University :Mansoura University

Faculty :Faculty of Medicine

Department :Human Anatomy and Embryology

1- Course data :-

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|---|---|---|---|---|---|---|
| Code: | 20002 | | | | | |
| Course title: | Anatomy and embryology | | | | | |
| Year/Level: | ثانية | | | | | |
| Program Title: | بكالوريوس الطب والجراحة ل | | | | | |
| Specialization: | | | | | | |
| Teaching Hours: | Theoretical: | 5 | Tutorial: | | Practical: | 4 |

2- Course aims :-

1. The course provides a basic anatomical knowledge of the normal structure of the human body at the level of organs and systems of the head and neck, lower limb, brain & spinal cord and to study the normal and abnormal growth and development of the different organs and systems.

3- Intended learning outcomes of course (ILO'S) :-

a- Knowledge and understanding

1. [a1] Recognize human body: A.1.1. Normal structure and function of the body (as an intact organism) and of each of its major systems. A.1.2. Molecular, biochemical, and cellular mechanisms which are important in maintaining the body homeostasis. A.1.3. Main developmental changes in humans and the effect of growth, development and

aging on the individual and his family. A.1.4. Basics of normal and abnormal human behaviors.

b- Intellectual skills

1. [b1] Integrate basic biomedical science with clinical care
2. [b2] Reason deductively in solving clinical problems: B .2.1. Prioritize clinical problems. B .2.2. Evaluate information objectively, recognizing its limitations.
3. [b3] Use personal judgment for analytical and critical problem solving

c- Professional and practical skills

1. [c1] Demonstrate basic sciences practical skills relevant to future practice

d- General and transferable skills

1. [d1] Adopt principles of the lifelong learning needs of the medical profession
2. [d2] Use information and communication technology effectively in the field of medical practice
3. [d3] Retrieve, manage, and manipulate information by all means, including electronic means
4. [d4] Present information clearly in written, electronic and oral forms
5. [d5] Communicate ideas and arguments effectively
6. [d6] Work effectively within a team

4- Course contents :-

| No | Topics | Week |
|---|---|---|
| 1 | SCALP (layers, blood supply, nerve supply and lymphatic drainage) | |
| 2 | Face (muscles, nerve supply , blood supply and lymphatic drainage) | |
| 3 | Posterior triangle (boundaries and contents) | |
| 4 | Cranial cavity (Dural folds and sinuses) | |
| 5 | Orbit (boundaries and contents) | |

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|---|---|---|
| 6 | Anterior triangle (boundaries and contents) | |
| 7 | Submandibular region (gland and lymph nodes) | |
| 8 | Parotid region (extent, capsule, features, relations, structure within the gland, parotid duct, nerve supply and surface anatomy) | |
| 9 | Infratemporal fossa (muscles of mastications, mandibular nerve, maxillary nerve, sphenopalatine ganglion, otic ganglion and maxillary artery) | |
| 10 | Thyroid gland (shape, capsule, features, relations, nerve supply, blood supply, lymphatic drainage and applied anatomy) | |
| 11 | Pharynx (muscles, sagittal section and palatine tonsil) | |
| 12 | Nose (lateral wall, arterial, nerve and lymphatices) | |
| 13 | Larynx (cartilage, ligaments and muscles) | |
| 14 | Mouth cavity (tongue muscles, blood supply, nerve and lymphatices) | |
| 15 | Cranial nerves (7th, 9th, 10th, 11th and 12th) | |
| 16 | Development of the nervous system and congenital anomalies | |
| 17 | Medulla, Pons and Midbrain )ventral and dorsal surface) | |
| 18 | Fourth ventricle (bounderies, foramina, communications, cranial nerve nuclei in its floor and choroid plexus) and cerebellum (features, subdivisions and arterial supply) | |
| 19 | Vertebrobasilar system& circle of Willis (site, formation, anatomical and clinical importance) | |
| 20 | Diencephalon (bounderies, divisions and arterial supply) and third ventricle (bounderies, recesses, communications, choroid plexus) | |
| 21 | Arterial supply of the brain (internal carotid artery, anterior cerebral artery, middle cerebral artery and posterior cerebral artery) | |
| 22 | Venous drainage (superior cerebral veins and deep cerebral veins, and CSF (volume, composition, circulation, formation, absorption, function and clinical notes) | |
| 23 | Brainstem: internal structure | |
| 24 | Cerebellar connections | |
| 25 | Thalamus (bounderies, classification of thalamic nuclei, connection of thalamic nuclei, arterial supply and thalamic nuclei) Internal capsule | |
| 26 | Cerebral hemisphere (sulci, gyri and higher brain functions) | |
| 27 | Basal ganglia & lateral ventricle (boundaries, connections, foramina and choroid plexus) | |
| 28 | Nerve fibers in CNS and the limbic system (component and function) | |

