Hersen, M., (1998). Comprehensive clinical psychology (Vol. 6). London: Elsiever Science Ltd.

Bellack, A.S., Hersen, M.,&Kazdin, A.E. (1985). International handbook of behavior modification and therapy. New York: Plenum Press.

Bellack, A. S. & Hersen, M. (1985). Dictionary of behavior therapy. New York: PergamonPress.

Bergin, A. G. & Garfield, S. L. (1978). Handbook of psychotherapy & behavior change – An empirical analysis. New York: John Wiley & Sons.

Bloch, S. (2000). An introduction to the psychotherapies (3rd ed.). New York: Oxford Medical Publications.

Capuzzi, D. & Gross, D. R. (2003). Counseling and psychotherapy: Theories and interventions (3rd ed.). New Jersey: Merrill Prentice Hall.

Clark, D. M. & Fairburn, C. G. (2001). Science and practice of CBT. London: Oxford University press.

Dobson, K. S., & Craig, K. D. (1996). Advances in cognitive behavior therapy. New York:Sage Publications.

Dryden, W. (1995). Rational emotive behaviour therapy. New Delhi: Sage.

Dryden, W. (2002). Handbook of individual therapy (4th ed.) New Delhi: Sage Publications.

Eells, T. D. (2007). Handbook of psychotherapy case formulation (2nd ed.). New York:Guilford press.

Hersen M. & Sledge, W. (2002). Encyclopedia of psychotherapy (Vols. 1-2). New York: Academic Press.

Freeman, A., Simon, K. M., Beutler L.E. & Arkowitz, M. (1988). Comprehensive Handbook of cognitive therapy. New York: Plenum Press.

Friedberg R. D. & McClure, J. M. (2002). Clinical Practice of cognitive therapy with children and adolescents- The nuts and bolts. New York: Guilford Pres.

Garfield, S. L. (1995). Psychotherapy: an eclectic integrative approach (2nd ed.). New York: John Wiley and son.

Gibson, R.L. & Mitchell M.H. (2006). Introduction to counseling and guidance (6th ed.). New Delhi: Pearson. Graham, P.J. (1998). CBT for children and families (2nd ed.). London: Cambridge University Press.

Greenson, R.R. (1967). The Technique and Practice of psychoanalysis (Vol. 1). New York:International Universities Press.

Hawton, K. Salkovskis, P.M., Kirk, J. and Clark, D.M. (1989). Cognitive Behavior Therapy for psychiatric problems: A practical guide. New York: Oxford University Press.

Jena, S.P.K. (2013). Learning disability: Theory to practice. Sage, New Delhi.

Jena, S.P.K. (2013). AdhigamAkshamta: Siddhanta se prayogtak. Sage, New Delhi.

Klerman, G. L. & Weissman, M. M (1993). New Approach of Interpersonal Psychotherapy. Washington, DC.: American Psychiatric Press.

Mash, E.J. & Wolfe, D.A. (1999). Abnormal child psychology. New York: WadsworthPublishing.

Rimm D.C., & Masters J.C. (1979). Behavior therapy: Techniques and empirical findings. New York: Academic Press.

Sanders, D & Wills, F. (2005). Cognitive therapy: An introduction (2nd ed.). New Delhi:Sage Publications.

Sharf, R.S. (2000). Theories of psychotherapy and counseling (2nd ed.). New York: Brooks/Cole.

Turner, S.M, Calhour, K. S. & Adams, H. E.(1992). Handbook of clinical behavior therapy. New York: Wiley Interscience.

Turner, S.M., Calhown, K. S., & Adams, H.E. (1992). Handbook of Clinical Behavior therapy.

New York: Wiley Interscience.

Walker, C.E. & Roberts, MC (2001). Handbook of clinical child psychology (3rd ed.). Ontario:John Wiley and Sons.

World Health Organization (2004). Prevention of Mental Disorders: Effective interventions and policy options, Geneva.

Booth, T.& Booth, W. (1994). Working with parents with mental retardation: Lessons from research. Journal of Developmental Disabilities, 6, 23-41.

O'Dell, S. (1974). Training parents in behavior modification: A review, Psychological Bulletin, 81, 418-433.

Patterson, G. R. & Fleishman, M. J. (1979). Maintenance of treatment effects: Some considerations concerning family systems and following data. Behaviour Therapy, 10, 168-185.

Tharp, R. E., & Wetzel, R. J. (1969). Behaviour modification in natural environment. Academic Press: New York.

