

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग  
प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

**Paper II: Technical Subject**

**Section (A) - 45 Marks**

**( 1 critical analysis Q -15 mark + 3 long Q- 30 marks)**

1. **Applied Basic Sciences**
  - 1.1 Applied anatomy
  - 1.2 Applied Physiology
  - 1.3 Applied Pathology
  - 1.4 Applied Pharmacology
  - 1.5 Applied immunology
  - 1.6 Applied biostatics
  - 1.7 Applied research methods
  - 1.8 Applied Molecular biology and genetics
2. **Knowledge of outpatient department**
  - 2.1 Initial assessment with logical approach to undifferentiated illness.
  - 2.2 Impact of illness in the context of the family and community
  - 2.3 Sensitive to psychosocial issues related to presentation
  - 2.4 Follow- up management plans especially in chronic disease (e.g. diabetes, hypertension, asthma, COPD, APD ,anxiety/depression, growth and development)
  - 2.5 STD, antenatal and postnatal care, well women and men assessments
  - 2.6 Care of previously treated problems
  - 2.7 Coordination of care
3. **Medicine**
  - 3.1 Chest pain (acute and chronic)
  - 3.2 Palpitations
  - 3.3 Shortness of breath (acute, intermittent and chronic)
  - 3.4 Wheezing/Stridor
  - 3.5 Haemoptysis
  - 3.6 Cough
  - 3.7 Cyanosis
  - 3.8 Swelling of body parts
  - 3.9 Dyspepsia
  - 3.10 Reflux
  - 3.11 Haematemesis and malaena
  - 3.12 Upper and lower abdominal pain (acute and chronic)
  - 3.13 Diarrhoea
  - 3.14 Vomiting
  - 3.15 Abdominal distension
  - 3.16 Constipation
  - 3.17 jaundice
  - 3.18 Dysuria
  - 3.19 Haematuria
  - 3.20 Impotence
  - 3.21 Confusion
  - 3.22 Coma
  - 3.23 Headache

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग

प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 3.24 Convulsions
- 3.25 Syncope
- 3.26 paralysis
- 3.27 paraesthesia
- 3.28 Weakness
- 3.29 Fever
- 3.30 Anorexia
- 3.31 Fatigue
- 3.32 Myalgia
- 3.33 Itch
- 3.34 Rash
- 3.35 Abnormal bleeding
- 3.36 Swollen glands
- 3.37 Joint swelling
- 3.38 Joint pain
- 3.39 Thyroid disease
- 3.40 Diabetes
- 3.41 Tuberculosis
- 3.42 Drug related problem -iatrogenic, poisoning, or abuse including alcohol/smoking
- 3.43 Anaemia
- 3.44 Depression
- 3.45 Hypertension
- 3.46 Spinal dysfunction
- 3.47 Urinary tract infection
- 3.48 Holistic management of patients with HIV/AIDS
- 3.49 palliative care

**4. Paediatrics**

- 4.1 Neonatal Knowledge-Normal Newborn Care
  - 4.1.1 Prematurity/Postmaturity
  - 4.1.2 Birth trauma/Asphyxia
  - 4.1.3 Respiratory distress
  - 4.1.4 Jaundice
  - 4.1.5 Sepsis
  - 4.1.6 Congenital problems (cardiac, hip, cleftpalate, tracheo-oesophageal fistula, imperforate anus, diaphragmatic hernia)
- 4.2 Acute Life Threatening Problems
  - 4.2.1 Stridor /Airway compromise (Croup/epiglottitis)
  - 4.2.2 Respiratory distress and potential respiratory failure (severe ARI, Asthma)
  - 4.2.3 Circulatory failure/shock including Sepsis and dehydration
  - 4.2.4 Altered Sensorium including Meningitis/ encephalitis / encephalopathies (hepatic, uraemic, hypertensive)
  - 4.2.5 Seizures and status epilepticus
  - 4.2.6 Congestive heart failure
  - 4.2.7 Supraventricular tachycardia
  - 4.2.8 Acute renal failure
  - 4.2.9 Tetanus
  - 4.2.10 Poisoning
  - 4.2.11 Drowning/near drowning

