GENERAL EMBRYOLOGY OF CHORDATES, VERTEBRATES.

1.The myotome was destroyed in the rabbit embryo during the experiment. Disorder of what structure can be caused by this manipulation?

A \*Skeletal muscle

B Axial skeleton

C Skin connective tissue

D Smooth muscle

E Serous membrane

EMBRYOLOGY OF HUMAN

2.During embryogenesis trophoblast develops into an organ rudiment that has endocrine function. What rudiment is it?

A. \*Villous chorion

B. Amnion

C. Yolk sac

D. Allantois

E. Umbilical cord

3.A newborn boy has been diagnosed with hydrocephalus. Doctor consider it to be teratogenic factors. What germ layers are affected by teratogens?

A. \*Ectoderm

B. All embryo germ layers

C. Endoderm and mesoderm

D. Endoderm

E. Mesoderm

4.In the cavity of uterus there was revealed the embryo which isn’t attached to endometrium. What stage of development is it?

A \*Blastocysts

B Zygote

C Morula

D Neurula

E Gastrula

5.Microscopic examination of oval shaped cell, with the size of 150 mkm, reveals cytoplasm with yolk, but doesn’t reveal centrioles. What kind of cell is it?

A \*Oocyte

B Leucocyte

C Myocyte

D Fibroblast

E Macrophage

6.In the process of embryonic ectoderm differentiation a neural tubule, nervous combs, neurogenic placodes, skin ectoderm and lamina prechordalis are developed. How is the process of forming a neural tubule defined?

A \*Neurulation

B Gastrulation

C Somytogenesis

D Histogenesis

E Organogenesis

7.In preparation is visible an oocyte in the moment of impregnation it by spermatozoid. What is the main result of impregnation?

A \*Formation zygote

B Determination sex of child

C Completion of meiosis an oocyte

D Penetration by spermatozoon an ovolema

E Cortical reaction

8.Implantation of embryo into the mucous membrane of uterus consists of two phases - adhesion and invasion. First phase accompanied by:

A \* Attaching blastocyst to the surface of endometrium

B Destruction of connecting tissue of endometrium

C Destruction of epitheliocytus of endometrium of uterus

D Activation of secretion of uterus glands

E Oppression of secretion of uterus glands

9.In a blastocyst which is, covered by tunicate impregnation, genetically inhibited the synthesis of lytic hormones in the cells of the trophoblast. What process of embryogenesis can be done or can be delayed?

A \* Implantation

B Delamination

C Immigration

D Gastrulation

E Epibolation

10.In preparation of main end of embryo, with the length of 6 mm, on the front surface of neck are visible piatenlike increases that appeared due to proliferation of mesenchyme. How these formations of branchial apparatus are defined?

A \*Branchial arches

B Branchial fissures

C Branchial pockets

D Branchial membranes

E Pharyngeal pockets

11.On the certain stage of ontogenesis of human is established during the certain stage of human ontogenesis. This function is performed by the provisionally organ:

A \*Placenta

B Yolk sac

C Amnion

D Umbilical cord

E Allantois

12.In preparation of main end of embryo of 5-th week formation are developments of branchial arcs. What form of first pair of these formations?

A \*Mandibularies and Maxillaries

B Mandibularies processus

C Maxillaries processus

D External acoustic duct

E Thyroid cartilage

13.In the first critical period in the fallopian tube without reason in an embryo was dissolution of fertilization membrane. What complication of pregnancy is possible in this case?

A \*Implantation of embryo in the wall of the uterus tube

B Death of embryo

C Invagination wall of blastocyst

D Return blastocyst back into the ampulla parts of uterus tube

E Formation of two blastocysts

14.One of critical periods of embryogenesis of human is implantation of embryo into wall of uterus during 7th days. What process of gastrulation take place in the embryoplast in this period?

A \*Delamination

B Migration

C Epibolation

D Invagination

E Neurulation

15.At microscopic research of internal genital woman organs that were remote during operation was found embryo built from two blastomeres. Name the place of it localization on condition of normal development.

