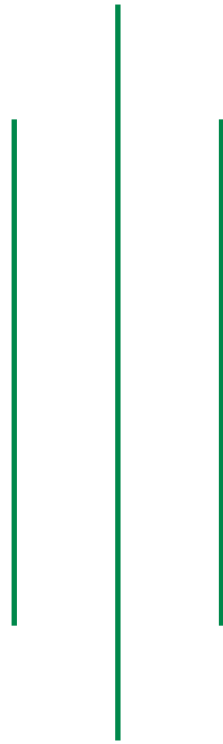


Syllabus for Licensing Examination of Bachelor of Occupational Therapy (BOT) 2021



Nepal Health Professional Council

Bansbari, Kathmandu

Table of Content

S.N	Topics	Marks percentage
1	Clinical Anatomy	10 %
2	Clinical Physiology	10 %
3	Microbiology,pathology,Biochemistry	5 %
4	Biomechanics	5 %
5	Fundamental of occupational therapy	10 %
6	Ergotherapeutics	10%
7	Occupational Therapeutic rehabilitation in Orthopaedics and sports conditions	10 %
8	Occupational Therapeutic rehabilitation in Neurological and Peadiatrics conditions	10 %
9	Occupational Therapeutic rehabilitation in Cardiothoracic vascular conditions	10 %
10	Occupational Therapeutic rehabilitation in Medical , Burn and plastic surgery conditions	10 %
11	Occupational Therapy Rehabilitation in Medicine and Geriatrics conditions	10 %
	Total	100 %

1) Applied Anatomy

Bones ,muscles, joints nerves , surface anatomy

- a) Upper limb
- b) Lower limb
- c) Head
- d) Neck
- e) Trunk
- f) Thorax

Systemic

- a) Muscular
- b) Skeletal
- c) Nervous
- d) CVS
- e) Respiratory
- f) Skin structure

2) Applied physiology

- a) Muscle
- b) CVS
- c) Respiratory
- d) Nervous
- e) Blood
- f) Skin

Physiology Fitness

Breath holding ,mercury column test cardiac efficiency test – Harvard step test – Master step test

1. Recording of arterial blood pressure – effects of change in posture & exercise on A.B.P.
2. Stethography
 - i. Effect of deglutition.
 - ii. Effect of voluntary hyperventilation
 - iii. Effect of exercise.
3. Spirometry Lung volumes and capacities.
4. Mosso's finger ergography and bicycle ergography
5. Perimetry
6. Clinical examination of Respiratory system.
 - Cardiovascular system.
 - Central Nervous system.
 - Special senses.

3) Microbiology, pathology, Biochemistry,

- a) Microbiology : Bacteriology Virology, Immunity
- b) Pathology : cell repair, inflammation ,tumor, bone joint diseases- auto- immune different arthritis ,osteomyelitis
- c) Biochemistry : metabolism of vitamins, carbohydrates , vitamin

4) Biomechanics and Kinesiology

- I. Basic Concepts
- II. Muscular system
- III. Joints
- IV. Musculoskeletal system
- V. Principles of Motion
- VI. Principles of force and work
- VII. Basics of the development of motor skill
- VIII. Principles of stability
- IX. Postural principles

5) Fundamental of occupational therapy

- I. History & development of Occupational Therapy.
- II. Philosophy of Occupational Therapy & Rehabilitation, Rehab team, need of rehabilitation. Principles of physical medicine.
- III. Application of Occupational Therapy-Occupational Therapy process.
- IV. Introduction to Models of Occupational Therapy
- V. Theory of Occupation:
 - a) Forms of occupation, occupation as evolutionary trait, Biological dimensions.
 - b) Social dimensions, Psychological dimensions of occupation, Application of Occupational Therapy.

Principles of Therapeutic Exercise :

- (a) Generalized & specific principles.
- (b) Types of Movements, Muscle contraction used in exercise.
- (c) Exercise classification & application to activity.
- (d) Objective to develop i) Power ii) Endurance iii) Coordination iv) ROM
- (e) Progressive resistive exercise (PRE), Regressive resistive exercise (RRE), brief repetitive isometric exercise (BRIME)
- (f) Breathing Exercise

7. Principles and methods of Assessment:

- (a) Joint range of motion
- (b) Muscle strength

8. Definition, classification, variation in testing methods of following:

Muscle Tone

- (a) Definition of tone.
- (b) Normal Muscle tone
- (c) Abnormal Muscle tone
- (d) Muscle tone assessment-
- (e) Modified Ashworth Scale

Coordination:

- (a) Definition
- (b) Characteristics of coordinated movements
- (c) Inco-ordination, Cerebellar signs, Extra pyramidal signs\
- (d) Assessment of co-ordination

Sensation:

- (a) Definition.
- (b) Classification of sensations.
- (c) Techniques and methods of Sensory evaluation. Specific sensory testing.

Perception:

- (a) Definition.
- (b) Components and description of each component. Assessment methods

Cognition:

- (a) Definition.
- (b) Evaluation of cognitive Skills: Attention,
- (c) Orientation, Memory (Immediate, Short term and
- (d) Long term Memory), problem solving and
- (e) Executive functions.

Endurance:

- (a) Definition.
- (b) Importance of Endurance in performance.
- (c) Factors affecting endurance.
- (d) Relation to activity tolerance

6) Ergotherapeutics

Overview of Ergonomics:

- (a) Definition
- (b) Principals of ergonomics
- (c) Role of occupational therapy in ergonomics.
- (d) Ergonomics of computer.
- (e) Ergonomics of home for wheelchair bound patients.

