

4.3 SHALYA TANTRA

Theory Two Papers – 100 Marks Each
Practical - Viva voce – 100 Marks

PAPER –I

100 Marks

Part – A

50 Marks

Definition of Shalya, Shalya Tantra and its importance. Introduction to Shalya Tantra: Historical background and progress made.

- **Target** - Fluency in textual reading and comprehension.
- Preferable targets - Know recent developments and controversies.

Description of Yantra, Shastra, Anushastra: Definition, number, types, uses, Dosh, Guna, Karma. Relevant modern instruments.

- Target - Basic understanding of the concepts of Yantra and Shastra. Acquaintance with commonly used surgical instruments. Knowledge of textual descriptions.
- Preferable targets - Knowledge about currently used surgical instruments, their specifications, procurement sources etc.

Nirjantukarana / Sterilization: Methods, types and its role in surgical practice.

- Target - Basic surgical discipline of maintaining asepsis.
- Preferable targets- Knowledge of recently developed chemicals, instruments for sterilization.

Sangyahan / Anaesthesia: Definition and Types.

- Local anaesthesia** – Drugs, Techniques, Indications, Contraindications, Complications and their Management.
- Regional and General anaesthesia**- Drugs, Techniques, Indications, Contraindications, Complications and their Management.
 - Target-Basic knowledge of the drugs and instruments of anaesthesia. To observe the process of induction, monitoring and recovery.
 - Preferable targets- Assisting and handling anaesthesia.

Trividha Karma – Purva Karma, Pradhana Karma and Paschat Karma.

- Target- Capability to identify conditions which can affect the outcome of surgery in pre, intra and post- operative period.
- Preferable targets- Experience of handling incidents.

Ashtavidha Shastra Karma - Surgical procedures.

- Targets- Appreciation and comprehension of concepts and indications of different procedures.
- Preferable targets –Hands on experience of surgical procedures.

Yogya - Experimental Surgery.

- Target –Appreciation and comprehension of concepts of Yogya. Idea of patient's safety in experimental training.
- Preferable targets- Hands on training on mannequins.

Marma: Nirukti, types, description and importance.

- Target –Clinical application of concepts of marma.
- Preferable targets- Study of relevance of marma in the light of current anatomical and surgical knowledge.

Kshara and Kshara Karma:

- Nirukti, Pradhanyata, Guna, Dosh, Karma, Prakara, Yogya, Ayogya, Procedure, Upadrava and Chikitsa.**
- Kshara nirmana vidhi, knowledge of Kshara Varti, Taila and Pichu.
- Kshara Sutra – Preparation, Indications, Contraindications and Method of application, Complications and their Management.**
 - Target – Capability to identify and practice the use of kshara, kshara sutra in common clinical conditions.
 - Preferable targets – Broader knowledge of current trends and ongoing researches in kshara application.

Agnikarma: Mahatva, Upakarana, Vidhi, Akrti bheda, Yogya, Ayogya and Upadrava Chikitsa.

Contemporary techniques and tools of Agnikarma.

- Target - Capability to appreciate the clinical indications and comprehend Agnikarma procedure.
- Preferable targets - Hands on experience of use of cautery in surgical practice.

Raktamokshana: Mahatva, Prakara - Siravyadha, Pracchanna, Shringa, Alabu, Jaloukavacharana – Yogya, Ayogya, Procedure, Upadrava and Chikitsa.

- Target- Capability to appreciate and comprehend clinical indications of Jaloukavacharana and other Raktamokshana procedures.
- Preferable targets - Uses of bloodletting in current therapy.

Bandha Vidhi – Prayojana, Dravya, Indications, Contraindications, Prakara, Upadrava, Pichu, Plota, Kavalika and Vikeshika.

- Target- Hands on experience of techniques of bandaging.
- Preferable targets - New generation of bandaging and splintage tools.

Pranasta Shalya and Nirharana Upaya.

- Target – Importance of concepts of Sushruta in the management of Shalya and concerns of patient safety. Identification and management of foreign bodies.
- Preferable targets - Current concepts and diagnostic tools of dealing with foreign bodies.

Fluid, Electrolyte, Acid Base Balance and Nutrition:

- i. Introduction of physiology of fluids and electrolytes.
- ii. Dehydration and over hydration.
- iii. Specific electrolyte loss, Acidosis, Alkalosis, Symptomatology and Management.
- iv. Electrolyte changes in specific diseases like pyloric stenosis, intestinal obstruction and anuria.
- v. Various replacement fluids in surgery, mode of administration and complications.
- vi. Nutrition.
 - Target – Capability to identify and manage fluid and electrolyte imbalance. Ability to administer parenteral fluid.
 - Preferable targets - Advanced techniques of fluid and electrolyte assessment and management.

