

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा, आयोग
प्राज्ञिक सेवा, आकस्मिक तथा बहिरंग समूह, सह-प्राध्यापक पद, दशौं (१०) तहको
खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

Paper II: Technical Subject
Section (A) - 45 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 Thyroid disorder- screening and management
- 2.6 STD, antenatal and postnatal care, well women and men assessments
- 2.7 Care of previously treated problems
- 2.8 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
- 3.24 Convulsions

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- 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

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- 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 specifics 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,

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Lichen Planus

5.6 Common Skin Problems: Eczema/Dermatitis, Acne, Psoriasis, Drugeruption, Erythema multiforme, Erythema , Nodosum, Purpura, Bullous diseases

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,condylomaacuminata, 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

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- 6.17.2 Social support for patient and their family
- 6.17.3 Referral to appropriate specialist care
- 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
- 7.10 Airway-Breathing-Circulation Management, Stroke, Acute Coronary Syndrome, Resuscitation, Close loop communication

Section (B) - 55 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 Procedural sedation anesthesia
- 8.11 Ketamine anesthetics (total intravenous anesthesia)
- 8.12 General anesthesia using draw- over technique
- 8.13 Ether anesthesia (EMO)

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9. Surgery

9.1 Skin and subcutaneous tissue

9.1.1 Diagnosis and management of inflammatory condition of skin like cellulitis, boils, carbuncle, etc.

9.1.2 Diagnosis and surgical management 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 and Lymphnode biopsy technique

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

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- 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
- 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 Phimosi, paraphimosi
 - 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
 - Undescended testis ,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

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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

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 ultrasounds 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.

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- 14.6 Recognize conditions that need to be referred for further therapeutic measures.
- 14.7 Temporo- mandibular joint dislocation
- 14.8 Post dental extraction bleeding
- 14.9 Gingivitis
- 14.10 Syncope
- 14.11 Periodontitis
- 14.12 Dental caries
- 14.13 Precancerous condition

--- The end ---

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