RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER
SYLLABUS OF SCREENING TEST FOR THE POST OF
SENIOR DEMONSTRATOR – ANATOMY
MEDICAL EDUCATION DEPARTMENT

ANATOMY OBJECTIVES:-

(i) **Departmental objectives -** The broad goal of the teaching of undergraduate students in Anatomy aims at providing comprehensive knowledge of the gross and microscopic structure and development of human body to provide a basis for the disease presentations.

(ii) **Educational Objective -**

(A) **Knowledge -** At the end of the course the student shall be able to :

(a) comprehend the normal disposition, clinically relevant interrelationships, functional and cross sectional anatomy of the various structures in the body :

(b) identify the microscopic structure and correlate elementary ultra-structure of various organs and tissues and correlate the structure with the functions as a prerequisite for understanding the altered state in various disease processes;

(c) comprehend the basic structure and connections of the central nervous system to analyse the integrative and regulative functions of the organs and systems. He/she shall be able to locate the site of gross lesions according to the defects encountered;

(d) demonstrate knowledge of the basic principles and sequential development of the organs and systems, the stages of development and the effects of common teratogens, genetic mutations and environmental hazards. He/she shall be able to explain the development basis of the major variations and abnormalities.

(B) **Skills** – At the end of the course the student shall be able to :

(a) identify the organs and tissues under the microscope:

(b) identify and locate all the structures of the body and mark the topography of the living anatomy.

(c) understand the principles of karyotyping and identify the gross congenital anomalies;

(d) understand principles of newer imaging techniques and interpretation of Computerised Tomography (CT) Scan, sonogram etc.

(e) understand clinical basis of some common clinical procedures i.e. intramuscular and intravenous injection, lumbar puncture and kidney biopsy etc.

(C) **Integration** – Teaching of all systems goes on simultaneously in Anatomy + Physiology (Horizontal).

A. GENERAL ANATOMY - Details of tissues of the body: viz skin , muscle, nerve, cartilage , bone & joints , loose and dense connective tissue and all types of glands including endocrine.

B. GROSS ANATOMY : Gross Anatomy of the entire human body which will consist of the following :-

i) **Osteology** : including structure, attachments, relations, ossification, age changes and blood supply of all bones and cartilages.

ii) **Arthrology** : Classification and structure of various types of joints. Study of the structure relations, functions vascular and nerve supply and applied anatomy of all joints.

iii) **Myology** : Attachments, actions, nerve supply, vascular supply of all muscles and relations of important muscles.

iv) **Vascular system** : Structure of heart including the anatomy of individual chambers, valves, coronary circulation, nerve supply pericardium and relations.

Course, relations, branches, distribution anastomoses of all arteries and veins including venous sinuses.

Lymphatic drainage of all parts and organs of the body. Position and relations of various groups of lymph nodes. Courses and relationship of major lymph vessels. Arterial supply venous and lymphatic drainage of the entire body.

v) **Nervous system** : Coverings of the brain and spinal cord, formation and circulation of cerebra spinal fluid. Anatomy of Brain including external and internal structure of its all subdivisions. Cortical, and nuclear connections; ventricles, commissures and blood supply normal development and microscopic anatomy of neurons.

Anatomy of spinal cord, including its internal structure, regional differences, blood supply, related nerves, and ganglia study of nervous pathways. Peripheral nervous system including origin, course, relations and branches distribution, composition of all cranial and spinal nerves. Autonomic nervous system, including the central and peripheral connections of the sympathetic and parasympathetic ganglia and their relationship.

- **Splanchnology** : Study of the size, position, shape, relations, blood supply, lymphatic drainage, nerve supply and structure of all viscera and organs including the respiratory, digestive Uro-genital systems and endocrine glands.
- **Special sense organs** : Anatomy of the peripheral sense organs of taste, smell, sight, hearing and the skin.

C. EMBRYOLOGY : General embryology including cyclical changes in female genital tract, formation and maturation of germ cells, fertilization, segmentation and implantation. Formation , structure, anomalies, circulation, types and functions of placenta.

Differentiation of fertilized ovum and development of the embryo upto formation of germ layers, development of membranes. Physiology of the maintenance and termination of pregnancy. Regional embryology including the process of development of all tissues and organs of the body. Developmental anomalies and their causation and effects.

Factors influencing differentiation of various structures including organizers, factors leading to congenital anomalies, twinning.

D. HISTOLOGY : Introductions including importance of studying Histology in patient care. Histology of all cells, tissues and organs of the body.

E. APPLIED ANATOMY : Anatomy as applied to surgery, medicine obstetrics and gynaecology, ophthalmology and other computerize disciplines of medical science.

F. FUNCTIONAL ANATOMY : Relationship of structure and function in respect of various tissues and organs of the body.

G. LIVING ANATOMY : Surface Anatomy and Radio-logical Anatomy. Understanding the principles of newer imaging techniques and interpretation of computerized topography (CT) scan sonography, MRI scan and endoscopic anatomy.

H. SECTIONAL ANATOMY: Cross /sagittal/coronal sections of thorax, abdomen and pelvis, limbs, head and neck and brain and to understand interrelations of organs and interpret CTS and MRIS.

I. PRINCIPLES OF GENETICS : Including structure and significance of chromosomes, structure and significance of DNA and RNA, cell division, Mendelian laws of inheritance, influence of heredity and environment on development, mechanism of inheritance of some common hereditary disorders.

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Note :- <u>Pattern of Question Paper</u>

1. Objective type paper
2. Maximum Marks :100
3. Number of Questions :100
4. Duration of Paper : Two Hours
5. All questions carry equal marks.
6. There will be Negative marking.

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