Rakta Mahatwa, Raktasrava / Haemorrhage: Prakara and Lakshana.

- i. Raktastambhana – Haemostasis.
- ii. Blood Transfusion –Blood groups, Compatibility, Indications, Contraindications and Complications with Management.
- iii. Component therapy.
 - Target-Knowledge of achieving haemostasis in haemorrhage.
 - Preferable targets - Detailed knowledge of blood bank techniques.

Antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

- Target – Working knowledge of commonly used drugs.
- Preferable targets - Advanced pharmacological study of the above drugs.

Diagnostic techniques – X-ray, Imaging techniques, Ultrasonography, CAT Scan, MRI, Biopsy / Cytological study.

- Target- Knowledge of proper indications for optimum investigational tools and their interpretation.
- Preferable targets - Capability to work independently in the field of diagnostic techniques.

Part - B**50 Marks****Shat Kriyakala in surgical practice.**

- Target- Clinical utility of the concepts.
- Preferable targets - Applied aspects of Kriyakalas in the light of current concepts of pathogenesis.

Nirukti, Nidana, Samprapti, Prakara, Lakshana, Sadhya-asadhyata, Upadrava and Chikitsa of the following disorders.

- i. Vranashotha - Inflammation
- ii. Vidhradi - Abscess
- iii. Pidika - Boils
- iv. Nadi Vrana - Sinus / Fistulae
- v. Vrana Granthi - Keloid / Hypertrophic scar

- vi. Marmagata - Shock
- vii. Kotha – Gangrene and Principles of Amputation.
- viii. Granthi - Cyst
- ix. Arbuda - Tumour
 - Target-Clinical application of the concepts.
 - Preferable targets - Hands on experience of management of different conditions.

Vrana – Nirukti and Prakara

- i. Nija Vrana – Nidana, Samprapti, Vrana Vasthu, Prakara, Lakshana, Vrana Pariksha – Sthana, Vrana Akrti, Srava, Gandha, Vedana. Vrana Avastha- Dustavrana, Shuddha Vrana, Ruhyamana Vrana, Samyak Roodha Vrana, Vrana Sadhya-asadhyatha and Vrana Upadrava.
- ii. Vrana Chikitsa – Pathya-apathya and Shashti Upakrama, Vranitagara and Rakshakarma.
- iii. Agantuja Vrana :
 - a. Sadyo Vrana - Traumatic wounds – Nidana, Prakara, Lakshana, Upadrava and Chikitsa.
 - b. Management of bites and stings.
- iv. Dagdha Vrana – Burns and scalds.
- v. Ulcer - Types and their management.
- vi. Wound healing stages and their management.
- vii. Pramehapidaka - Diabetic carbuncle and wounds.
 - Target - Clinical application of the concepts.
 - Preferable targets - Hands on experience of management of different conditions.

Twak Vikara - Nidana, Samprapti, Lakshana and Chikitsa of Chippa – Paronychia, Kadara – Corn and Kshudra rogas.

- Target - Clinical application of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Manya Vikara – Nidana, Samprapti, Lakshana and Chikitsa of Galaganda – Goitre, Gandamala, Apachi –Lymphadenitis, Pashanagardhabha – diseases of parotid gland.

- Target-Clinical application of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Sira Vikara - Venous disorders – Superficial and Deep venous thrombosis, Haemangioma, Varicose veins - Diagnosis and their Management.

- Target - Clinical application of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Dhamani Vikara - Arterial disorders – Nidana, Samprapti, Lakshana and Chikitsa of Aneurysm, Buerger’s disease, Atherosclerosis, Raynaud’s disease.

- Target - Clinical application of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Snayu Vikara - Diseases of tendons and ligaments – Tennis elbow, Ganglion and their Management.

- Target - Clinical application of the concepts.

- Preferable targets - Hands on experience of management of different conditions.

Care of AIDS - HIV and hepatitis infected patients.

- Target - *Knowledge of safety precautions.*

PAPER - II

100 Marks

Part - A

50 Marks

Bhagna – Skeletal injuries: Prakara including pathological fracture, Samanya Lakshana, Upadrava and Chikitsa.

Description of fracture of following bones with Clinical features, Diagnosis, Complications and Management – scapula, clavicle, humerus, radius, ulna, femur, patella, tibia and pelvis bones.

