

**DETAILED SYLLABUS FOR THE POST OF ASSISTANT  
PROFESSOR IN SHALYA TANTRA IN AYURVEDA MEDICAL EDUCATION  
(Cat.No. 115/2021)**

**MODULE I**

**LITERATURE**

**Must to know**

1. Clinical and diagnostic methods in Shalya Tantra - X-rays, U.S.G., Endoscopies (for diagnostic and treatment purposes), MRI, CAT scanning and other recent diagnostic tools.

**Nice to know**

2. Surgical ethics including Informed consent.
3. Yogya Vidhi - Practical and Experimental training on different types of Surgical Models for Research in Surgery.
4. Concept of Sandhana Karma - Plastic reconstructive and cosmetic surgery.  
Fundamentals of Sandhana Karma -
  - i. Karna Sandhana - Auroplasty
  - ii. Nasa Sandhana - Rhinoplasty
  - iii. Ostasandhana - Cheiloplasty
  - iv. Grafts and Flaps - Techniques and applications.
  - v. Vascular anastomosis and grafts.
5. Recent development on Sushruta's surgical principles and practices.

**MODULE II**

**SHALYA TANTRA VIGYAN**

**Must to know**

1. Vrana - Wound management
  - i. Management of Nija Vrana, Dushta Vrana and Nadi Vrana.

- ii. Vrana Chikitsa - Shasti upakramas, Pathya-apathya.
  - iii. Wound and Ulcer.
  - iv. Dagdha Vrana - Burns, scalds, Dhumopaghata, Ushnavata, Frost bite, electric burns and their management.
  - v. Prameha Pidaka - Diabetic carbuncle, Diabetic wound and its management.
  - vi. Kotha - Gangrene and Principles of Amputation.
  - vii. Sadyo Vrana - Traumatic wounds - Nidana, Prakara, Lakshana, Upadrava and Chikitsa, Bites and stings and its management.
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2. Pranasta Shalya - Diagnosis and management.
  3. Vranashopha-Inflammation, Vidradhi - Abscesses and Pidika - Boils.
  4. Granthi - Cyst and Arbuda - Benign and malignant Neoplasm.
  5. Bhagna - Classification, Clinical features, Complications and Management.
  6. Sandimoksha - Classification, Clinical features, Complications and Management.
  7. Udara Roga - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management.
  8. Diseases of Rectum and Anal Canal - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Arshas, Parikartika, Bhagandara, Guda Vidradi, Gudabhramsa and Sanniruddaguda.
  9. Ashmari - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management.
  10. Mutraghata and Mutrakrichhra - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management.
  11. Niruddhaprakasha - Phimosis, Parivartika - Paraphimosis and Avapatika - Prepuceal ulcer.
  12. Roga - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management.

## **MODULE III**

### **ADHUNIK SHALYA KARMA - MODERN SURGERY**

#### **Must to know**

1. Diagnosis and Surgical measures of diseases of Gastrointestinal system -
  - i. Small intestine - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Peutz-jeghers syndrome, Chron's disease, Carcinoid tumours, Enteric perforation and Intestinal fistula.
  - ii. Large intestine - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Faecal fistula, Amoebiasis and Familial polyposis coli.
  - iii. Caecum and Vermiform appendix- Appendicitis, Appendicular abscess, Appendicular mass, Perforation, Carcinoid Tumor and other Neoplasm.
  - iv. Gastrointestinal bleeding - Haemetemesis, Malaena, Haemobilia, Bleeding per anum - Causes, Diagnosis and Management.
  - v. Rectum and anal canal - Diagnosis and Surgical management of Congenital Anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Prolapse, Haemorrhoids, Fistula-in-ano, Fissure-in-ano, Anorectal Abscess, Incontinence, Injuries, Foreign bodies and Pilonidal sinus.
  - vi. Liver - Abscess, Cyst - Hydatid cyst, Primary and Secondary malignant tumours, Portal Hypertension and Budd-Chiari Syndrome.
  - vii. Gall bladder and Bile duct - Congenital anomalies, Acute and Chronic Cholecystitis, Cholelithiasis, Neoplasm, Cholangitis, Stenosis, Choledocholith iasis, Choledochal cyst and Cholangiocarcinoma.
  - viii. Spleen - Splenomegaly and Splenic Injury.
2. Diagnosis and surgical management of Hernias - Inguinal, Femoral, Umbilical, Incisional, Abdominal wall and other hernias.

