

Paper-III

A. Topics for testing teaching skills

ABDOMEN, PELVIS AND PERINEUM- Gross Anatomy

- Vertical disposition of the peritoneum
- Mechanisms of erection and ejaculation
- Peritoneal recesses- formation, locations and significance (functional and clinical)
- Intra-peritoneal, extra-peritoneal and retroperitoneal structures– definitions, examples & clinical significance
- Anatomical vulnerability of the gastric lesser curvature to ulceration
- Types and functional implications of mucous folds of the small intestine
- Peritoneal reflections of the large intestine
- Ligaments of the uterus
- Pelvic size and shape in the two sexes and their relevance
- Superficial perineal pouch- anatomical, functional and clinical aspects
- Lymphatic drainage of the female genital tract- anatomy and clinical implications
- Distribution of the renal fascia- anatomical, functional and clinical aspects
- The gynaecological perineum and its clinical significance

ABDOMEN, PELVIS AND PERINEUM-

Radiological and Sectional Anatomy

- Contrast radiographic characters of the gastrointestinal tract
- Contrast radiographic characters of the urinary tract
- Sagittal section of the male pelvis
- Sagittal section of the female pelvis

ABDOMEN, PELVIS AND PERINEUM- Devel. Anatomy

- The development of the testis and related anomalies
- Developmental homologues in the male and female external genitalia
- The male urethra, its development and maldevelopment
- Formation of the foregut, midgut and hindgut
- Rotation of the gut and its consequences
- Differentiation of the indifferent gonad
- Fate of the urogenital sinus
- Cloaca and its fate
- Fate of the mesonephric duct
- Fate of the paramesonephric duct
- Reciprocal induction by the ureteric bud and metanephric blastema
- Foetal and definitive cortex of the adrenal gland

<u>HISTOLOGICAL METHODS</u> • Methods of study of tissues • Histological dehydration and rehydration in tissue processing • Fixation & ideal fixative • Mechanism (theory) of staining • Acidophilic stains • Basophilic stains • Counterstaining • Mordant • Mordant vs accentuator • Metachromasia • Enzyme digestion technique for histological study • Staining connective tissue	<u>MICROSCOPY</u> 2. Refraction and defraction 3. Magnification in a microscope 4. Virtual image vs real image 5. Numerical aperture of a microscopic lens 6. Chromatic aberration and its correction 7. Spherical aberration and its correction 8. Bright-field microscopy vs dark-ground illumination 9. Polarised microscopy 10. Phase-contrast microscopy 11. Fluorescence vs phosphorescence and fluorescence microscopy 12. Mechanism of electron microscopy
<u>BASIC TISSUES</u> • Types of epithelium depending upon function • Junctional complexes • Functional significance of simple squamous epithelium • Ciliated epithelia • Basement membrane • Blood barriers • Paracrine and autocrine secretion • Classification of exocrine glands according to mode of secretion • Classification of exocrine glands according to structure • Bone matrix • Process of calcification of tissues other than bone • Ground substance of connective tissues • Dense and loose connective tissues	• Regular and irregular connective tissues • Contractile cells • Mechanism of muscle contraction • Myoneural junction and T-tubule system • Cortex vs medulla • Different types of capillary • Different types of lymphocytes and their functions

• <u>SYSTEMIC HISTOLOGY</u> • Functional histology of the nephron • Juxtaglomerular apparatus • The kidney has a portal system • Phases of uterine endometrium • Changes in the ovarian follicles • Enteroendocrine cells • Functional types of epithelium in different parts of the alimentary canal • Cell types in the islets of Langerhans & their interdependence • Functional distribution of epithelial types in the female internal genitalia • Countercurrent exchange system in the kidney • Submucosa of the digestive system • Epithelia of the male urinary tract- functional significance	
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B. Topics for skills in surface marking

ABDOMEN, PELVIS AND PERINEUM

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| <ul style="list-style-type: none"> • Abdominal regions • Superficial / deep inguinal ring • Inguinal canal • Any one or two part(s) of the duodenum • Fundus of the gall bladder • Spleen • McBurney's point | <ul style="list-style-type: none"> • Kidney from the back • Iliac crest • Transpyloric plane • Transtubercular plane • Duodenal point • Stomach • Lumbar triangle • Liver |
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C. Topic for testing drawing & labelling skills