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग

प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 4.2.12 Bleeding disorders
- 4.2.13 Diabetic Ketoacidosis
- 4.2.14 Acute Abdominal Pain (distinguish medical and surgical causes)
- 4.3 Feeding Problems: Understanding of Breastfeeding and Nutrition
- 4.4 Growth Disorders: Protein Calorie Malnutrition, failure to thrive, short stature
- 4.5 Common Febrile Illness
  - 4.5.1 ARI ( including Pertussis)
  - 4.5.2 Diarrheal diseases (viral, bacterial, Parasitic)
  - 4.5.3 Urinary Tract Infection
  - 4.5.4 Septicemia/Bacteremia
  - 4.5.5 Enteric fever
  - 4.5.6 Malaria
  - 4.5.7 Viral exanthema (measles ,mumps, etc)
  - 4.5.8 Acute tonsilitis
  - 4.5.9 Rheumatic fever/endocarditis
  - 4.5.10 Tuberculosis (TB)
  - 4.5.11 Infective hepatitis
  - 4.5.12 Kala azar
  - 4.5.13 PUO
- 4.6 Cough - including Asthma/Bronchitis/Bronchiolitis
- 4.7 Oedema-including renal (nephritic syndrome, nephritis), Kwashiorkor, cardiac
- 4.8 Chronic abdominal pain
- 4.9 Jaundice
- 4.10 Seizure disorders
- 4.11 Anemia and blood dyscrasias including Leukemias (recognize and refer)
- 4.12 Arthritis (septic arthritis, osteomyelitis, Juvenile Rheumatoid arthritis)
- 4.13 Skin disease/rashes (eg; scabies)
- 4.14 Common eye problems (eg, conjunctivitis)
- 4.15 Common ear problems (eg, otitis media)
- 4.16 Developmental delay/cerebral palsy/mental retardation
- 4.17 Visual/hearing/speech disorders (recognize and refer)
- 4.18 Dehydration
- 4.19 Certain diseases can present in different ways, so specific attention should be paid to
  - 4.19.1 Diabetes mellitus
  - 4.19.2 Hypothyroidism
  - 4.19.3 TB
  - 4.19.4 HIV/AIDS

**5. Dermatology**

The general practice doctor will be able to manage the following common skin conditions:

- 5.1 Bacterial : Superficial bacterial infections, Skin TB , Leprosy
- 5.2 Viral: Herpes simplex, Herpes Zoster, Wart, Molluscum contagiosum
- 5.3 Fungal: Dermatophyte, Candida, Tinea versicolor, Deep Fungal infection
- 5.4 Parasites: Scabies, Pediculosis, Leishmaniasis
- 5.5 Approach : Systemic Causes
  - 5.5.1 Skin Causes – Infective (e.g. Scabies), Urticaria, Dermatitis Herpetiform, Lichen Planus

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग

प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 5.6 Common Skin Problems: Eczema/Dermatitis, Acne, Psoriasis, Drugeruption, Erythema multiforme, Erythema , Nodosum, Purpura, Bullous dieases
- 5.7 Skin Ulcers: Hair and Nail Disorders:
  - 5.7.1 Alopecia, Onycholysis, Paronychia
  - 5.7.2 Pigmented Skin Lesion including Melanoma.
  - 5.7.3 Common Lumps and Bumps including Skin Cancers:
  - 5.7.4 Warts, Keratoacanthoma, Basal Cell, Squamous Cell, Carcinoma
- 5.8 Sexually transmitted disease
  - 5.8.1 Non-specific urethritis/cervicitis, punctate balanoposthitis, candidiasis, trichomoniasis,condylomaaccuminata, syphilis, gonorrhea and chancroid
  - 5.8.2 Sexual contact history, past history of STI, medications
  - 5.8.3 Clinical examination and investigation to find other STDs
  - 5.8.4 Contact tracing and treatment of contacts
  - 5.8.5 Regular follow -up of STD cases
- 6. **Psychiatry**
  - 6.1 Anxiety including Panic and phobic disorders
  - 6.2 Depression
  - 6.3 Conversion/Dissociative disorder
  - 6.4 Psychosis
  - 6.5 Bipolar mood disorder
  - 6.6 Somatic presentations- including pseudo-seizures and multi- symptomatic patients
  - 6.7 Substance Related Disorder
  - 6.8 Childhood Mental Health Conditions
  - 6.9 Concept of diagnostic classification: eg, DSM IV, WHO guidelines
  - 6.10 Concept and simple practice of non -pharmacological approaches to mental health problems
  - 6.11 Drug therapy
  - 6.12 Legal and ethical issues regarding mental competence and detention and relationship with police (recognizing at present there are no laws in Nepal but there is a proposed National Mental Health Act)
  - 6.13 Long term therapy, strategies for optimizing regime and getting compliance
  - 6.14 Liaison with other health workers for management of long term cases
  - 6.15 Practical approach to stabilizing cases before referral
  - 6.16 Common conditions of Primary Care
    - 6.16.1 Anxiety
    - 6.16.2 Depression
    - 6.16.3 Somatic Presentation of mental distress
    - 6.16.4 Culture specific presentation of mental distress
    - 6.16.5 Culture Specific presentation- dhatu, night fall, demon possession, new brides, perceptions about disease
    - 6.16.6 Alcohol and substance misuse
    - 6.16.7 Chronic Tiredness
    - 6.16.8 Sleep disturbances
  - 6.17 Health Promotion and support in chronic mental illness
    - 6.17.1 Monitoring and follow- up in patient with chronic mental illness
    - 6.17.2 Social support for patient and their family
    - 6.17.3 Referral to appropriate specialist care