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|---|---|---|
| 29 | Spinal cord: anatomical organization of ascending tracts (gracile and cuneate tract, ventral and spinocerebral tract, lateral spinothalamic tract, ventral spinothalamic tract and lissauer's) | |
| 30 | Trigeminal system (sensation from the face and trigeminal plexus) | |
| 31 | Motor systems & descending tracts (lateral and ventral corticospinal tracts, rubrospinal and tectospinal tract, lateral and medial vestibulospinal tract, pontine and medullary reticulospinal tracts, raphe spinal and descending autonomic fibers) | |
| 32 | Bones of Lower limb (hip bone, femur, tibia, fibula and foot) | |
| 33 | Front of the thigh (fascia, muscles, vessels and nerves) | |
| 34 | Medial aspect of the thigh (muscles, vessels and nerves) | |
| 35 | Gluteal region (muscles, vessels and nerves) | |
| 36 | Popliteal fossa (boundaries and contents) | |
| 37 | Back of the thigh (muscles, vessels and nerves) | |
| 38 | Anterior compartment of the leg (muscles, vessels and nerves) | |
| 39 | Dorsum of the foot (muscles, vessels and nerves) | |
| 40 | Back of the leg (muscles, vessels and nerves) | |
| 41 | Sole of the foot (layers, muscles, vessels and nerves) | |
| 42 | Joints of lower limb (type, components, ligaments, relations, movement, nerve and blood supply of hip, knee, ankle and foot joints) | |
| 43 | Cardiovascular system (development and congenital anomalies) | |
| 44 | Development of Vertebral column and anomalies | |
| 45 | Development of Limbs and congenital anomalies | |
| 46 | Development of spinal cord and anomalies | |
| 47 | Genital system (development and anomalies) | |
| 48 | Urinary system (development and anomalies) | |
| 49 | Branchial arches (derivatives and anomalies) | |
| 50 | Tongue (development and anomalies) | |
| 51 | Thyroid gland (development and anomalies) | |
| 52 | Development of mouth cavity and its anomalies | |
| 53 | Face (development and anomalies) | |
| 54 | Palate (development and anomalies) | |
| 55 | Respiratory system (development and anomalies) | |

5- Teaching and learning methods :-

| S | Method | Knowledge and understanding | Intellectual skills | Professional skills | General skills |
|---|---|---|---|---|---|
| 1 | Lectures for acquisition of knowledge: The lecturers are conducted using: a. Audiovisual aids through animations and diagrams b. Interaction with the students through questions | a1 | b1 | c1 | d1,d2,d3 |
| 2 | Practical sessions using a. Models b. Skeletons and individual bones c. Dissected specimens d. Plastinated specimens e. Plain X-ray films f. X-ray with dye films g. CT scan films h. MRI films i. Diagrams and posters j. Video tapes and movies. k. Power point presentations | a1 | b1,b2,b3 | c1 | d4,d5,d6 |
| 3 | Self learning. through giving them certain topics to search, collect data and self learning | a1 | b1,b2,b3 | c1 | d1,d2,d3,d4,d5,d6 |

6- Teaching and learning methods of disables :-

1. Electronically recorded courses as in teaching youtube channels

7- Student assessment :-

a- Student assessment methods

| No | Assessment Method | Knowledge and understanding | Intellectual skills | Professional skills | General skills |
|---|---|---|---|---|---|
| 1 | midyear exam | a1 | b1,b2,b3 | | |
| 2 | final written exam | a1 | b1,b2,b3 | | |
| 3 | objective structures practical exam | a1 | b1,b2,b3 | c1 | |

b- Assessment schedule

| No | Method | Week |
|---|---|---|
| 1 | Midyear exam | 16 |
| 2 | final exam | 35 |

c- Weighting of assessments

| No | Method | Weight |
|---|---|---|
| 1 | Mid_term examination | 16 |
| 2 | Final_term examination | 50 |
| 3 | Oral examination | 0 |
| 4 | Practical examination | 30 |
| 5 | Semester work | 4 |
| 6 | Other types of asessment | 0 |
| Total | | 100% |

