RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER

SYLLABUS OF SCREENING TEST FOR THE POST OF
ASSISTANT PROFESSOR (Broad Speciality)
GENERAL SURGERY
MEDICAL EDUCATION DEPARTMENT

Basic - Principle of Surgery
(Basic Sciences with scheme to Surgery)

A. Surgical Anatomy
2. Thyroid gland - Anatomy of Thyroid gland & parathyroid gland and Course of recurrent Laryngeal Nerve.
5. Stomach - Blood supply & lymphatic drainage, course of vagus nerve.
7. Small Intestine - Malrotation, vitellointestinal duct, urachus and Meckle's diverticulum.
8. Large Intestine - Appendix - Various positions and its clinical relevance, peritoneal reflections, vascular supply and lymphatic drainage of large intestine.
10. Liver - Anatomical and surgical lobes of liver, vascular supply and intrahepatic ductal arrangement.
11. Gall Bladder - Anatomical variations of the cystic duct and cystic artery (In relation to hepatic artery), anatomy of extra hepatic biliary system.
14. Diaphragm - Development, various haitus & relationship with structures passing through them.
15. Retroperitoneal Area - Lymphatic, Thoracic duct, lymphnodes, sympathetics chain and anatomy of great vessels.
17. Suprarenal - Blood supply, venous drainage and relations with kidney.
18. Urinary Bladder & Prostate - Anatomy & relations with rectum and Ureter.
20. Penis - Lymphatic drainage - Attachment of crura.
21. Testis - Development anomalies like UDT, MDT, etc.

B. Surgical Physiology
1. **Thyroid** - Iodine Metabolism, Pituitary - Thyroid Hormone axis.
2. **Breast** - Effects of various hormones on breast.
3. **Chest** - Mechanism of respiration, effect on Hemodynamics, Cardiac circulation, surgical causes of hypertension.
4. **Stomach** - Mechanism of acid production.
5. **Intestine** - Secretory and absorptive mechanism of small and large intestine.
7. **Liver** - Mechanism of Bile secretion, Entero-hepatic circulation and various metabolic functions of liver.
8. **Gall Bladder** - Mechanism of gall stone formation.
10. **Spleen** - Functions of spleen.
13. **Suprarenal** - Physiology of various hormone production.
15. **Testis** - Germinal and endocrinal functions of testis.
16. **Critical Care**
   - Physiological response to trauma.
   - Nutrition in surgical critically ill patients.
   - Enteral and Parenteral nutrition.
   - Shock.
   - Burns.
   - Blood transfusion.
   - Fluid and Electrolyte Balance. Acid - Base Balance.
   - ARDS, SIRS, multiple organ failure.
   - Physiology of wound healing.
   - Mechanism of clotting.
   - Abdominal compartment syndrome.

C. **Surgical Pathology**
1. Various types of biopsies, preservation of specimens.
2. Formation of Tumors, Well differentiated cells, Totipotent cells, Histopathological features of Neoplasm. Stem cell therapy.
5. Disturbed wound healing, Necrotising-fascitis, Gangrene and sequestrum.
6. Pathology of Benign Tumor like Lipoma, Fibroma, Osteoma, Adenoma, Papilloma, etc.

D. **Clinical Surgical Problems**
(Various clinical presentations, diagnosis, complications & treatment)
1. **Head & Neck** - Hydrocephalus, Meningocele, Encephalocele, intracranial injury (contusion, concussion, laceration, extradural and subdural hemorrhage, Middle meningeal hemorrhage, Lucid interval), cervical spine fracture, Brain tumors in general, Cleft Lip, Cleft palate, thyroglossal Cyst, Branchial Cyst, Branchial fistula and Pharyngeal pouch, Lymphnode enlargement - Inflammatory, Tubercular and malignant. Indications/contraindications of lymph node biopsy in neck, Diseases of Salivary glands and diseases of lymphatic system.
2. **Thyroid** - Various types of thyroditis, thyrotoxicosis, myxoedema, cretinism, solitary thyroid nodule, goiters-simple and multi nodular goiter, thyroid malignancy controversies in management of carcinoma of thyroid.
3. **Parathyroid** - Adenoma, hyper parathyroidism and malignancy, MEN.
4. **Breast** – Investigation of breast, ANDI, duct ectasia, galactocele, peurperal abscess, congenital disorders, fat necrosis, acute & subacute inflammation of breast, abnormal discharges from nipple, tuberculosis, actinomycosis, mondor’s disease, phyllodes tumours, carcinoma of breast (pathology, etiological factors, staging, clinical presentation, treatment which includes surgical, radiotherapy, systemic therapy, hormonal therapy & it should include recent trends in management. Gynaecomastia, carcinoma male breast, lipoma, sarcoma, metastases.