Wolberg, L.R. (1995). The techniques of psychotherapy (4th ed.). New York: Grune & Stratton. Wolman, B.B. & Stricker, G, (1983). Handbook of family and marital therapy. New York: Plenum.

Wolman, B.B. (1967). Psychoanalytic techniques, a handbook for practicing psychoanalyst, New York: Basic Book

Clinical Placement – 2

Part – **A** is first-half of the academic Year - 2, starting from the beginning of the academic session. During the placement, trainees continue to focus on development of knowledge and skills further for complex and long-term psycho therapeutic interventions that are empirically supported and as per best practice guidelines. At this level of training, students understand the pros and cons of evidence-based and evidence-informed practice and consider individual variables of their clients and engage them in shared decision-making. This facilitates acquiring most valuable clinical skills to

perform empirically supported treatments also helps developing a cogent rationale for intervention strategies. Trainees focus and gain hands-on experience in offering therapies and techniques in special conditions where integrative/eclectic approach is the basis of clinical intervention. Undertake self-study supplementing didactic lectures on the methodology related to RCTs, qualitative research, public ethnographic research, process-outcome studies and meta-analysis and the process involved in scientific reporting of the experimental and qualitative findings. Trainees have opportunities to work with a wide range of theoretical orientations (including interpersonal, cognitivebehavioral, existential, humanistic, psychodynamic, multicultural, feminist, ACT, DBT, SFT, Trans diagnostic, trauma-focus CBT, EMDR and so on) and areas of specialization (such as gender issues, LGBTQA, disordered eating, sexual and relationship violence, suicide prevention, PTSD, career development, and crisis intervention) in a variety of multicultural settings. Additionally, trainees have an opportunity for supervision by a number of senior staff of other discipline as well resulting in supplementary learning opportunities of ethical practice through playing role of co-therapist and by clinical team participation.

The evaluation would include the skills acquired for;

- a) Functioning autonomously within the collaborative environment
- b) Ability to assume independent responsibility towards desired therapy outcome
- c) Building and maintaining therapeutic relationship
- d) Ability to carry out contextual and collaborative assessment
- e) Engaging clients in shared decision-making
- f) Maintaining therapy records as per the policy of the center
- g) Eliciting session and outcome feedback, and learn and reflect on them
- h) Maintaining confidentiality and adhering to ethical & professional guidelines

Part – **B** is second-half of Year-2. Trainees focus on acquiring professional competency in general medical setting through offering clinical workup and psychometric evaluations and a variety of advanced interventions targeted at psychological issues associated with acute, subacute and chronic health conditions. Recalling from the classroom discussion of behavioral medicine topics on the concept, theories, and models of clinical health psychology, trainees explore various domains of the professional

practice and evaluation issues within the context of medical referrals and health & illness across lifespan. During the clinical assignments trainees demonstrate a clear understanding of psychological and behavioral influences on health and illness and psychophysiological models of disease and their application in health and heath care. Trainees discuss with ease the implications of contemporary research and developments in health psychology such as psychoneuroimmunology, psychobiology and the effects of psychotherapy on the biology of brain. On completion of the postings the trainees should have acquired the skills needed to apply models of behavior change, and design appropriate evidence-supported psychological intervention on the basis of an initial clinical health case formulation. Trainees over time learn to take account of the relevant issues such as psychological responses to illness, disability and hospitalization, adherence to medical treatment, symptom reduction, progress made/making, and ability to make therapeutic alliance in planning the short- and long-term goal-oriented interventions. Also, acquire competency to prognosticate the case on the basis of psychological theories, models of the etiology, progression, recovery, precursors, sequelae to psychological disorders associated with medial issues. Part-B posting will close by the end of Year - 2 with an Internal Evaluation and Viva Voce by faculty members shadowing and providing direct clinical supervision for a scheme of marks specified already.

The Part-B evaluation would include level of mastery acquired in various domains;

- 1. Ability to recognize and assess psychological responses to illness.
- 2. Ascertaining whether or not the presence of a psychological disorder and risk factors (using a range of assessment methods including psychometric assessments and interviews) in persons with a variety of chronic medical diseases
- 3. Integrating and synthesizing clinical data and presenting a diagnostic formulation, and treatment approaches
- 4. Ability to design and carry out an appropriate empirically-supported psychological treatment on the basis of an initial clinical health case formulation
- 5. Demonstrating a critical understanding of the role and responsibility of Clinical Psychologists in medical settings and professional and ethical issues related to working in health care settings and within a multidisciplinary team.