8- List of references

| S | Item | Type |
|---|---|---|
| 1 | lectures handouts | Course notes |
| 2 | Gray’s anatomy for students | Books |
| 3 | Department national books | Books |
| 4 | Snell’s clinical anatomy by region | Books |

9- Matrix of knowledge and skills of the course

| S | Course contents | Knowledge and understanding | Intellectual skills | Professional skills | General skills |
|---|---|---|---|---|---|
| 1 | SCALP (layers, blood supply, nerve supply and lymphatic drainage) | a1 | b1,b2,b3 | c1 | |
| 2 | Face (muscles, nerve supply , blood supply and lymphatic drainage) | a1 | b1,b2,b3 | c1 | |
| 3 | Posterior triangle (boundaries and contents) | a1 | b1,b2,b3 | c1 | |
| 4 | Cranial cavity (Dural folds and sinuses) | a1 | b1,b2,b3 | c1 | |
| 5 | Orbit (boundaries and contents) | a1 | b1,b2,b3 | c1 | |
| 6 | Anterior triangle (boundaries and contents) | a1 | b1,b2,b3 | c1 | |

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|---|---|---|---|---|---|
| 7 | Submandibular region (gland and lymph nodes) | a1 | b1,b2,b3 | c1 | |
| 8 | Parotid region (extent, capsule, features, relations, structure within the gland, parotid duct, nerve supply and surface anatomy) | a1 | b1,b2,b3 | c1 | |
| 9 | Infratemporal fossa (muscles of mastications, mandibular nerve, maxillary nerve, sphenopalatine ganglion, otic ganglion and maxillary artery) | a1 | b1,b2,b3 | c1 | |
| 10 | Thyroid gland (shape, capsule, features, relations, nerve supply, blood supply, lymphatic drainage and applied anatomy) | a1 | b1,b2,b3 | c1 | |
| 11 | Pharynx (muscles, sagittal section and palatine tonsil) | a1 | b1,b2,b3 | c1 | |
| 12 | Nose (lateral wall, arterial, nerve and lymphatices) | a1 | b1,b2,b3 | c1 | |
| 13 | Larynx (cartilage, ligaments and muscles) | a1 | b1,b2,b3 | c1 | |
| 14 | Mouth cavity (tongue muscles, blood supply, nerve and lymphatices) | a1 | b1,b2,b3 | c1 | |
| 15 | Cranial nerves (7th, 9th, 10th, 11th and 12th) | a1 | b1,b2,b3 | c1 | |
| 16 | Development of the nervous system and congenital anomalies | a1 | b1,b2,b3 | c1 | |
| 17 | Medulla, Pons and Midbrain )ventral and dorsal surface) | a1 | b1,b2,b3 | c1 | |
| 18 | Fourth ventricle (bounderies, foramina, communications, cranial nerve nuclei in its floor and choroid plexus) and cerebellum (features, subdivisions and arterial supply) | a1 | b1,b2,b3 | c1 | |
| 19 | Vertebrobasilar system& circle of Willis (site, formation, anatomical and clinical importance) | a1 | b1,b2,b3 | c1 | |