- (f) Assistive technology: ADL, Seating and positioning devices, Transfer devices, Visual Aids, communication aids, Mobility aids, pointing and writing aids.

7) Occupational Therapeutic rehabilitation in Orthopaedics and sports conditions

Application of occupational therapy principles and techniques in evaluation and treatment of the following orthopedic conditions to include:-

- (a) Fracture, dislocations and soft tissue injuries – Upper extremity, lower Extremity and spine.
- (b) Deformities – Congenital and acquired deformities of Upper extremity, lower Extremity and spine.
- (c) Inflammatory condition of joints and bones. – R.A., Ankylosing spondylitis & other major conditions.
- (d) Metabolic diseases – Rickets, Osteomalacia Osteoporosis, gout etc.
- (e) Amputations - Pre & Post operative occupational therapy treatment.
- (f) Degenerative & Infective conditions-Osteoarthritis of major joints, Spondylosis, Spondylolisthesis, PID, periartitis Shoulder, T.B. Spine Bone & Major joints, Perthe's disease , Cumulative Trauma Disorder.
- (g) Supportive and corrective appliances in the rehabilitation of orthopedic cases.
- (h) Adapted devices in the rehabilitation of orthopedic case.
- (i) Activities of daily living, testing and training in A.D.L.
- (j) Poliomyelitis: Post polio residual paralysis and post polio syndromes.
- (k) Cerebral palsy reconstructive surgeries including limb lengthening procedure and orthotic management.
- (l) Total Hip and Knee replacements occupational therapy treatment.
- (m) Pain Management in Occupational Therapy.
- (m) Functional bracing : Definition, concept of functional bracing, objectives and scientific basis of functional fracture bracing, importance in healing of fractures, advantages over conventional bracing, materials used, indications & contraindication of functional bracing.

8) Occupational Therapeutic rehabilitation in Neurological and Peadiatrics conditions

Principles of occupational therapy management in neurological conditions. Objectives and functions of Occupational Therapy: Occupational therapy assessment in neurological conditions; various frames of reference used in occupational therapy. Clinical features, medical management, occupational therapy assessment, aims, therapeutic techniques & approaches used in the following conditions-

Poliomyelitis. Cerebro vascular accidents, Common affections of peripheral, spinal and cranial nerves, Myopathy. Lesion of Pyramidal, extra pyramidal, cerebellar systems, Motor neuron diseases, Degenerative Neurological conditions, parkinsonism, syringomyelia. Multiple sclerosis, Muscular Dystrophy Spinabifida, meningomyelocele: Outline development, clinical features lower limbs, bladder and bowel control, complications UTI & hydrocephalus. Cerebral palsy: Define and briefly outline etiology of prenatal, per-natal and postnatal causes, briefly mention pathogenesis, types of cerebral palsy (Classification), findings on examination, general examination of C.N.S, Musculoskeletal and respiratory system

9) Occupational Therapeutic rehabilitation in Cardiothoracic and conditions-

Heart diseases, injury , Myocardial ischemia, infarction, heart failure, cor-pulmonale , Pneumonia, atelectasis, ARDS, asthma, COPD, pulmonary edema , Arterial and venous diseases , Pleural effusion, cystic fibrosis, tuberculosis

10) Occupational Therapeutic rehabilitation in Medical , surgical ,Burn and plastic surgery conditions

Clinical features, Occupational therapy assessment, goal setting & approaches used for various surgical conditions including

- a) Burns: Definition, classification, stages of burns, O.T. in burns, pre-graft treatment, postgraft treatment, rehabilitation of burns.
- b) Amputation : Aetiology, surgical management, special consideration & problems, psychological adjustment, levels of amputation, accessories & component part of prosthesis, upper & lower extremity
- c) prosthetic training program for upper & lower extremity
- d) Occupational Therapy in blind: Definition and Classification, mobility techniques, communication skills, sensory re-education, emotional and psychological aspects of blindness facilities for blind, prevention of blindness.
- e) Occupational Therapy in deaf, dumb, Definition and classification, communication skills, types and uses of hearing aids, emotional and psychological aspects, facilities for deaf, prevention of deafness, vestibular affectations and re-training

11) Occupational Therapy rehabilitation in medicine and Geriatrics Condition

- i) Geriatrics: Musculoskeletal disorder ,Cardiopulmonary disorder, Neurological disorders , Burns, nutritional disorders , Dementia, depression
- ii) Rehabilitation medicine
 1. Introduction to Rehabilitation medicine
 2. Definition concerned in the phases of disability process, explanation of its aims & principles. Scope of rehabilitation.
 3. Definition concerned with the causes of Impairment, Functional limitation and Disability
 4. Disability Prevention. Limitation & Rehabilitation.
 5. Present Rehabilitation Services
 6. Legislations for rehabilitation services for the Disabled and P.W.D. acts & Recent Amendments.
 7. Rehabilitation Team & its members, their role.
 8. Community & Rehabilitation including C.B.R. Advantages of C.B.R. over I.B.R.

9. Contribution of Social Worker towards rehabilitation
10. Vocational evaluation & Goals for disabled, role of Vocational Counselor.
11. Rural rehabilitation incorporated with Primary Health Centre
12. Principles of Communication & its problems and management.
13. Behavioral problems in the Disabled its principle of management.
14. Architectural barriers possible modifications in relation to different disabled conditions.
15. Achieving functional independence
16. Occupational rehabilitation
17. Concepts in geriatric rehabilitation
18. Disability evaluation
19. Visual disability: Definition and classification, mobility techniques, communication skills, prevention of blindness.