

**DETAILED SYLLABUS FOR THE POST OF MEDICAL OFFICER
(KERALA SPORTS AND YOUTH AFFAIRS)**

Cat.No. : 569/2022)

(Total Marks – 100)

MODULE 1 (Marks-10)

1. Upper limb pain and dysfunction

- a) Shoulder special tests
- b) Elbow special tests
- c) Wrist and hand special tests

2) Rehabilitation principles of upper limb injury

3) Musculoskeletal problems of upper limb

- a) Acromio clavicular joint disorders
- b) Rotator cuff tendinopathy and impingement
- c) Glenohumeral joint instability
- d) Adhesive Capsulitis

4) Conditions of elbow

- a) Lateral epicondylopathy
- b) Medial epicondylopathy
- c) Olecranon bursitis

5) Conditions of forearm, wrist and hand

- a) Dequeirvains syndrome
- b) Scapho lunate instability
- c) Triangular fibrocartilage complex Injuries

Module:2- 10 marks

LOWER LIMB PAIN AND DYSFUNCTION

1) Disorders of hip and groin

- a) AVN
- b) Legg- calves-Perthes disease and SCFE
- c) Greater trochanter pain syndrome
- d) Coxa -Saltens Externa Interna
- e) Hip impingement and acetabular labral tears
- f) Hip dislocations
- g) Athletic Pubalgia
- h) Rectus femoris avulsions Ischial avulsions
- i) OA hip

2) Disorders of Thigh and knee

- a) Iliotibial band syndromes
- b) Patello femoral band and related disorders

c) Differential diagnosis of anterior knee pain (jumpers knee, Osgood schlatter, suprapatellar, Infrapatellar and prepatellar bursitis)

d) Hamstring injury

e) Quadriceps femoris injury

f) Femoral bone stress injury

g) Pes anserinus bursitis

h) Popliteal dysfunction

3) Intra articular and ligamentous issues of knee

a) Osteochondritis dessicans

b) Ligamentous injury

c) Meniscal injuries

4) Disorders of lowerlimb ankle and foot

a) Superficial, posterior, Lateral and anterior compartment injuries

b) Calf strain

c) Achilles tendinopathy/ Achilles tendon rupture

d) Tibial stress fracture

e) Ankle sprain

f) Pain in foot- Metatarsal stress fracture, Plantar fasciitis, Meta tarsalgia, Mortons neuroma

MODULE -3 - SPORTS MEDICINE AND ADAPTIVE SPORTS

10 marks

1) Principles of conditioning and training

- a) Periodization
- b) Over training syndrome
- c) Altitude training

2) Injury Prevention and Rehabilitation

- a) Kinetic chain assessment
- b) Rehabilitation
- c) Stages of Rehabilitation

3) Biomechanics of sports

- a) Throwing
- b) Running
- c) Swimming
- d) Jumping and landing

Module -4 (10 Marks)

1. Pharmacology in Sports

- a) Doping

b) Therapeutic drugs

- 1) Analgesics
- 2) Anti inflammatory
- 3) Anti hypertensives
- 4) Anti diabetics
- 5) Anti asthma drugs

c) Performance enhancing drugs

- 1) Anabolic steroids
- 2) Erythropoetin and blood doping
- 3) Stimulants
- 4) Supplements
- 5) Creatine

2. Participation examination

- a) Cardiovascular screening
- b) Medicolegal aspects of preparticipation evaluation

3. Emergency assessment and care

- a) Sudden cardiac arrest in athletes

4) Specific diagnosis in sports medicine

- a) Sports Concussion
- b) Stingers
- c) Exercise induce bronchospasm

5) Specific population

- a) Women in sports
- b) Paediatrics and adolescents in athletes
- c) Older athletes

6) Adaptive sports medicine

- a) Adaptive sports equipments
- b) wheel chair athletes
- c) Autonomic dysreflexia
- d) Boosting
- e) Heterotopic ossification
- f) Acute mountain sickness

MODULE 5

(10 marks)

CHRONIC AND ACUTE PAIN

- 1) History of pain theory
- 2) Physiology and pathophysiology of pain
 - a) Transduction
 - b) Transmission
 - c) Peripheral sensitization

- d) Modulation
- e) Central sensitization
- f) Ascending and descending modulation

3) Psychological issues related to chronic pain

- a) Affective factors
 - 1) Depression
 - 2) Anxiety
 - 3) Anger
- b) Cognitive factors
- c) Catastrophising
- d) Learning factors
 - 1) Operant learning
 - 2) Fear of movement

4) Behavioural treatment approaches

- a) Operant behavioural techniques
- b) Cognitive behavioural techniques

5) Sleep and chronic pain

6) Treatment of chronic pain

- a) Medications of chronic pain
 - 1) Opioid analgesics
 - 2) Anticonvulsants medications
 - 3) Anti depressants

MODULE -6

10 marks

Therapeutic Exercises

- 1) General principles
- 2) Energy Systems
 - a) Creatine phosphate system
 - b) Lactic acid system
 - c) Aerobic oxidation system

3) Cardiovascular exercise

4) Effects of exercise training

5) Muscle physiology

6) Physiology of muscle contraction

7) Factors affecting muscle strength and performance

8) Exercise prescription

9) Progressive resistance exercises

10) Flexibility

11) Plyometrics

12) Neurofacilitation techniques

13) Exercise for special population

14) Effect of aging on Muscle

MODULE -7

10 marks

Electro diagnostic medicine and musculo skeletal ultrasound

1.EMG and NCS

EMG

- a) Spontaneous activity
- b) Insertional activities
- c) Voluntary activities
- d) EMG in myopathy and neuropathy

NCS

- a) Motor conduction studies
- b) Sensory conduction studies
- c) F waves
- d) Repetitive nerve stimulation

2. Musculo skeletal ultrasound

- a)Ultrasound basics
- b) Transducers
- c) Knobology
- d) Ultrasounds of joints ,nerves , muscles and soft tissues

MODULE 8

10 marks

Physical agent modalities

- 1) Cryo therapy
- 2) Superficial heat

Types of devices:

Hydrocollator packs

Paraffin bath

Infrared

Hydrotherapy

3) Deep heat

a) Ultrasound

b) Short wave

c) Microwave

d) Extracorporeal shock wave therapy

e) Electrotherapy

1) Physiology and mechanism of action]

2) Types of electro therapy

3) TENS

4) IFT

5) Micro current

6) Low level laser therapy

4) Acupuuncture

MODULE 9 10 marks

Enhancing sports performance

1) Nutrition in sports

- 2) Maximising energy stores- Carbohydrates and fats**
- 3) Protein: A fuel**
- 4) Achieving ideal body weight for performance**
- 5) Assessment of body composition**
- 6) Dietary regimen for weight loss**
- 7) Other method of weight control**
- 8) Bulking up- Methods commonly used by athletes to gain weight**
- 9) Ensuring sufficient intake of vitamins and minerals**

MODULE 10

10 marks

Miscellaneous

Human walking

- 1) Normal human gait**
- 2) Gait analysis**
- 3) Abnormal gait**
- 4) Isokinetic system**

Regenerative medicine

- 1) Stem cell therapy**
- 2) PRP**

3) Gene therapy

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.