A \* Fallopian tube (uterus tube) close to ampulla parts

B Fallopian tube, close to uterus part

C Cavity of uterus

D Abdominal region

E Ovary

16.During the gastrulation embryo goes through the hystotroph to the haematotroph methods of feeding. What pharmacist organ does provide it first?

A \*Chorion

B Trophoblast

C Yolk sack

D Amnion

E Allantois

17.The antigen of tissue compatibility of child inherits from a father and mother. It is known that expression of paternal antigens in embryogenesis begins before time. But the immune system of mother doesn't tear away an embryo. What organ first of all is prevent rejection an embryo of mother organism?

A \*Chorion

B Amnion

C Allantois

D Yolk sack

E Umbilical Cord

18.On the micro preparation of human embryo, taken from involuntary abortion, is educed an embryonic corymb, in what recognized two layers of the cell: ento- and ectoblast. In what stage of embryonic development was an embryo?

A \*Gastrulation

B Progenesis

C Neurulation

D Histogenesis

E Organogenesis

19.During forensic examination of woman, which perished in an accident, an embryo was found on the stage of early gastrula. Name the place of it localization on condition of it normal development.

A \*Wall of uterus

B Ampulla part of tubes uterus

C Fallopian part of tubes uterus

D Ovary

E Abdominal region

20. Ecto- and entoderm are formed in the period of early gastrulation. In what mechanism these sheets appeared?

A \*Delamination

B Invagination

C Epibolation

D Immigration

E Invagination, Epibolation

21.Spermatozoids move on woman genital tracts to side of ovule against liquid (distant stage of impregnation). What name has this directed movement?

A \*Rheotaxis

B Thermotaxis

C Chemotaxis

D Capacitaion

E Acrosome reaction

22.In embryogenesis of human in a 20-th day there is dissociating of embryo's body from pharmacist organs. In what way this process is provided?

A \*Truncal fold

B Amnion fold

C Celom

D Yolk sack

E Somits

23.In preparation of 10-daily embryo of human 2 bladders can be seen, that contact together (amniotic and vitelline). What is the structure that lies in the place of their contact?

A \*Embryonic corymb

B Bottom of amnion

C Roof of yolk sack

D Amniotic leg

E Fetal of mesoderm

24.It is known that some microorganisms that cause infectious diseases can pass through a placenta barrier. What structures are included in its composition?

A \*All structural components of third villi

B Chorion and amnion

C All structural components of secondary villi

D Allantois, yolk sack

E Basal lamina of endometrium with decidual cells

25.During histological preparation is determined a great number of mucous connective tissue (Wharton's jelly), vessel, and also bits and pieces of vitelline stem, and allantois. What is the organ?

A \*Umbilical cord

B Esophagus

C Ureter

D Urinary canal

E Vermicular appendix

26.Microscopic research of embryonic material in preparation is determined a yolk sack. What is the function of this organ for human?

A \*Hematopoesis

B Trophic

C Products of amniotic fluid.

D Excretory

E Protective

27.During formation of human embryo it is possible to see in his composition a cavity, light shallow blastomeres on periphery and dark large blastomeres on one of poles. How is an embryo defined on this stage of development?

A \*Blastocysts

B Morula

C Zygote

D Gastrula

E Embryo of disk

28.Microscopic research of embryo membranes is determined a chorion. What basic function is provided by this organ?

A \*Metabolism between the organism of mother and fetus

B Hematopoesis

C Products of amniotic fluid

D Formation of primary gametes

E Formation of lymphocytes

29.In an embryo wasn’t formed primary Hensen’s node during gastrulation. The development of what axial organ will be inhibiting?

A \*Chorda

B Neural crest

C Neural groove

D Neural tube

E Mantle layer of the neural tube

30.During gastrulation the Hensen's node remained underdeveloped in the embryo. Which axial organ will slow down its development?

A \*Chord

B Neural crests

C Neural groove

D Neural tube

E Mantle layer of the neural tube

31.Microspecimen analysis of child's finger skin revealed that epidermis has signs of inadequate development. What embryonal leaf was damaged in the process of development?

A \*Ectoderm

B Mesoderm

C Endoderm

D Mesenchyme

E Ectomezenchyme

32.During the experimental analysis of chondrohistogenesis a sclerotome was damaged. What cells will it make impossible to differentiate?