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|---|---|---|---|---|---|
| 20 | Diencephalon (bounderies, divisions and arterial supply) and third ventricle (bounderies, recesses, communications, choroid plexus) | a1 | b1,b2,b3 | c1 | |
| 21 | Arterial supply of the brain (internal carotid artery, anterior cerebral artery, middle cerebral artery and posterior cerebral artery) | a1 | b1,b2,b3 | c1 | |
| 22 | Venous drainage (superior cerebral veins and deep cerebral veins, and CSF (volume, composition, circulation, formation, absorption, function and clinical notes) | a1 | b1,b2,b3 | c1 | |
| 23 | Brainstem: internal structure | a1 | b1,b2,b3 | c1 | |
| 24 | Cerebellar connections | a1 | b1,b2,b3 | c1 | |
| 25 | Thalamus (bounderies, classification of thalamic nuclei, connection of thalamic nuclei, arterial supply and thalamic nuclei) Internal capsule | a1 | b1,b2,b3 | c1 | |
| 26 | Cerebral hemisphere (sulci, gyri and higher brain functions) | a1 | b1,b2,b3 | c1 | |
| 27 | Basal ganglia & lateral ventricle (boundaries, connections, foramina and choroid plexus) | a1 | b1,b2,b3 | c1 | |
| 28 | Nerve fibers in CNS and the limbic system (component and function) | a1 | b1,b2,b3 | c1 | |
| 29 | Spinal cord: anatomical organization of ascending tracts (gracile and cuneate tract, ventral and spinocerebral tract, lateral spinothalamic tract, ventral spinothalamic tract and lissauer's) | a1 | b1,b2,b3 | c1 | |
| 30 | Trigeminal system (sensation from the face and trigeminal plexus) | a1 | b1,b2,b3 | c1 | |
| 31 | Motor systems & descending tracts (lateral and ventral corticospinal tracts, rubrospinal and tectospinal tract, lateral and medial vestibulospinal tract, pontine and | a1 | b1,b2,b3 | c1 | |

| | | | | | |
|---|---|---|---|---|---|
| | medullary reticulospinal tracts, raphe spinal and descending autonomic fibers) | | | | |
| 32 | Bones of Lower limb (hip bone, femur, tibia, fibula and foot) | a1 | b1,b2,b3 | c1 | |
| 33 | Front of the thigh (fascia, muscles, vessels and nerves) | a1 | b1,b2,b3 | c1 | |
| 34 | Medial aspect of the thigh (muscles, vessels and nerves) | a1 | b1,b2,b3 | c1 | |
| 35 | Gluteal region (muscles, vessels and nerves) | a1 | b1,b2,b3 | c1 | |
| 36 | Popliteal fossa (boundaries and contents) | a1 | b1,b2,b3 | c1 | |
| 37 | Back of the thigh (muscles, vessels and nerves) | a1 | b1,b2,b3 | c1 | |
| 38 | Anterior compartment of the leg (muscles, vessels and nerves) | a1 | b1,b2,b3 | c1 | |
| 39 | Dorsum of the foot (muscles, vessels and nerves) | a1 | b1,b2,b3 | c1 | |
| 40 | Back of the leg (muscles, vessels and nerves) | a1 | b1,b2,b3 | c1 | |
| 41 | Sole of the foot (layers, muscles, vessels and nerves) | a1 | b1,b2,b3 | c1 | |
| 42 | Joints of lower limb (type, components, ligaments, relations, movement, nerve and blood supply of hip, knee, ankle and foot joints) | a1 | b1,b2,b3 | c1 | |
| 43 | Cardiovascular system (development and congenital anomalies) | a1 | b1,b2,b3 | c1 | |
| 44 | Development of Vertebral column and anomalies | a1 | b1,b2,b3 | c1 | |
| 45 | Development of Limbs and congenital anomalies | a1 | b1,b2,b3 | c1 | |
| 46 | Development of spinal cord and anomalies | a1 | b1,b2,b3 | c1 | |
| 47 | Genital system (development and anomalies) | a1 | b1,b2,b3 | c1 | |

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|---|---|---|---|---|---|
| 48 | Urinary system (development and anomalies) | a1 | b1,b2,b3 | c1 | |
| 49 | Branchial arches (derivatives and anomalies) | a1 | b1,b2,b3 | c1 | |
| 50 | Tongue (development and anomalies) | a1 | b1,b2,b3 | c1 | |
| 51 | Thyroid gland (development and anomalies) | a1 | b1,b2,b3 | c1 | |
| 52 | Development of mouth cavity and its anomalies | a1 | b1,b2,b3 | c1 | |
| 53 | Face (development and anomalies) | a1 | b1,b2,b3 | c1 | |
| 54 | Palate (development and anomalies) | a1 | b1,b2,b3 | c1 | |
| 55 | Respiratory system (development and anomalies) | a1 | b1,b2,b3 | c1 | |

Course Coordinator(s): -

1. Dalia Mahmoud Ibrahim Saleh

Head of department: -

Dalia Mahmoud Ibrahim Saleh