

## **THEME FOR THE COMPETITION**

### **Position 13, Associate professor**

#### **ANATOMY I**

##### **1. EMBRYOLOGY. GENERALITIES**

1.1. Embryology, - definition, history and evolution of embryology, 1.2. object of study, 1.3. methods, 1.4. classification and organization of classes during the semester.

##### **2. REPRODUCTION**

2.1. Reproduction. The definition and process of reproduction, as well as and the way fertilization is achieved. 2.2. Chromosomes- definition. 2.3. Meiosis. 2.4. X and Y chromosomes.

##### **3. GAMETOGENESIS**

3.1. Gametogenesis, 3.2 spermatogenesis. The transformation of male gametes from primordial cells into specialized cells for the fertilization of the egg, 3.3 Spermiogenesis. Special characteristics of the sperm.

##### **4. GAMETOGENESIS**

4.1. Gametogenesis. 4.2. Oogenesis, the transformation of female gametes from primordial cells into specialized cells ready for fertilization, 4.3 ovarian cycle, uterine cycle. Special characteristics of the ovum

##### **5. fecundation**

5.1. Fertilization. The way fertilization occurs. Accidents during fertilization. The first week of embryonic life. 5.2. The first stages in the development of the fertilized egg 5.3. Morula 5.4. Blastocyst

##### **6. IMPLANTATION**

6.1. Implantation. Normal implantation of the fertilized egg in the uterus. 6.2. Accidents during the implantation process. 6.3. Implantation abnormalities. 6.4. Second week of embryonic life. Developmental changes in the embryo

##### **7. EMBRYO DEVELOPMENT IN THE 3RD WEEK**

7.1. Development of the embryo in the third week. 7.2. Development of different parts of the embryo during the 3rd week. 7.3. Changes in the uterus during the 3rd week

##### **8. EMBRYO DEVELOPMENT IN WEEK 4 AND 8**

8.1. Embryological development between the 4th and 8th week 8.2. Development of the notochord, 8.3. Development of somites 8.4. Beginning of development of systems and organs

##### **9. EMBRYO DEVELOPMENT IN WEEK 8 AND 15**

9.1. Development of the embryo between the 8th and 15th weeks. 9.2. specification of the different regions of the embryo that will develop into organs and systems of the future fetus 9.3. Differentiation into specific tissues that begin to look like those of a newborn

##### **10. SKELETON DEVELOPMENT**

10.1. Development of the skeleton. 10.2. Development of the muscular system.

10.3. Differentiation of somites in the spine. 10.4. Development and growth in size of large bones 10.5. Development of striated muscles

#### **11. FUNCTIONAL ANATOMY OF THE UPPER LIMB**

11.1.Functional anatomy of the upper limb. 11.2.Bones of the upper limb 11.3. Muscles of the upper limb, 11.4. Joints of the upper limb 11.5. Correlations between insertion and movement in the joints of the upper limb

#### **12. FUNCTIONAL ANATOMY OF THE INNER MEMBER**

12.1.Functional anatomy of the lower limb. 11.2.Bones of the lower limb 11.3. Muscles of the lower limb, 11.4. Joints of the lower limb 11.5. Correlations between insertion and movement in the joints of the lower limb

#### **13. FUNCTIONAL ANATOMY OF THE AXIAL SKELETON**

13.1.Functional anatomy of the axial skeleton. 13.2. Spinal column, generalities 13.3. Spinal column – elements, 13.4.Spinal column joints, 13.5.Movements of the vertebrae individually and together

#### **14. FUNCTIONAL ANATOMY OF THE HEAD EXTREMITY**

14. 1. Anatomy functional of the extremity cephalic . 14.2. Articulation from TIP OF cephalic and coloanal vertebral . 14. 3. Muscle groups involved in the movements end cephalic 14.4. Relationships between muscles involved in limb movements cephalic

### **ANATOMY II**

#### **1. DEVELOPMENT OF CARDIOVASCULAR SYSTEM**

1.1. Development of the cardiovascular system. Development of the heart 1.2. The first signs of the heart appearing in embryology, 1.3. Development of the heart of the embryo. 1.4. Development of the heart in the fetal period

#### **2. DEVELOPMENT OF CARDIOVASCULAR SYSTEM**

2.1. development of the arterial system, 2.2. growth of arteries. 2.3. Development of the arterial system in the fetal period.

#### **3. DEVELOPMENT OF CARDIOVASCULAR SYSTEM**

3 .1. development of the venous system, 3.2. growth of veins. 3.3. Development of the venous system in the fetal period.

#### **4. THE CIRCULATORY SYSTEM IN THE FETUS**

4.1. Fetoplacental circulation. 4.2. The circulatory system of the fetus. 4.3. Abnormalities in the development of the cardiovascular system. 4.4. Abnormalities in the development of the cardiovascular system in the fetus and newborn, immediately after birth

#### **5. PLACENTA**

5.1. placenta, 5.2. umbilical cord, 5.3 amniotic fluid, 5.4. Developmental anomalies

#### **6. DEVELOPMENT OF THE DIGESTIVE SYSTEM**

6.1.Development of the digestive system. 6.2.Development of the foregut

#### **7. DEVELOPMENT OF THE DIGESTIVE SYSTEM**

7.1.Development of the digestive system. 7.2.Development of the midgut

#### **8. DEVELOPMENT OF THE DIGESTIVE SYSTEM**

8.1.Development of the digestive system. 8.2.Development of the hindgut

## **9. DEVELOPMENT OF THE RESPIRATORY SYSTEM**

9.1.Development of the respiratory system. Upper respiratory system.

## **10. DEVELOPMENT OF THE RESPIRATORY SYSTEM**

10.1. .Development of the respiratory system. Lower respiratory system.

## **11. HEAD EXTREMITY DEVELOPMENT**

11.1. Development of the cephalic extremity. 11.2. Pharyngeal arches. 11.3. Developmental anomalies.

## **12. DEVELOPMENT OF THE ORAL CAVITY**

12.1.development of the oral cavity, 12.2.anomalies

## **13. DEVELOPMENT OF THE NASAL CAVITY**

13.1. Development of the nasal cavity, 13.2. Anomalies

## **14. DEVELOPMENT OF THE URINARY AND GENITAL SYSTEM**

14.1. Male/Female Urinary Tract

14. 2. Male/Female Genital Tract

## **Bibliography**

1. Gray's Anatomy
2. Cunningham's Manual of Practical Anatomy
3. Human Anatomy – RMH McMinn
4. Langman's Embryology
5. Course support for students on the E-learning platform

**Head of Department,  
Prof.univ.dr. Ovidiu Pop**