#### **Desirable to know**

1. Diagnosis and Surgical management of breast diseases, Benign and Malignant breast tumours.

2. Diagnosis and Surgical measures of diseases of Gastrointestinal system -
  - i. Oral cavity - Oral ulcers, Oral cancer, Precancerous conditions, Submucosal fibrosis, Leukoplakia, Cleft lip and palate, Lip tumours, Mucosal cyst, Nasopharyngeal cancer, Tongue ulcer and cancer.
  - ii. Oesophagus - Oesophageal varices, Dysphagia, Neoplasm, Strictures and Gastro oesophageal reflux.
  - iii. Stomach and duodenum - Congenital anomalies, Injuries, Inflammation, Ulcer, Neoplasm, Pyloric stenosis, Acute dilatation, Hiatus hernia and Foreign bodies.
  - iv. Pancreas - Congenital anomalies, Acute and Chronic pancreatitis, Calculi Neoplasm and Cysts of pancreas.
  - v. Peritoneum, Omentum, Mesentery, Retroperitoneal Space - Peritonitis, Abscess, Neoplasm, Mesenteric cyst, Torsion of mesentery, Vascular thrombosis, Retroperitoneal cyst and Fibrosis.
  - vi. Abdominal mass - Diagnosis and Management.

### **Nice to know**

1. Endoscopic procedures - Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
2. Diagnosis and Surgical treatment of head and spine injury, thoracic trauma and abdominal trauma. Blast injuries and Management.
3. Diagnosis and surgical measures for disorders of Artery, Vein, Ligaments, Muscles and Tendons.
4. Diagnosis and Surgical management of neck disorders e.g. salivary glands, thyroid, Thyroglossal cyst and Fistula, Branchial cyst and fistula, Cystic hygroma and Lymphadenopathies.

### **MODULE IV**

#### **KSHARA KARMA AND PRAYOGA - CAUSTIC THERAPY**

### **Must to know**

- i. Introduction of different types of Kshara, Method of preparation, Standardization, pH value, Application, Complications and its management.

- ii. Surgical Anatomy and Physiology of Anus and Rectum.
- iii. Arshas - Nidana, Purvaroop, Roopa, Samprapti, Prakara and Chikitsa.
- iv. Haemorrhoids - Aetio-pathogenesis, types and its surgical management.  
Knowledge of different methods of treating Haemorrhoids - Rubber band ligation, D.G.H.A.L, Radiofrequency, Ablation, Cryo-surgery, Cautery, Laser, Infrared coagulation and other advanced techniques.
- v. Bhagandara - Nidana, Purvaroop, Roopa, Samprapti, Prakara, Chikitsa and application of Kshara Sutra.
- vi. Fistula-in-ano - Definition, Aetio-Pathogenesis, Types, Diagnostic methods and its Surgical and parasurgical management including knowledge of Fibrin Glue, Advanced Flap Therapies and other recent techniques.
- vii. Parikartika - Nidana, Samprapti and its Chikitsa.
- viii. Fissure-in-ano - Aetio-pathogenesis, types and its management.
- ix. Sannirudhaguda and its Chikitsa.
- x. Anal Stenosis - Aetio-pathogenesis and its management.
- xi. Gudavidradhi - Nidana, Purvaroop, Roopa, Samprapti, Prakara and its Chikitsa.
- xii. Anorectal abscesses - Aetio- pathogenesis, types, complications and its management.
- xiii. Anorectal tumour- Types and its management.

## **MODULE V**

### **AGNIKARMA - THERMO THERAPY**

#### **Must to know**

- i. Introduction, definition and importance of Agnikarma.
- ii. Agnikarma - Poorva, Pradhana and Paschat karma, various substances and Shalakas used for Agnikarma and their indications, contra-indications and complications.

#### **Desirable to know**

1. Knowledge of modern thermal equipment - Diathermy, Laser therapy, Microwave, Ultracission technique, Cryo Technique and its uses.
2. Effect of Agnikarma on skin, muscle tissue, nerves, metabolism, blood circulation and infective lesions.