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग

प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 6.17.4 Work effectively with other workers for the management of people with mental health problems
- 6.18 Stage of life issues
  - 6.18.1 Behavioral disorders in children
  - 6.18.2 Intellectual disability
  - 6.18.3 Childhood and family problems
  - 6.18.4 Adolescent depression and somatization disorders
  - 6.18.5 Perinatal mental illness
  - 6.18.6 At risk -drinking other dangerous behavior in young men and women
  - 6.18.7 Mid-life crises, menopause,sexual problems
  - 6.18.8 Adjustment disorders and chronic physical illness, disability
  - 6.18.9 Dementia
  - 6.18.10 Dying and bereavement
- 7. **Emergency Medicine**
  - 7.1 Triage serious & non-serious problem.
  - 7.2 Manage Major and minor Trauma
  - 7.3 Manage life threatening medical, surgical, paediatric, gynaecological /obstetric emergencies
  - 7.4 Describe concept of Disaster Plan & management
  - 7.5 Manage Medico Legal Cases
  - 7.6 Develops systematic approach to undifferentiable presentation (unconscious patients, chest pain; abdominal pain, dyspnea, etc.)
  - 7.7 Organize and manage emergency services
  - 7.8 Use emergency equipment and supplies available in Nepal
  - 7.9 Develop knowledge about the Emergency Drugs particularly analgesia

**Section (B) - 55 Marks**  
**(1 critical analysis Q -15 marks + 4 long Q -40 marks)**

- 8. **Anaesthesia**
  - 8.1 Cardiopulmonary resuscitation(basic and advanced cardiac life support)
  - 8.2 Pre-operative assessment,including assessing ASA Physical status to know whether a GP anaesthetic is appropriate
  - 8.3 Pre-anesthetic prescribing
  - 8.4 General anesthetic prescribing
  - 8.5 Local anesthesia and regional blocks
  - 8.6 Post-operative recovery and monitoring
  - 8.7 Pain management Intravenous fluid management(Pre and post surgery)
  - 8.8 Airway management using facemask, oral airway and intubation
  - 8.9 Regional anesthetic blocks, spinal, epidural and peripheral
  - 8.10 Ketamine anesthetics(total intravenous anesthesia)
  - 8.11 General anesthesia using draw- over technique
  - 8.12 Ether anesthesia (EMO)
- 9. **Surgery**
  - 9.1 **Skin and subcutaneous tissue**