Psychotherapy Record Submission

Guidelines for Submitting Psychotherapy Records

Trainees are required to submit a total of five therapy records, one of which should specifically be a child therapy record. All the records should be printed with double line spacing and bound together in a single format. The records must be submitted in this bound format, with all of them included together. Registration number, Date first seen, Supervising Consultant's name and his/her signature should be shown on the opening page of each record. All records should be endorsed by the concerned supervisor and organized under the following heads:

- 1. Socio-demographic data
- 2. Presenting complaints
- 3. Summary of the case (history of present illness, significant past history, family history, personal history, pre-morbid level of functioning and findings on Mental Status Examination)
- 4. Diagnosis
- 5. Sociocultural and contextual factors including client's life situation
- 6. Short- and log-term management
- 7. Rationale for the intervention
- 8. Specific areas to be focused including short- and long-term objectives
- 9. Type and technique of intervention(s) used
- 10. Therapy processes
- 11. Changes in the type of therapy, approaches or objectives (if any, and reasons for the same)
- 12. Outcome
- 13. Goals to be achieved in short- and long-term follow-up
- 14. Future plans

Research Thesis

Guidelines for Submitting Research Thesis

Three (hardbound) copies with one softcopy on pen drive should be submitted in print (use double line space, and Times New Roman 12) format. All records should be certified by the concerned Guide and Co-guide (where applicable) and forwarded by the Head of the Department under sign and seal. A declaration by the researcher that the present work is the product of his/her own efforts, carried out under the guidance of the supervisor/s mentioned and doesn't form a part of any other degree in the past, shall be inserted prominently in all copies. The Thesis shall be organized under the following heads:

- 1. An Introduction to the work
- 2. Review of literature in the form of different Chapters (up to 4, depending on the nature of research area)
- 3. Methods (Aim/s and objectives, Hypotheses, Sample (with inclusion and exclusion criteria), Sampling technique, and Sample size (procedure followed to determine) and Study design
- 4. Description of the tools/measures employed including those developed for the purpose of the study, the steps followed for modification or translation of the original tool, if any,
- 5. Procedure followed step by step and in detail
- 6. Statistical analysis carried out and the software employed
- 7. Results (using only one format)
- 8. Discussion (restricting to the data in hand)
- 9. Conclusion and implications (without grandiose claims)
- 10. Summary (crisp and in IMRD format)
- 11. References (APA guidelines)
- 12. Appendix Copy of the following should be attached:
- a) Consent form
 - b) Ethical committee clearance
 - c) Permission granted by the center/s for data collection
 - d) Tools employed in the research
 - e) Purchase bill or permission by author/s, or copyright waiver to use the tools
 - f) Declaration with regard to 'conflict of interest'
 - g) Copy of the report generated for plagiarism screening using approved software by the concerned university.

Scheme of Examination

Part-I (I Year)

| Papers | Title | Duration | Marks | | | |
|-----------|--|----------|----------------------------------|-------------------------------------|-------|--|
| | | | Final Assessment (Maximum) | Internal Assessment (Maximum) | Total | |
| Group "A" | | | | | | |
| Paper I | Psychosocial Foundations Of Behavior and Psychopathology | 3hr. | 70 | 30 | 100 | |
| Paper II | Psychiatry | 3hr. | 70 | 30 | 100 | |
| Paper III | Statistics and Research Methodology | 3hr. | 70 | 30 | 100 | |
| Placeme | Psychological nents and Clinical ent – I (Viva Voce) | | 70 | 30 | 100 | |
| Group "B" | | | | | | |
| | of five cases of full-length mostics Report | | None | 100 | 100 | |
| Total | | | | | 500 | |

Part-II (II Year)

| Papers | Title | Duration | Marks | | |
|---|---|----------|----------------------------------|-------------------------------------|-------|
| | | | Final Assessment (Maximum) | Internal Assessment (Maximum) | Total |
| Group "A' | , | | | | |
| Paper I | Biological Determinants of Behavior and Neuropsychology | 3hr. | 70 | 30 | 100 |
| Paper II | Behavioral Medicine | 3hr. | 70 | 30 | 100 |
| Paper III | Psychotherapy and Counseling | 3hr. | 70 | 30 | 100 |
| Practical: Therapy Placeme | Psychological and Clinical ent – II (Viva Voce) | | 140 | 60 | 200 |
| Group "B" | | | | • | • |
| Submission of five cases of full-length Psychotherapy Report | | | None | 100 | 100 |
| Group "C" | | | | | • |
| Research Thesis | | | 70 | 30 | 100 |
| Total | | | | • | 700 |