## **MODULE VI**

### **RAKTAMOKSHANA - BLOODLETTING PROCEDURES**

#### **Must to know**

- i. Indications, contraindications and importance of Raktamokshana.
- ii. Justification of usage of different types of Raktamokshana in various therapeutic applications.
- iii. Different types of Raktamokshana - Sastrakritha - Siravyadhana, Prachana and Asastrakritha - Shringa, Jaluka, Alabu and Ghati.
- iv. Jalauka - Nirukti, Paryaya, Bhedha, Sangrahana, Samrakshana, Jalaukavacharana Vidhi - Poorva, Pradhana and Paschat karma.
- v. Knowledge of Leeches - Morphology, Anatomy, Physiology, Bio-chemical effects of its various constituents present in its saliva.

## **MODULE VII**

### **ASTHI SANDHI EVAM MARMA VIGYAN – ORTHOPAEDICS**

#### **Must to know**

1. Diseases pertaining to Muscles, Tendons, Ligaments, Fascia and Bursae.
2. Diseases and Congenital anomalies of Spine e.g. Ankylosing spondylitis, Infective conditions, Tuberculosis, Spondylolisthesis, Inter-vertebral Disc Prolapse, Spondylosis, Scoliosis, Kyphosis, spina bifida, Hemivertebra, Block vertebra, Sacralisation and Lumbrisation.
3. Diseases and Congenital anomalies of Cervical Spine
4. Diseases and Congenital anomalies Sacroiliac Joint and Bony Pelvis.
5. Snehana, Swedana and Panchakarma in Marma, Asthi and Sandhi Vyadhi.
6. Principles of Arthroplasty- Joint Replacement.
7. Introduction of Peripheral Vascular Diseases.
8. Bhagna - Etiology, classification and General Management principles and Prognosis.
9. Modern concept of Bone and Joint injuries - Etiology, Epidemiology, Classification and General management principles.
10. Individual Bone and Joint injuries - Etiology, Epidemiology, Classification and

management principles.

11. External immobilization techniques - Classical and traditional Kusa -splints, Plaster of Paris Technique, Knowledge of different splints and Plasters.
12. Pathological Fractures including Fragility fractures, Stress Fractures and Peri-prosthetic Fractures.
13. Fractures in Children - Etiology, Epidemiology, Diagnosis, management and complications.
14. Prognosis of skeletal injuries, Complications of Fractures and Joint Injuries e.g. Myositis ossificans, Volkmann's ischemic contracture, Compartment syndrome, Crush Syndrome, DVT, Thromboembolism, Fat Embolism.

### **Desirable to know**

1. Healing mechanism of bone and factors influencing the bone healing according to Ayurvedic and Modern concept. Biological and Biophysical technologies for the Enhancement of Fracture Repair. Knowledge of Sandhaniya and Ropaniya drugs.
2. Sandhi Sharira - Classification, Applied Anatomy and Physiology of Asthi Sandhi. Classification, Applied Anatomy and Physiology of Joints and Healing Mechanism of a joint.
3. Concept of Pain according to Ayurved and Modern Medical science.
4. Principles of Reconstruction, Transplantation, Bone grafting, Bone Banking, Bone transportation and Amputation.
5. Vata Vikara - Asthi, Sandhi and Marma related Vata Vikara like Gridhrasi, Bisvachi, Avabahuka, Manyastambha, Khalvi, Dhatugata vata, Snayugata vata, Katishoola, Katigraha.
6. Rehabilitation of trauma patient and Principles of Sukhchestaprachara - Physiotherapy and its use in skeletal injuries.
7. Diagnosis and management principles of injuries of Vessels, Nerves, Tendons and Ligaments.
8. Head, Chest and Abdominal Injuries and management principles.
9. Pelvis and Spine injuries and their management principles.
10. Sports medicine and sports injuries - Sports medicine and sports related Shoulder

injuries, Elbow injuries, Knee injuries, Ankle Injuries, Recurrent Dislocations and other sports related injuries.

11. Knowledge of Conventional and advanced procedures being done for Different Bone and Joint Injuries e.g. Open Reduction and Internal Fixation, Closed Reduction and Internal Fixation, External fixators and other operative techniques.