5. **Chest** - Fracture ribs, Flail chest, Haemo-pneumothorax, Lungs injuries, Injures to great vessels, Surgical emphysema, Cardiac tamponade, Tension pneumothorax, pleural effusion, Empyema, Apical shadow in lungs, Bronchogenic carcinoma and secondaries of the lungs.


8. **Intestine** - Intestinal atresia, exomphalous major, patent vitello - intestinal duct & various clinical manifestations, Meckle's diverticulum, Intestinal obstruction, small gut tumors, Tuberculosis of intestine, caecum and large intestine, malignancy of Caecum and Large intestine, Ulcerative colitis & Crohn's disease, surgical management, Short gut syndrome, intususception, Gastrojejunal bypass, Bariatric surgery & metabolic surgery, familial adenomatous polyposis. Lower GI Bleeding, Mesenteric ischaemia, intestinal failure and intestinal transplantation.


11. **Gall Bladder** - Gall stones, acute and chronic cholecystitis, Complications of Gall Stones, malignancy of gall bladder, Post operative bile leaks.

12. **Common bile duct** – Bilioma, Haemobilia, Biliary structures, cholangitis, cholangio-carcinoma, obstructive jaundice and peri ampulary carcinoma.

13. **Pancreas** - Pancreatic injury, acute and chronic pancreatitis (Recent Management), Endocrine, Tumours of Pancreas, Recent Pathogenesis of acute pancreatitis, cysts of pancreas, malignancy of pancreas and pancreatic transplantation.


15. **Diaphragm** - Diaphragmatic hernia, Eventration, diaphragmatic injuries, Penetrating thoraco abdominal injuries.

16. **Retroperitoneal tumors** - ratroperitoneal fibrosis, peritonitis, intraabdomoninal abscess, burst abdomen, mesenteric cyst, pseudomyxoma peritonei, peritoneal neoplasm, acute mesenteric lymphadenites.


19. **Suprenal** – Phaeochromocytoma, Incidentaloma, Adrenocortical Carcinoma, Neuroblastoma and its surgical management.


22. **Penis** - Phimosis, meatal stenosis, paraphimosis, balanitis, ulcers and malignancy, Priapism, Erectile dysfunctions.


24. **Upper Extremities** - Soft tissue injuries including nerve, muscles, vessels, cervical rib and Raynaud's disease.

25. **Skin** - Ulcers, Tumors, S.C.C., B.C.C., Sarcoma & Melenoma, kaposi’s sarcoma. Wound management.


27. **Hernia** - Definition, classification, Internal hernia (diaphragmatic, parauodenal, transmesenteric, External hernia (inguinal, femoral epigastic, umbilical, paraumbilical and incisional), Laparoscopic anatomy of inguinal region.

28. **General** -
   (a) Trauma – poly trauma, resuscitation, Triage.
   (b) Radiotherapy & Chemotherapy & immunotherapy and Tumor Markers for various malignancies.
   (c) Laparoscopic surgery - Basic & advanced.
   (d) Robotic surgery & Tele-surgery.
   (e) Anaesthesia - Endotracheal intubation, Tracheostomy, Cardic arrest, Resuscitation & Death on table, Epidural, Spinal anaesthesia.
   (f) Operation Theatre - Theatre safety, design and layout. Techniques including autoclave & sterilization, Plasma sterilization.
   (g) Infective surgical diseases - Gangrene, Tetanus, Necrotising fascitis, Diabetic foot, Carbuncle etc., surgical site infection – types, preventions & use of antibiotics.
   (h) AIDS, universal precautions.
   (i) Diagnostic procedures - IVP, Barium studies, MRI, CT-Scan, PET Scan, Virtual endoscopy, Dopplar,USG.
   (j) Endoscopic procedures - like Gastroscopy, ERCP, Oesphagoscopy, Colonoscopy & capsule endoscopy, cystoscopy & uretric catheterization.
   (k) NOTES – (natural orifice trans abdominal endo surgery)
   (l) Recent advances in surgery latest at the time of examination & interview.
   (m)Fundamentals of plastic surgery, neuro surgery, urology, pediatric surgery, gastro-intestinal surgery, etc.
   (n) Various operative procedures.
   (o) Biomedical waste management.
   (p) Lasers in surgery.
   (q) Surgical Audit.
   (r) Evidence based surgery.
   (s) Day care surgery.
   (t) Research methodology.
   (u) Types of teaching.

Pattern of Question Papers:
1. Objective Type Paper
2. Maximum Marks : 180
3. Number of Questions : 180
4. Duration of Paper : Three Hours
5. All Questions carry equal marks.
6. There will be Negative Marking.