A \*Chondroblasts

B Smooth myocytes

C Myoblasts

D Fibroblasts

E Epidermocytes

33.Microspecimen of a child's finger skin reveals subnormal development of epidermis. What embryonic leaf was damaged in course of development?

A \*Ectoderm

B Mesoderm

C Endoderm

D Mesenchyme

E Ectomesenchyma

34.At a certain stage of development of a human embryo one can observe formation of a cavity in its structure, small light blastomeres on the periphery and large dark blastomeres at one of the poles. The embryo at this stage of development is called:

A \*Blastocyst

B Morula

C Zygote

D Gastrula

E Blastodisk

35.For an unknown reason the fertilization membrane of an embryo dissolved in the fallopian tube in the first critical period. What complication of pregnancy is possible in this case?

A \*Embryo implantation into the Fallopian tube

B Embryonic death

C Invagination of the blastocyst wall

D Return of blastocyst back to the ampullary portion of the tube

E Formation of two blastocysts

36.By producing a number of hormones placenta plays a part of temporary endocrine gland. What hormone may be detected in woman's blood on the third or the forth day after begin of implantation, that is used in medicine for early pregnancy detection?

A \*Chorionic gonadotropin

B Somatostatin

C Progesterone

D Vasopressin

E Oxytocin

37.Implantation process has two stages: adhesion and invasion. Morphological manifestation of blastocyte adhesion is:

A \*Attachment of blastocyte to the endometrium

B Destruction of endometrium epithelium

C Destruction of connective tissue of endometrium

D Destruction of endometrium vessels

E Formation of lacunes

38.A newborn child has microcephalia. Doctors consider that this is the result of mother's taking actinomycin D during the pregnancy. What embryonal leaf was influenced by this teratogen?

A \*Ectoderma

B All leaves

C Entoderma

D Mesoderma

E Entoderma and mesoderma

39.Examination of uterine cavity revealed an embryonated ovum that wasn't attached to the endometrium. The embryo is in the following stage of development:

A \*Blastocyst

B Zygote

C Morula

D Gastrula

E Neurula

40.Examination of a pregnant woman who has been taking alcohol revealed diturbed anlage of ectoderma during the fetal life. What derivatives of this leaf have defects?

A \*Neural tube

B Kidneys

C Bowels epithelium

D Liver

E Sexual glands

41.The process of splitting of the zygote ends with the blastula formation. What type of blastula is typical for a human?

A \*Blastocysts

B Coeloblastula

C Discoblastula

D Amphiblastula

E Morula

42.The gametes precursors (gonoblasts) were revealed in the embryo at 2nd-3rd weeks of embryogenesis. Where are these cells differentiated?

A \*In the yolk sac

B In the mesenchyme

C In the embryonic ectoderm

D In dermatomes

E In the embryonic endoderm

43.Bulges covered by a thin layer of epidermis, basis of which formed a mesenchyme, are found in the early stages of development (4-10 weeks) in the main section of a himan embryo. What formation is this?

A The branchial arches

B The branchial fissures

C The branchial pockets

D The pallatin processus

E The frontal processus

44.As a result of expression of individual components of the genome, cells of an embryo acquire morphological characteristics, biochemical and functional features. What is the name of this process?

A \*Differentiation

B Capacitation

C Reception

D Determination

E Induction

45.A human embryo was found in endoscopic research of a cavity of the uterus, which was attached not fastened to the endometrium. What stage of embryogenesis is this?

A \*"Free" blastocyst

B Zygote

C Morula

D Gastrula

E Neurula

46.Due to research of women genital organs, that were removed during surgery, an embryo that consists of 16 blastomeres covered by a specific membrane was found. What is the name of this membrane?

A \*Membrane of fertilization

B Corona radiata

C Corona pollucida

D the Cellular membrane

E Oolemma

47.The 25-years-old woman visited a gynecologist about an abortion on the 24th week of pregnancy. During a detailed examination the doctor introduced a pathology into the development of the chorion (child part of the placenta). What rudiment will undergone changes?