12. Amputations and Arthrodesis - General Principles of Amputations /Arthrodesis and regional Amputations.

13. Knowledge of Diagnostic and Therapeutic Arthroscopy.

## **MODULE VIII**

### **SANGYAHARAN VIGYAN- ANAESTHESIOLOGY**

#### **Must to know**

1. Regional anesthesia:

- Sub-arachnoid and epidural anesthesia, analgesia
- Plexus and nerve blocks for upper and lower limb
- Regional anesthesia for thorax and abdomen
- Surface anesthesia, infiltration and field blocks

2. Complications of Regional and general anesthesia, morbidity, mortality and medico-legal aspects.

#### **Desirable to know**

1. Anesthesia for Endoscopic, laparoscopic Surgery and Laser Surgery

2.

a. Monitoring in anesthesia:

• Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular monitoring.

- Peri- operative Thermo- regulation and monitoring
- Peri- operative awareness and monitoring depth of anesthesia with BIS.
- Peri- operative acid-base balance
- Pt's positioning in anesthesia, its hazards and management
- Peri- operative Fluid management and Blood transfusion.



- Risks and hazards of anesthesia
- b. Anesthesia equipments -
- Medical gas systems
  - Breathing systems
  - Ventilators
  - Anesthesia machine
- c. Post operative management-
- Post anesthesia care
  - Post operative nausea and vomiting
  - Post operative Intra-Venous fluid therapy
  - Acute post operative pain
- a. Recent advances in research in Sangyahrana, Pain Management and Palliative Care. Scope and Application of principles of Ayurveda in Sangyahrana Research.

### **Nice to know**

#### 1. Sangyahan Bshesaja Vigyan (Pharmacology related to Anesthesia)

Pharmacology of:

- Drugs acting on Autonomic nervous system:
  - a. Cholinergic system and drugs- Agonist and antagonist
  - b. Adrenergic system and drugs- Agonist and antagonist
- Autocoids and related drugs:
  - a. Histamine and Antihistaminic
  - b. 5HT and antagonist
  - c. NSAID'S
  - d. Prostaglandins and leukotrienes
- Drugs acting on Respiratory system
- Drugs acting on Somatic nervous system
  - a. Skeletal muscle relaxants - Depolarizer and Non-Depolarizer.
  - b. Local anesthetics
- Drugs acting on central nervous system
  - a. General Anesthetics- Fixed and Volatile anesthetic agents.

- b. Sedative and hypnotics
  - c. Anti epileptics
  - d. Anti psychotic and anti-maniacs
  - e. Opioids Analgesics and antagonists
    - Drugs acting on Kidneys
      - a. Diuretics
      - b. Anti diuretics
      - Coagulants and anti coagulants
2. Airway management- Intubation, failed intubation drill, LMA, Bag and mask ventilation.
  3. Anesthesia For: General surgery, Obstetric and Gynecology, E.N.T. and Ophthalmic, Orthopedic, Dental, Pediatric, Urology, Plastic and Outpatient / Day care surgery.
  4. Anesthesia for patients with: Diabetes mellitus, Thyroid diseases, inherited metabolic diseases, Obesity, Respiratory diseases, Cardiac diseases, Renal diseases, Geriatric problems and neuromuscular diseases.

## **MODULE – IX**

### **MUTRA ROGA – UROLOGY**

#### **Must to know**

1. Anatomical and physiological knowledge of kidney, ureter, urinary bladder, prostate, seminal vesicles, urethra and penis.
2. Investigations of Mutravaha Srotas - Urinary tract.
3. Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and management of Ashmari - Urinary stone diseases.
4. Kidney and ureter - Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Hydronephrosis, Hydroureter and Haematuria.
5. Prostate and seminal vesicles - Benign and malignant enlargement of prostate, Prostatitis, Prostatic abscess and Calculi.
6. Penis - Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Phimosis, Paraphimosis, Peyronie's disease and

Neoplasm.

7. Testis and scrotum-Clinical presentation, Investigations and Management of Congenital anomalies, Ectopic testis, Trauma, Infection, Neoplasm, Testicular torsion, Hydrocele, Varicocele, Spematocele, Chylocele, Pyocele, Haematocele, Epididymal cyst and Fournier's gangrene.
8. Renal failure - Causes, Diagnosis, Investigations and Management.

**Desirable to know**

1. Urinary bladder - Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Diverticulum, Vesico-vaginal fistula, Atony, Schistosomiasis, Urinary diversions, Retention of urine - Mutraghata and Mutrakruccha.
2. Urethra – Clinical presentation, Investigations and Management of Congenital anomalies - Hypospadias, Epispadias, Posterior urethral valve, Trauma, Infection, and Neoplasm.

***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***