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग

प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 9.1.1 Diagnosis and management of inflammatory condition of skin like cellulites, boils, carbuncle, etc.
- 9.1.2 Diagnosis and excision of sebaceous cysts, lipomas, etc
- 9.1.3 Diagnosis and management of squamous cell carcinoma, basal cell carcinoma and malignant melanoma
- 9.2 **Burns**
  - 9.2.1 Initial resuscitation
  - 9.2.2 management of fluid
  - 9.2.3 Surgical Management -debridement and grafting
- 9.3 **Lymph Nodes**
  - 9.3.1 Describe the differential diagnosis of lymph node enlargement
- 9.4 **Arterial disorders**
  - 9.4.1 Describe the feature of chronic limb ischaemia including Buerger's disease
  - 9.4.2 Diagnose acute limb ischaemia
  - 9.4.3 Diagnose and manage dry gangrene
  - 9.4.4 Diagnose and manage DVT
- 9.5 **Salivary gland**
  - 9.5.1 Diagnosis and management of parotid and submandibular abscess
  - 9.5.2 Differential diagnosis of parotid and submandibular lump(biopsy is inappropriate)
- 9.6 **Thyroid**
  - 9.6.1 Differential diagnosis of solitary thyroid nodule
  - 9.6.2 Features of nodular goiter, its complications and indications for surgery
  - 9.6.3 Features of thyrotoxicosis, its complications and indications for surgery
  - 9.6.4 Management of hypothyroidism
- 9.7 **Breast**
  - 9.7.1 Method of Breast self examination
  - 9.7.2 Differential diagnosis of breast lump
  - 9.7.3 Triple investigation
  - 9.7.4 Principles of management of breast carcinoma
  - 9.7.5 Differential diagnosis of nipple discharge and indication for surgery
  - 9.7.6 Breast pain
- 9.8 **Upper GI Tract**
  - 9.8.1 Dysphagia : differential diagnosis, Investigations required
  - 9.8.2 Principle of management of oesophageal carcinoma,
  - 9.8.3 Gastro-oesophageal reflux disease: medical management
  - 9.8.4 Peptic ulcer disease: symptomatology, indications for endoscopy, medical management, complications and indications for surgery.
  - 9.8.5 Management of Ulcer GI Bleeding
  - 9.8.6 Management of Gastric carcinoma (Operative details not required)
- 9.9 **Hepatobiliary**
  - 9.9.1 Jaundice : Pathophysiology, differential diagnosis
  - 9.9.2 Liver abscess
  - 9.9.3 Tumors of liver : differential diagnosis
  - 9.9.4 Gallstone disease and its complications
- 9.10 **Pancreas**
  - 9.10.1 Acute pancreatitis: aetiology, definitions of mild and severe pancreatitis, management, complications and indications for surgery
  - 9.10.2 Chronic pancreatitis

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग

प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 9.11 **Small Intestine**
  - 9.11.1 Features of small bowel obstruction, its differential diagnosis and management
  - 9.11.2 Enteric fever and its complication
  - 9.11.3 Appendicitis, appendicular mass and appendicular diagnosis abscess
- 9.12 **Large bowel/Rectum and Anal Canal**
  - 9.12.1 Features of large bowel obstruction and its differential diagnosis
  - 9.12.2 Ulcerative colitis
  - 9.12.3 Bleeding per rectum, differential diagnosis
  - 9.12.4 Hemorrhoids including complications
  - 9.12.5 Perianal abscess
- 9.13 **Hernia**
  - 9.13.1 Inguinal and Femoral
  - 9.13.2 Incisional hernia
- 9.14 **Urology**
  - 9.14.1 Haematuria:differential diagnosis and investigation
  - 9.14.2 Phimosis,paraphimosis
  - 9.14.3 Stones in renal tract:indications for surgery
  - 9.14.4 BHP
  - 9.14.5 Acute urinary retention
  - 9.14.6 Kidney Infection
  - 9.14.7 Vasectomy
  - 9.14.8 Scrotal swelling: differential diagnosis and investigation  
Undescendedtestis ,Diagnosis and Management of Testicular Torsion
  - 9.14.9 Urethral Strictures
- 10. **Orthopaedics**
  - 10.1 Traumatic condition: Recognition of what need to be done acutely and when referral may be more appropriate where possible
    - 10.1.1 Injuries of the upper limb: (Manage/ Consider Referral if Possible)
    - 10.1.2 Injuries of the lower limb and pelvis: (Manage/Refer)
  - 10.2 Non- Traumatic condition:
    - 10.2.1 Infective condition : Most important, Acute infection: Acute osteomyelitis; Acute septic arthritis; Chronic osteomyelitis; Tubercular infections including spine
    - 10.2.2 Degenerative condition and office orthopaedics
  - 10.3 Approach to diagnosis and conservative management where possible, with referral if possible and benefit from orthopedic consultation.
    - 10.3.1 Osteoarthritis
    - 10.3.2 Gout/Pseudogout
    - 10.3.3 Acute and Chronic low back and cervical pain
    - 10.3.4 Regional Musculo-skeletal condition Shoulder, Elbow, Wrist, Hip, Knee,Ankle
  - 10.4 Other Rarer Condition
    - 10.4.1 Congenital Deformities
    - 10.4.2 Neoplastic condition
    - 10.4.3 Metabolic and other condition
    - 10.4.4 Auto-immune diseases