ABDOMEN, PELVIS AND PERINEUM- Gross Anatomy

- Epiploic foramen with its boundaries in a sagittal section
- Rectus sheath
- Superficial veins of the abdomen
- Arterial supply of the stomach
- Lymphatic drainage of the stomach
- Arterial segmentation of the liver
- Arterial supply of the large intestine
- Mode of artery supply of the uterus
- Porto-systemic anastomoses
- Arterial supply of the kidney
- Arterial supply of the large intestine
- Dorsal and ventral mesogastrium
- Extrahepatic biliary apparatus
- Anatomical parts of the anal canal
- Interior of the prostatic urethra
- Anterior relations of the kidneys
- Posterior relations of the kidneys

ABDOMEN, PELVIS AND PERINEUM- Devel. Anatomy

- Developmental homologies of the external genitalia in the male and female
- Developmental anomalies of the uterus

ABDOMEN, PELVIS AND PERINEUM- Sectional Anatomy

- Parts of the male urethra
- Urogenital diaphragm in the male
- Urogenital diaphragm in the female
- Sectional anatomy (horizontal) of the pelvis through the cervix of the uterus

ABDOMEN, PELVIS AND PERINEUM- Histology

- Classification of the exocrine glands according to structure
- Schematic diagram of sarcomere
- Nephron
- Juxtaglomerular apparatus
- Schematic diagram of splenic circulation
- Schematic diagram of a villus
- Schematic diagram of different types of hepatic lobules
- Transverse section of a seminiferous tubule
- Glandular organisation of the prostate
- Histology of the ureter
- Histology of the uterine tube

D. Topics regarding anatomy of physiological processes

ABDOMEN, PELVIS AND PERINEUM

- Peristalsis
- Micturition
- Defaecation
- Parturition
- Erection & ejaculation

E. Topics regarding anatomy of clinical procedures

ABDOMEN, PELVIS AND PERINEUM

- Palpation of the abdomen
- Peritoneal fluid aspiration
- Kidney biopsy
- Liver biopsy
- Per-rectal examination
- Per-vaginal examination
- Examination of the scrotum
- Suprapubic cystostomy
- Urethral catheterisation in the male
- Caesarian section
- Surgery on the kidney from back
- Elicitation of appendicular pain
- Elicitation of cholecystitic pain
- Paramedian incision in the abdomen

F. Topics regarding anatomy of clinical disorders

ABDOMEN, PELVIS AND PERINEUM

Common disorders affecting the abdomen, pelvis or perineum
(those discussed in the common Anatomy books would suffice)

INFERIOR EXTREMITY

- Significance of the arches of the foot
- Nerve supply of the inferior extremity muscles on developmental background
- Locking and unlocking of the knee joint
- Significance of the adductor tubercle
- Weight distribution through the lower limb at different situations

INFERIOR EXTREMITY

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| • Head and neck of the fibula | • Palpation of the arteria dorsalis pedis |
| • One or two tendon(s) in front of the ankle | • Tibial tuberosity |
| • Great saphenous vein | • Tendoachilis |
| • Small saphenous vein | • Tendons at the back of the knee |
| • Popliteal fossa | • Flexor / extensor retinaculum |
| • Tibial malleolus | • Ankle joint |
| • Fibular malleolus | • Great saphenous vein |
| • Palpation of the femoral artery | • Patellar ligament |
| • Palpation of the popliteal artery | |

INFERIOR EXTREMITY

- Arterial anastomoses in the thigh
- Structures under cover of the flexor retinaculum
- Transverse section at the mid-thigh level
- Transverse section at the mid-leg level
- Popliteal fossa
- Lymphatic drainage of the lower limb involving the superficial group of lymph nodes
- Lymphatic drainage of the lower limb involving the deep group of lymph nodes
- Femoral triangle
- Attachments of muscles and ligaments on the external surface of the hip bone
- Superficial veins of the lower limb

INFERIOR EXTREMITY

- Walking & running

INFERIOR EXTREMITY

- Examination of the muscles of the lower limb

INFERIOR EXTREMITY

- Common disorders affecting the inferior extremities
(those discussed in the common Anatomy books would suffice)