A \*Trophoblast

B Endoderm

C Ectoblast

D Epiblast

E Mesenchyme

48.An embryo umbilical cord has compressed, but the circulation of blood between the embryo and the mother wasn't disturbed. The presence of what structure contributed to this in the first place?

A \*Mucous connective tissue

B Remain of allantois

C Layer of arteries

D Layer of vein

E Remain of vitelline stem

49.A woman had infected by the flu during the 7-14 days of pregnancy. What consequences may appear?

A \*Detection of formation of ecto- and endoderm

B Detection of formation of mesoderm

C Detection of formation of mesenchyme

D Detection of process of Epibolation

E Detection of process of invagination

50.A bounded vesicle with intestinal tube, which is one of main organs, is visible on a micro section of a human embryo. Primary gametes and primary red corpuscles (megaloblasts) are located in it's walls. What is this organ?

A. \*Yolk sack

B. Allantois

C. Placenta

D. Umbilical cord

E. Amnion

51.The cut of organ is presented on a histological preparation. It is basically formed by a mucous membrane connective tissue, two arteries and a vein. Which organ is this?

A. \*Umbilical cord

B. Allantois

C. Yolk sack

D. Amnion

E. Placenta

52.The outgrowth of a primary bowl's ventral wall, which is growing in the amniotic leg, has developed in the early stages of development of human embryo development. What is the name of this organ?

A. \*Allantois

B. Yolk sack

C. Amnion

D. Placenta

E. Umbilical cord

53.In a conventional experiment the development of mesenchymal cells was inhibited. The disturbance of what muscular tissue development will be observed?

A \*Of the smooth muscular tissue of visceral type

B Of the muscular tissue of neural type

C Of the muscular tissue of epidermal type

D Of the cardiac muscular tissue

E Of the skeletal muscular tissue

54.Gastrulation is a period of embryogenesis, where embryonic sheets are formed, as a result of which an embryo acquires the three-stratified structure. What mechanism of gastrulation is characteristic for the human embryo?

A \*Delamination and immigration

B Invagination

C Epibolation

D Immigration and invagination

E Delamination and Epibolation

55.In normal conditions the circulation of the mothers blood has no direct connections to fetal circulation. Blood of the fetus flows in the vessels of chorion villi, and the mothers-circulates in between villi space of the uterus endometrium. What separates the mother's blood from the fetus blood?

A \*Haemochorion barrier

B Connective tissue partitions

C Fibrinoid of Langance

D the Amorphous fibrinoid of Рора

E the Locking plate of basic meatus of uterus

56.An oocyte at the moment of being fertilized by a spermatozoid is visible on a slide. Where does this process occur on normal conditions?

A \*In ampulla part of fallopian tube

B In an abdominal cavity

C On the surface of ovary

D In the uterus

E In the isthmus of fallopian tube

57.A fetal membranous organ is in the early stages of embryogenesis has a simple squamous epithelium, which in the 3rd month acquires a prismatic cube form, and participates in the production of amniotic fluid. Name this organ:

A. \*Amnion

B. Yolk sack

C. Allantois

D. Umbilical cord

E. Placenta

58.Embryos in their 2-8 days of development are prepared for diagnostic purposes. By what sign is it possible to recognize the beginning (early stages) of embryo development on a micro slide?

A. \*Formation of primary stripe

B. Cleavage

C. Gastrulation

D. Placentation

E. Neurulation

59.For diagnostics purposes a few micro slides are prepared representing the primary development period of a human embryo that lasts the first 7 days to embryogenesis. What sign makes it possible to recognize this beginning period of embryo development on a micro slide?

A. \*Fertilization

B. Cleavage

C. Gastrulation

D. Placentation

E. Neurulation

EMBRYOLOGY. COMPARATIVE EMBRYOLOGY OF BIRDS AND MAMMALS

60.The chicken embryo at the stage of the mesoderm differentiation to somites and splanchnotom was revealed in the histological preparation. What material is the axial skeleton developing from?