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग  
प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

**11. Obstetrics & Gynaecology**

- 11.1 Antenatal period(normal and abnormal pregnancy)
  - 11.1.1 Normal/ low risk pregnancy and High risk pregnancy
- 11.2 Labour and delivery
- 11.3 Postpartum(Normal puerperium/Abnormal puerperium)
- 11.4 Gynaecology(Local management/Referral)
- 11.5 Medical condition during Pregnancy
  - 11.5.1 DM: Hypertension
  - 11.5.2 Heart disease
  - 11.5.3 Jaundice

**12. Family Planning**

- 12.1 Male and female reproductive anatomy physiology
- 12.2 The current status of family planning and voluntary surgical contraception in Nepal, including legal status, cultural barriers, myths and prejudices
- 12.3 The rationale for vasectomy and tubal ligation, their benefits and disadvantages.
- 12.4 Recognize eligible candidates for voluntary surgical contraception and provide information and counseling services to ensure informed client consent.
- 12.5 Follow the principles of infection prevention and control and preoperative management for vasectomy and/or the minilap
- 12.6 Demonstrate the use of aseptic technique, appropriate anaesthesia and analgesia
- 12.7 Demonstrate the basic surgical skills required for vasectomy and /or minilap.
- 12.8 Manage post- operative patients, including any complication related to anaesthesia, surgery and early and late complications.
- 12.9 Techniques for reversal of vasectomy of tubal ligation
- 12.10 Utilize the common methods of contraception including Depo-Provera, Norplant, Intra-uterine devices, Oral contraceptives
- 12.11 Follow up patient who accept various methods of contraception

**13. Ultrasound**

- 13.1 The different components of Ultrasound equipment and their function
- 13.2 Take proper care of the Ultrasound equipment including sterilization of transducers
- 13.3 Identify artifacts and their usefulness and those that degrade the ultrasound image
- 13.4 The ultrasound orientation of the image, scanning techniques and preparation of the patients
- 13.5 Identify key obstetrics, medical and surgical condition on ultrasound

**14. Dentistry**

- 14.1 Prevent common dental diseases
- 14.2 Recognize and manage common dental problems
- 14.3 Manage dental emergencies
- 14.4 Recognize and manage acute dental and periodontal conditions.
- 14.5 Perform minor procedures.
- 14.6 Recognize conditions that need to be referred for further therapeutic measures.
- 14.7 Temporomandibular joint dislocation
- 14.8 Post dental extraction bleeding
- 14.9 Gingivitis



पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग  
 प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, **Emergency Medicine** उपसमूह, सहायक प्राध्यापक पद,  
 नौ ख (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 14.10 Syncope
- 14.11 Periodontitis
- 14.12 Dental caries
- 14.13 Precancerous condition

Following pattern will be used for formation of paper I & II as far as possible.

<b>Paper I</b>				
<b>Part</b>	<b>Section</b>	<b>Weightage</b>	<b>No. Questions &amp; Weightage</b>	
			<b>Objective Multiple Choice</b>	<b>Subjective</b>
I	A	20		2 Questions x 10 Mark = 20
	B	30		3 Questions x 10 Mark = 30
II	C	25	25 Questions x 1 Mark = 25	
	D	25	25 Questions x 1 Mark = 25	
<b>Paper II</b>				
<b>Section</b>		<b>Weightage</b>	<b>No. Questions &amp; Weightage</b>	
			<b>Long answer</b>	<b>Critical Analysis</b>
A		45	3 Questions x 10 Mark = 30	1 Questions x 15 Mark = 15
B		55	4 Questions x 10 Mark = 40	1 Questions x 15 Mark = 15

--- The end ---