Sandimoksha - Dislocation: Dislocation of following joints with Clinical features, Diagnosis, Complications and Management of shoulder, elbow and hip.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of bone: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital anomalies, Osteomyelitis, Cysts, Tumours and Tuberculosis.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Cranio-cerebral injuries: Mechanism, Pathology, Classification, Investigations, Complications and primary management.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Spine: Mechanism, Pathology, Classification, Investigations, Complications and primary management of Tuberculosis, Ankylosing Spondylitis and Disc prolapse.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of breast: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Sthana Vidradhi - Breast abscess and Sthana Arbuda - Breast tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of chest: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Chest injury, Pleural effusion, Pleurisy and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of esophagus: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital anomalies, Oesophagitis, Varices, Ulcer and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Gulma Roga - Nidana, Prakara, Lakshana, Upadrava and Chikitsa.

Shoola vyadhi - Nidana, Prakara, Lakshana, Upadrava and Chikitsa.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of acute abdomen.

Udara Roga: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Jalodara - Ascites, Chidrodara – Perforation, Peritonitis and Badhagudodara-Intestinal obstruction.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of stomach and duodenum: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Pyloric Stenosis, Peptic Ulcer and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of small intestine: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Tuberculosis, Obstruction and Perforation.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of large intestine - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Tuberculosis, Obstruction, Perforation, Tumours, Appendicitis, Crohn's disease and Ulcerative Colitis.

- Target - Clinical utility of the concept.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Rectum and Anal Canal – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital disorders, Arshas - Haemorrhoids, Parikartika - Fissure-in-ano, Bhagandara - Fistula-in-ano, Guda Vidradi - Anorectal abscesses, Gudabhramsa - Rectal prolapse, Sanniruddaguda - Anal stricture, Incontinence, Rectal Polyp and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Abdominal injuries and their management.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Part – B

50 Marks

Diseases of Liver: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Yakrit Vidhradi - Abscess, Neoplasia, Portal hypertension and Yakritdalyodar –Hepatomegaly.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Gallbladder: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Cholecystitis, Cholelithiasis, Obstructive jaundice and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Pancreas: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Pancreatitis, Cysts of Pancreas and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Spleen – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Pleehodara – Splenomegaly and Splenic rupture.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Kidney and Ureters - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital anomalies, Polycystic kidney, Injuries, Perinephric abscess, Calculus and Neoplasms.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Urinary bladder – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital anomalies, Injuries, Ashmari - Vesical Calculus, Cystitis and Neoplasms.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Mutraghata and Mutrkrichra - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management. Retention of urine.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Prostate - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Prostatitis, Prostatic abscess, Benign Enlargement of Prostate and Carcinoma of Prostate.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Urethra – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Urethritis, Stricture and Rupture.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Penis: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital anomalies, Niruddhaprakasha -Phimosis, Parivartika -Paraphimosis, Avapatika - Prepuceal ulcer, Arbuda- Tumours and Lingarsha - Penile Warts.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Scrotum and Testis: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Epididymo-orchitis, Epididymal cyst, Scrotal filariasis, Shukrashmari - Seminal calculus, Torsion of testis, Ectopic testis, Undescended testis and Tumours.

Vridhhi Roga: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Mutravridhhi – Hydrocele.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Antra Vridhhi – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Hernia - Inguinal, Femoral, Epigastric, Umbilical, Incisional and rare forms of Hernia.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

PRACTICALS

Content of Practicals:

1. Identification, uses, demonstration of surgical instruments and methods of sterilization.
2. Training of case taking, bed side clinicals and case presentation.
3. Demonstration and Practical training in Anaesthesia.
4. Training to develop skills in following Parasurgical and other procedures
 - i. Kshara Karma
 - ii. Agnikarma
 - iii. Kshara Sutra
 - iv. Raktamokshana
 - v. Application of bandages and splints
 - vi. Catheterization
 - vii. Wound management procedures like Parisheka and Patradana
 - viii. Ryle's tube aspiration
 - ix. Injections -Intramuscular / Intravenous / Subcutaneous / Intradermal
 - x. Incision and drainage of abscess
 - xi. Suturing of open wounds
5. **Observation of following procedures**

- i. Circumcision
- ii. Hydrocele
- iii. Hernial repair
- iv. Vasectomy
- v. Haemorrhoidectomy
- vi. Fistulectomy
- vii. Fissurectomy
- viii. Appendectomy
- ix. Cholecystectomy

6. Training of Surgical Emergencies and Management.

Clinical Training (Indoor and Outdoor)