A \*Sclerotome

B Dermatome

C Nephrotome

D Splanchnotom

E Myotome

61.The gametes precursors (gonoblasts) were revealed in the embryo at 2nd - 3rd weeks of embryogenesis. Where differentiate these cells?

A \*In the yolk sac

B In the mesenchyme

C In the embryonic ectoderm

D In dermatomes

E In the embryonic endoderm

70.Study of the biopsy material of an embryo revealed a zone of developmental abnormality in a somite. The zone was located close to the endoderm and the notochord. What formations may abnormal development in case of pregnancy continuation have?

A \*Skeletal tissues

B Genito-urinary system

C Skeletal striated muscle tissue

D Cardiac striated muscle tissue

E Fibrous connective tissue of the skin

71.The sclerotome was destroyed in the bird embryo during the experiment. What structure disorder by this manipulation can be caused?

A \* Axial skeleton

B Skin connective tissue

C Internal organs stroma

D Gonadal stroma

E Chord

72.The myotome was destroyed in the rabbit embryo during the experiment. What structure disorder by this manipulation can be caused?

A \* Skeletal muscle

B Axial skeleton

C Skin connective tissue

D Smooth muscle

E Serous membranes

73.The outer germ layer (ectoderm) was destroyed in the frog embryo during the experiment. What morphological structure of this embryo will be not developed?

A \* Epidermis

B Somites

C Nephrotome

D Splanchnotom

E Bone tissue

EMBRYOLOGY. EMBRYOLOGY OF HUMAN 1

74.An embryo at an early gastrula stage was found during forensic medical examination of a woman who died in a car accident. Name the place of its localization under normal development.

A. The wall of the uterus

B. Ampulla of the uterine tube

C. Uterine part of oviduct

D. Ovary

Е. Abdominal cavity

75.The embryo on the stage of early gastrulation was found during the forensic medical expertise of a woman who died in the road accident. Name the place of the embryo localization in case of its normal development.

A \*Uterus wall

B Ampullar part of the oviduct

C Uterus part of the oviduct

D Ovary

E Abdominal cavity

76.The embryo composed of to blastomeres was found during the microscopic investigation of female reproductive organs removed during the operation. Name the place of the embryo localization in case of its normal development.

A \* Oviduct, close to its ampullar part

B Oviduct, close to its uterus part

C Uterus cavity

D Abdominal cavity

E Ovary

77.The process of a zygote cleavage ends with the blastula formation. What type of blastula is typical for a human?

A \* Blastocysts

B Coeloblastula

C Discoblastula

D Amphiblastula

E Morula

78.The human embryo that doesn’t attach to the endometrium was found in the uterus cavity. What stage of embryogenesis is this?

A \* Blastocyst

B Zygote

C Morula

D Gastrula

E Neurula

79.The human ovum represented on histological preparation. There are small amount of yolk inclusions in the cytoplasm of it. Identify the type of ovum.

A \*Secondary isolecithal

B Isolecithal

C Telolecithal

D Alecithal

E Centrolecital

80.Chronic poisoning of 38-year-old miner by cadmium compounds resulted in male sterility. Semen analysis revealed the inability of sperm to move. Damage of what cytoskeleton components for this pathology may be responsible?

A \*Axonemal microtubules

B Actin microfilaments

C Intermediate filaments

D Microtubule spindle

E Actomyosine complex

EMBRYOLOGY. EMBRYOLOGY OF HUMAN 2

81.The primary Hensen's node wasn’t formed in the embryo during the gastrulation. The development of what axial organ will be inhibited?

A \* Chorda

B Neural crest

C Neural groove

D Neural tube

E Mantle layer of the neural tube

82.The human blastocyst implantation begins. What period of embryogenesis does at the same time with implantation start?

A \* Gastrulation

B Invagination

C Differentiation

D Histogenesis

E Cleavage

83.The chorion is determined at the microscopic examination of the embryo membranes. What is the main function of this organ?

A \* Exchange of substances between the mother and fetus

B Hematopoietic

C Production of the amniotic fluid.

D Formation of the primordial germ cells.

E Formation of the lymphocytes

84.The early gastrulation of the human embryo occurs by delamination of the embryoblast. At what structure does the nervous system rudiment situate?

