



GOVERNMENT OF JAMMU & KASHMIR
SHER-I-KASHMIR INSTITUTE OF MEDICAL SCIENCES
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**Syllabus for Assistant Professor Posts of
the Department of Geriatric Medicine,
SKIMS, SOURA.**

SYLLABUS FOR THE POST OF ASSISTANT PROFESSOR (GERIATRIC MEDICINE)

The broad outline of the syllabus is given below:-

A) Basic Sciences: Biology of human ageing, Epidemiology of human ageing, Immunology of human ageing, Effect of ageing on different organs, death.

B) Clinical Geriatrics: General Medicine, Geriatric Medicine, Cardiology, Pulmonary Medicine, Gastroenterology, Endocrinology, Nephrology, Neurology, Rheumatology, Hematology and Oncology.

C) Applied Geriatrics in allied specialities: Orthopedics, Urology, Gynecology, Ophthalmology, ENT, Dentistry, Psychiatry, Pre - and post - anesthetic evaluation and management.

D) Preventive geriatrics: Rehabilitation, end of life care, legal, ethical and economic aspects

The details of the syllabus are outlined herewith:

Basic Sciences :

1. Anatomy
2. Physiology
3. Biochemistry
4. Pharmacology
5. Microbiology
6. Pathology

General Medicine and Psycho-Geriatrics

Introduction to Clinical Medicine:

1. Headache
2. Chest pain
3. Abdominal pain
4. Fever
5. Lassitude and Asthenia
6. Cough
7. Nausea and Vomiting
8. Syncope

Immunological Factors in Disease:

1. Components of immune system
2. Mechanism of the immune response
3. Immune deficiency and lympho-proliferative disorders
4. Types of immune reaction and their relation to disease
5. Suppression of immune reactions and its effects

6. Immunosenescence

7. Inflammaging

Infection and Diseases:

1. Nature of microorganisms
2. Epidemiology and spread of infections
3. Immunity and Immunosenescence
4. Diagnosis and management of infections
5. Short duration fever
6. Pyrexia of unknown origin

Chemotherapy of Infections:

1. Antibiotics
2. Antibiotic stewardship
3. Anti-virals
4. Anti-fungals

Disturbances in Electrolyte and Water Metabolism:

1. Hypernatremia and hyponatremia
2. Hyperkalemia and hypokalemia
3. Calcium-phosphate and magnesium metabolism
4. Disturbances in H⁺-ion concentration
5. Fluid balance

Diseases of the Cardiovascular System:

1. Cardiac Arrhythmias
2. Cardiac failure
3. Valvular Heart Disease
4. Ischemic Heart Disease
5. Pericardial diseases
6. Cardiomyopathies, Myocarditis
7. Atherosclerosis, hypertension
8. Hypertensive heart disease
9. Diseases of the aorta
10. Peripheral Vascular Disease

Diseases of the Respiratory System:

1. Disease of the Upper and Lower Respiratory Tract
2. Bronchial Asthma, chronic Obstructive Pulmonary Disorder (COPD), Cor pulmonale
3. Acute and Chronic Respiratory Failure
4. Interstitial lung diseases
5. Neoplasms of lung = diagnosis and principles of management
6. Diseases of Pleura, Mediastinum and Diaphragm
7. Sleep disorders

Diseases of the Gastrointestinal System:

1. Diseases of the esophagus, Gastro-esophageal Reflux Disorder (GERD)
2. Peptic Ulcer, gastritis and other diseases of the stomach
3. Inflammatory diseases of small and large intestine
4. Diverticulosis
5. Malignancy of stomach, small intestine, colon and rectum
6. Malabsorption syndrome
7. Diseases of the peritoneum
8. Irritable bowel disease
9. Faecal incontinence

Diseases of the Liver and Biliary Tract:

1. Diagnostic procedures in liver disorders
2. Derangement of hepatic/biliary metabolism
3. Acute Hepatitis
4. Chronic hepatitis
5. Cirrhosis of liver
6. Liver Abscess
7. Tumors of liver – diagnosis and principles of management
8. Infiltrative and Metabolic diseases of liver
9. Disorders of Gall Bladder and Bile Duct
10. Ascites

Diseases of the Pancreas:

1. Diagnosis of pancreatic diseases
2. Acute and chronic pancreatitis
3. Tumors of pancreas

Diseases of the Kidney and Urinary System:

1. Acute Renal Failure
2. Chronic Kidney Disease
3. Glomerulonephritis
4. Nephrotic syndrome

5. Vascular diseases of the kidney
6. Infections of the urinary tract
7. Obstructive Uropathy
8. Urinary Incontinence
9. Nephrolithiasis
10. Renal Cell Carcinoma

Diseases of the Endocrine System:

1. Hyperthyroidism and hypothyroidism
2. Hyperparathyroidism and hypoparathyroidism
3. Diabetes Mellitus
4. Hypo-thalamus and pituitary gland
5. Diseases of the Anterior Pituitary
6. Disorders of the neuro-hypophysis
7. Hyperinsulinism /Glucagon and its effects
8. Diseases of the Adrenal Cortex and Medulla
9. Diseases of the testes and ovaries

Diseases of Blood and Blood Forming Organs:

1. Blood formation and destruction
2. Blood groups and transfusion
3. Anemia
4. Leukemia
5. Bone Marrow Failure
6. Myeloproliferative disorders
7. Disorders of platelets
8. Hemorrhagic disorders
9. Abnormal hemoglobins
10. Lymphomas
11. Diseases of Spleen and Reticulo-endothelial system
12. Plasma cell dyscrasias

Diseases of Connective Tissue, Joints and Bones:

1. Rheumatoid Arthritis, including Late Onset Rheumatoid Arthritis (LORA)
2. Ankylosing spondylitis
3. Systemic Lupus Erythematosus
4. Vasculitis
5. Scleroderma

6. Polymyalgia Rheumatica
7. Gout/ Pseudogout
8. Osteoarthritis
9. Diseases of bone - Metabolic and Endocrine
10. Tumors of Bone

Diseases of the Nervous System:

1. Diagnostic methods in Neurology
2. Coma, Altered sensorium
3. Headache
4. Epilepsy
5. Diseases of Cranial Nerves
6. Cerebro-vascular Diseases
7. Diseases of the Spinal Cord
8. Diseases of the Peripheral Nervous System
9. Pyogenic infections of the CNS
10. Viral Infections
11. Multiple Sclerosis and other demyelinating diseases
12. Metabolic and Nutritional diseases of brain
13. Neurodegenerative diseases including Dementia
14. Movement disorders including Parkinson disease
15. Dizziness and vertigo

Diseases of the Skin:

1. Skin lesions commonly seen in the geriatric population
2. Generalized pruritus
3. Pressure ulcers
4. Pigmentation of the skin
5. Disorders of melanin metabolism
6. Photosensitivity
7. Hirsutism and alopecia
8. Cutaneous manifestations of internal malignancy
9. Psoriasis
10. Scabies
11. Infections of the skin

Psycho-Geriatrics:

1. Epidemiology of Mental Disorders in the older person

2. Definition and classification of Psychiatric Disorders
3. Delirium /Acute confusional state
4. Dementia
5. Depression in old age
6. Bipolar disorder
7. Functional psychiatric disorders in old age
8. Personality and behavioral disorders
9. Psychogeriatric service - Principles of treatment
10. Management of psychiatric illness
11. Alcoholism and the older patient
12. Care-giver issues

Geriatrics

General:

1. Demography, world trends
2. Trends in India and developing countries
3. The Aged and Society – past, present and future
4. The evolution of Geriatrics

Gerontology:

1. Ageing changes
2. Theories of ageing
3. Metabolic and structural aspects of ageing
4. Biochemical changes in the normal ageing Brain
5. Ageing in tissues and cells
6. Atherosclerosis and ageing
7. Homeostasis

Geriatrics :

1. How are older patients different?
2. History taking in the older person
3. Physical Examination of the older person
4. Comprehensive Geriatric Assessment (CGA)
5. Geriatric Giants: immobility, instability (falls), incontinence, impaired intellect/memory, frailty, sarcopenia, anorexia of ageing, cognitive impairment, polypharmacy

Investigations in the older person:

1. Concept of normal range

2. How much to investigate?
3. Interpretation of the results

Immunology:

1. Genetic aspects of Immunity and Immunological Diseases
2. Mutation
3. Alternative theories of Ageing
4. Cancer
5. Immunological Surveillance

Nutrition:

1. Recommended daily allowances of nutrients
2. Prevention of nutritional deficiency
3. Nutritional Assessment
4. Nutritional deficiencies in old age
5. Osteomalacia and Vitamin D deficiency
6. Vitamin B12 deficiency
7. Micronutrients

Cardiovascular System:

1. Changes in Physiology and Pathology of cardiovascular system in old age
2. Investigation of Heart Diseases
3. Cardiac Arrhythmias
4. Coronary Artery Disease and Acute Myocardial Infarction
5. Hypertension and Hypertensive Heart Disease
6. Congestive Cardiac Failure
7. Postural Hypotension
8. Valvular Heart Disease
9. Aortic aneurysm
10. Bacterial Endocarditis
11. Peripheral Vascular Disease
12. Deep Venous Thrombosis and Pulmonary Embolism

Endocrine and Metabolic Disorders:

1. Changes with ageing
2. Diabetes Mellitus
3. Diseases of the Pituitary, Parathyroid and Thyroid
4. Obesity
5. Sexual dysfunction

6. Disorders of Sodium, Potassium, Calcium, Magnesium and Zinc

7. Disturbances in Fluid Metabolism

Central Nervous system:

1. The Ageing Brain
2. Vascular lesions of the Central Nervous System
 - Neurodegenerative disorders including Dementia
 - Movement disorders including Parkinson disease
 - Head Trauma
 - Infections of the Nervous System
 - Epilepsy
 - Peripheral Neuropathy
 - Disorders of Spinal cord and Nerve Roots
 - Neoplasia

Genitourinary System:

1. Structural changes with ageing
2. Acute and Chronic Renal Failure
3. Infections of the Genito-urinary tract
4. Diseases of the bladder and prostate
5. Urinary Incontinence
6. Ageing changes in the Genital Tract
7. Post-menopausal bleeding
8. Gynecological disorders in the older person

Disorders of the Special Senses:

1. Disorders of the Eye
2. Hearing Disturbances
3. Disturbance of Taste and Smell
4. Dental Problems

Infections in the older persons:

1. Host Defenses - natural barriers
2. White Cell response, immune mechanism
3. Fever- short duration and pyrexia of unknown origin
4. Urinary Infection - diagnosis and treatment
5. Pneumonia - cause, diagnosis and treatment
6. Skin infections
7. Septicemia

8. Bacterial Endocarditis
9. Antibiotics and antibiotic stewardship

Gastro-intestinal system:

1. Changes with age
2. Investigations of the gastro-intestinal tract
3. Disorders of the mouth
4. GERD / Hiatus Hernia
5. Acid Peptic Disease
6. Disease of the Pancreas
7. Diseases of the small Intestine
8. Diseases of the large Intestine
9. Fecal Incontinence
10. GI Malignancy
11. Disease of the liver and Biliary System
12. Constipation – Prevention and Management

Respiratory System:

1. Changes with age
2. Infections of the Respiratory System
3. Bronchial Asthma, Chronic Obstructive Airway Disease, CorPulmonale
4. Bronchogenic carcinoma
5. Respiratory Abnormalities in Extra-pulmonary conditions
6. Respiratory Failure

Musculoskeletal System:

1. The ageing joints
2. Degenerative joint disease
3. Gout/ pseudo-gout
4. Rheumatoid Arthritis
5. Infective Arthritis
6. Myositis/ Myopathy
7. Polymyalgia Rheumatica
8. Vasculitis including Temporal Arteritis
9. Fibromyalgia
10. Osteoporosis
11. Osteomalacia

Hematopoietic System:

1. Changes with ageing
2. Anemia
3. Leukemias and Lymphomas
4. Para-proteinaemia
5. Myelodysplastic syndromes
6. Platelet disorders
7. Disorders of Hemostasis

Dermatology:

1. Ageing skin
2. Senile purpura
3. Bed sores
4. Pruritus
5. Cancers/benign lesions
6. Pemphigus/ pemphigoid
7. Leg ulcers

Malignancy in old age:

1. Epidemiology
2. Presentation
3. Early detection and counseling
4. Investigation and principles of management

Pharmacological Aspects of Ageing:

1. Pharmacokinetics
2. Pharmacodynamics
3. Drug selection and dosage
4. Drug interactions
5. Adverse Drug Reactions
6. Drug Compliance
7. Antibiotic stewardship

Surgery in the Older patient:

1. Pre-operative Assessment
2. Anesthesia in old age
3. Surgical Emergencies
4. Elective Surgery
5. Fractures and soft tissue injuries
6. Amputation

7. Post-operative problems and Management

Special Problems:

1. Pressure sore
2. Care of the chronically ill
3. Care of patients with terminal illness
4. Religion and Illness
5. Falls

Critical/Emergency care

1. Oxygen supplementation
2. NIV/Ventilator setting adjustment
3. Fluid balance
4. Electrolyte balance
5. Poisoning
6. Hyperpyrexia / Heat Stroke

Social and Preventive Geriatrics including Rehabilitation, and Advances in Geriatrics, Social Geriatrics:

1. Types of Family - Family structure. – Intergenerational interaction
2. Social changes due to urbanization and industrialization,
3. Isolation, loneliness and dependency - Dependency ratio - Generational equality
4. Role of Government and NGOs in upliftment of socio-economic status of older people.
5. National policies on ageing
6. Geriatric Service for the Elderly in Western Countries and in India -
7. Day Hospital, Day Care Centre, Long Stay Care Institution, Home for the Aged, functions of the Day Hospital - Western model
8. Psycho-geriatric services - structure and facility - Domiciliary assessment and community care
9. Terminal Care Services - social and spiritual problems in Terminally ill
10. Ethical Issues in Geriatric Medicine - Informed Consent
11. Euthanasia - Acts of omission and commission
12. Elder abuse
13. Setting up of a robust promotive/preventive/ rehabilitative program for the older person in the community

Preventive Geriatrics:

1. Preventing Diseases and promoting health in old age - Types of preventive activities - Risk factor management in the older person- screening
2. Health belief model - General Health practices in elderly
3. Exercise in the elderly - Physical and Mental domain - Benefits of Exercise
4. Development of Anticipatory Care and its Rationale - methods of Anticipatory Care
5. Health promotion and Health Education in the Elderly
6. Anti-Ageing interventions

Rehabilitation:

1. The concepts and goals of Rehabilitation
2. Principles of Rehabilitation - Assessment, goals, priorities and monitoring of progress
3. Rehabilitation in old age - Special features in relating to ageing, multimorbidity, expectation of the patient and carers, intercurrent acute illnesses, social and financial support
4. Clinical evaluation of rehabilitation - impairment, disability and handicap (ICF structure)
5. Multidisciplinary team - Team leadership, therapist, physiotherapy, occupational therapy, speech and swallow therapist, social worker, physician and nursing personnel.
6. Self-care evaluation and management of Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) - Self Care Assessment Tools
7. Aids and appliances
8. Role of the different members of the multidisciplinary team in the process of rehabilitation
9. Contractures and other deleterious effects of immobility
10. Pressure Ulcer - factors, prevention and management
11. Rehabilitation of chronic illnesses in the older person- stroke, CCF, COPD, Arthritis etc.
12. Rehabilitation of specific diseases - Parkinsonism, Paraplegia, Fracture neck of femur, acute and chronic arthritis, lower limb amputation, low back pain
13. Gait assessment and prevention of Falls
14. Organization and effectiveness of rehabilitation services - Community Services
15. Geriatric Units, Day hospital, Day Care Centre, Long Stay Care Institution - role of rehabilitation

Advances in Geriatrics:

1. Alzheimer's Disease
2. Parkinson disease/Ischemic Heart Disease/Stroke/COPD
3. Osteoporosis
4. Urinary Incontinence

5. Falls / Prevention of Fractures
6. Nutrition
7. Frailty and Sarcopenia
8. Liaison services – orthogeriatrics, vascular, surgery etc.
9. Stroke and Memory Clinics
10. Anti-ageing research

End of life care (EOLC):

1. Principles of Palliative Care at EOLC
2. End of Life Care process and pathways

Advanced Directives and Advanced Care Planning

1. Definition of Advance Directives (AD)
2. Writing a Will

Living will – Indian Scenario



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