- Shalya (Samanya)
- Shalya (Kshara and Anushastra Karma)
- Asthi and Sandhi Chikitsa (Orthopaedics and Trauma)
- Anaesthesia
- Radiology

09 Months

- 03 Months (atleast one month in OT)
- 03 Months (atleast one month in OT)
- 02 Months
- 15 days
- 15 days

Distribution of Marks

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| 1) Daily records | - 10 Marks |
| 2) Instruments | - 20 Marks |
| 3) Short case | - 10 Marks |
| 4) Long case | - 20 Marks |
| 5) Viva – voce | - 40 Marks |
| Total | - 100 Marks |

Reference Books

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| 1. Sushruta Samhita | |
| 2. Ashtanga Sangraha | |
| 3. Ashtanga Hridaya | |
| 4. Charaka Samhita | |
| 5. The Surgical instruments of the Hindus | - Girindranath Mukhopadhyaya |
| 6. Shalya Tantra Samuchchaya | - Pandit Ramadesh Sharma |
| 7. Shalya Vigyan (Part 1-2) | - Dr. Surendra Kumar Sharma |
| 8. Shalya Samanvaya (Part 1-2) | - Vd. Anantaram Sharma |
| 9. Shalya Pradeepika | - Dr. Mukund Swaroop Verma |
| 10. Sushruti | - Dr. Ram Nath Dwivedi |
| 11. Clinical Shalya Vigyan | - Dr. Akhilanand Sharma |
| 12. Bhagna Chikitsa | - Dr. Prabhakar Janardhan Deshpande |
| 13. Kshara sutra management in anorectal ailments | - Dr. S.K. Sharma, Dr. K.R.Sharma and Dr. Kulwant Singh. |
| 14. Anorectal diseases in Ayurveda | - Dr. Sijoria and Dr. Praveen Kumar Chowdary. |
| 15. Adhunik Shalya Chikitsa Siddanta | - Dr. Katil Narshingham Udupa |
| 16. Agnikarma Technology Innovation | - Dr. P.D. Gupta |
| 17. Shalya Tantra Ke Siddhant | - Dr. K.K.Takral |
| 18. Recent advances in the management of Arshas / Haemorrhoids | - Dr. P. Hemantha |

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| 19. Arsha Evum Bhagander Mein sutra Avacharan | Kumar |
| 20. Kshara Sutra | - Vd. Kanak Prasad Vyas |
| 21. Surgical ethics of Ayurveda | - Dr. S.N.Pathak |
| 22. Bailey and Love's Short Practice of Surgery | - Dr. D.N. Pande |
| | - Norman.S. Williams, Charles.V. Mann and R.C.G. Russell |
| 23. Clinical methods in surgery | - S. Das |
| 24. Textbook of Operative Surgery | - S. Das |
| 25. Shalya Vigyan (Sachitra) | - Anantram Sharma |
| 26. Anushastra Karma | - Dr. D.N. Pande |
| 27. Concept of Vrana is Ayurveda | - Dr. Lakshman Singh |
| 28. Significance for Poorva Karma in Surgical Patient | - Dr. Lakshman Singh |
| 29. Sangyahan Prakash | - Dr. D.N. Pande |
| 30. A concise Text Book of Surgery | - S. Das |
| 31. A manual on Clinical Surgery | - S. Das |
| 32. A System of Surgical Diagnosis | - T.N. Patel |
| 33. A Practical Guide to Operative Surgery | - S. Das |
| 34. Drugs and Equipment for Anaesthesia | - Arun kumar |
| 35. Manual of Surgical Instruments | - M.M. Kapur |
| 36. Ward Procedures | - Patel Mansukh. B |
| 37. Recent trends in the management of Arshas / Haemorrhoids | - Dr. P. Hemantha Kumar |
| 38. Primary Anaesthesia | - Maurice King |
| 39. Synopsis of Anaesthesia | - Lee |
| 40. Clinical Anatomy/ Surgical Anatomy | - John E.Skandalakis |
| 41. Surgical Instruments of the Hindus | - Girindharnath Mukopadyay |
| 42. Outline of Orthopedics | - John Crawford Adams and David Hamblen. L |
| 43. Outline of Fracture | - John Crawford Adams |
| 44. Recent trends in the management of Bhagandara / Fistula-in-ano | - Dr. P. Hemantha Kumar |
| 45. Principles and Practice of Agnikarma | - Dr. Anand Kumar and Dr. Kanchan Shekokar |
| 46. Manipal Manual of Surgery | - Dr. Rajgopal Shenoy |