A \* At the epiblast

B At the trophoblast

C At the hypoblast

D At the marginal zone of the hypoblast

E At the central zone of the hypoblast

85.The hydramnios was diagnosed at the pregnant women during the ultrasound examination. Disorder of what extraembryonic organ function can in such pathological condition result?

A \*Amniotic membrane

B Chorion

C Placenta

D Yolk sac

E Allantois

86.Ectodermal cells differentiated into neuroblasts and spongioblasts in the neural tube of the human embryo. Layers formed in consequence of the movement of these cells in the neural tube. Which layer mainly contained bodies of the neuroblasts?

A \*Mantle layer

B Ependymal layer

C Edge veil

D White matter

E Sheath of the spinal cord

87.Embryonic shield with two layers of cells (ectoderm and endoderm) was revealed in the human embryo taken from spontaneous abortion. At what stage of an embryonic development was an embryo?

A \* Gastrulation

B Cleavage

C Progenesis

D Organogenesis

E -

88.It is known that the megalocytes may appear in the human peripheral blood. When the appearance of these cells in the blood is normal?

A \* In the embryonic period

B At the age of 1 year

C At the age from 1 to 30 years

D In old age

E During the pregnancy

89.The human embryo implantation in the uterine wall (during the 7th day) is the one of the critical periods of embryogenesis. What gastrulation process does in embryoblast during this period occur?

A \* Delamination

B Migration

C Epiboly

D Invagination

E Neurulation

90."A person was born in a shirt." What kind of "shirt" is referred in this proverb about?

A \* Amniotic

B Yolk

C Serous

D Chorionic

E Trophoblastic

91.It is known that cells of neural crest migrate for long distances and are the progenitors of many cell types in the human body. What cells do not develop from neural crest?

A. \*Myocytes

B. The nerve cells of the autonomic ganglia

C. Medulla of adrenal glands

D. Melanocytes

E. Sensitive nuclei of cranial nerves

92.Disorder of the cerebrum development was found during the ultrasonic scanning of the pregnant woman. The chronic alcoholism is in anamnesis. What critical period of the embryogenesis can this pathology related to?

A. \*15-20 weeks of embryogenesis

B. 20-24 weeks of embryogenesis

C. 7-8 days of embryogenesis

D. 3-8 weeks of embryogenesis

E. Neonatal period

93.The mesenchyme at the yolk-sac wall was destroyed on the early stage of embryogenesis. What consequences can be happened after this manipulation?

A. \*Disorder of the blood vessels formation

B. Disorder of trophic of the embryo

C. Disorder of metabolic products excretion

D. Disorder of the allantois formation

E. Disorder of the amnion formation

94.During the examination of a pregnant woman, the doctor drew attention to the data of anamnesis, which indicated that in the 3-4 weeks of pregnancy woman had an acute infectious disease. Which stage of embryogenesis may be disordered?

A. \*Formation of the intestinal tube.

B. Implantation

C. Placentation

D. Development of the brain

E. Formation of the reproductive system

95.The works of Speman prove that the development of certain structures of the embryo is a result of the action of inductors. What develops under the influence of inducers of the dorsal lip of blastopore?

A. \*Neural tube

B. Chorda

C. Mesoderm

D. Primary gut

E. Somites

96.Sex hormone supports the function of the corpus luteum. The level of this hormone in a woman’s blood used as a pregnancy test. Which structure produces this hormone at the end of the second week of embryo development?

A \*Syncytiotrophoblast

B Cytotrophoblast

C Amniotic epithelium

D Epithelium of the yolk sac

E Allantois

97.Neural tube, neural crests, placodes, skin ectoderm and prechordal plate develop from the embryonic ectoderm during the process of differentiation. How is called the process of the neural tube formation?

A \*Neurulation

B Gastrulation

C Somitogenesis

D Histogenesis

E Organogenesis

98.The germ of a provisional organ shaped as elastic cord, covered by amniotic epithelium and surrounded by mucous connective tissue is determined during the study of the early stages of human embryogenesis. Name this organ.

A \*Umbilical cord

B Yolk sac

C Allantois

D Placenta

E Amnion