

Note : Answer all following questions



Choose the correct answer (150 Marks)

Histology Section:

1- The epithelium of tongue is

- A. Simple columnar. B. Simple squamous. C. Stratified squamous. D. Transitional.

2- The goblet cell secrete

- A. Hormonal. B. Serous. C. Oily. D. Mucus.

3- Parietal cell of stomach secrete

- A. HCl B. enzymatic C. Hormonal D. Steroidal

4- Taste bud of lingual papillae have

- A. Muscle fibers B. Sensory cells C. Collagen D. Elastic fibers

5- The muscles of tongue are

- A. Smooth B. Skeletal C. Cardiac D. None of all

6- Parotid salivary gland secrete

- A. Mucus B. Serous C. Insulin D. Pepsinogen

7- Nasal cavity have

- A. Olfactory epithelium B. Langerhans islet C. Villi. D. Simple

8- Stomach have muscles arranged into

- A. one layer B. Two layers C. Four layer D. Three layers

9- Duodenum have

- A. Cilia B. Villi C. Taenia coli D. Hyaline cartilage

10- Duodenum have

- A. Payers patches B. Brunner gland C. Nephron D. Stereocilia

11- Jejunum is containing

- A. Tall villi B. Short villi C. No villi D. Simple squamous epithelium

12- Payers patches is present in the

- A. Jejunum B. Stomach C. Colon D. Ileum

13- Taenia coli is located in the

- A. Cecum B. Anal canal C. Esophagus D. Oropharynx

14- Appendix is

- A. Nervous tissue B. lymphatic tissue C. endocrine D. enzymatic

15- Liver have

- A. Mast cells B. Blood sinusoids C. Osteocytes D. Skeletal muscle fibers

16- Nasal cavity have

- A. Simple columnar cells B. Pseudostratified columnar C. Transitional D. Neurons

17- Trachea have

- A. Elastic cartilage B. Hyaline cartilage C. Fibrocartilage D. spongy bone

18- Principal bronchus is present

- A. Intrapulmonary B. Intraabdominal C. Retroperitoneal D. Extrapulmonary

19- Bronchiole have

- A. Smooth muscle fibers B. Skeletal muscle C. Hyaline cartilage D. None of all

20- Lung is

- A. Semisolid tissue B. Spongy tissue C. Fibrous tissue D. Osseous

21- The macrophages of lung is called

- A. Kupffer cells B. Monocytes C. Dust cells D. Osteoclast

22- Blood air barrier is present in the

- A. Brain B. Spleen C. Lung D. Kidney

23- Interstitial connective tissue of lung have

- A. Nerve fibers B. Elastic fibers C. Skeletal D. Glial cells

24- Cuboidal alveolar cells secrete

- A. Mucus B. Surfactant C. Hormonal D. lipase

25- Squamous alveolar cells form about

- A. 90% B. 10% C. 99% D. 5% of the alveolar wall

26- Nasal cavity have

- A. Pseudostratified columnar cells B. Transitional C. Simple cuboidal D. None of all

27- Larynx is containing mostly

- A. Smooth muscles B. Fibrocartilage C. Skeletal muscles D. Mesenchymal

28- Nasopharynx is lined by

- A. squamous cells B. Pyramidal cells C. Respiratory epithelium D. Villi

29- Epiglottis is formed by

- A. Elastic cartilage B. Hyaline cartilage C. Fibro cartilage D. Osseus tissue

30- Trachea is lined by

- A. Transitional epithelium B. Simple squamous C. Pseudostratified columnar D. Cuboidal





31- The capsule of kidney is formed by

- A. Cartilaginous B. Lymphatics C. Connective tissue D. Nervous

32- The cortex of kidney have

- A. Glomeruli B. Collecting ducts C. Henle loops D. Fat tissue

33- Nephron have

- A. Nerve fibers B. Proximal convoluted tubules C. Elastic fibers D. Reticular fibers

34- Macula densa is located in the

- A. Henle loop B. Ascending limb C. Medulla of kidney D. Cortex of kidney

35- Erythropoietin is responsible of production of

- A. CO₂ B. O₂ C. WBCs D. RBCs

36- The medulla of kidney have

- A. Proximal convoluted tubules B. Neurons C. Henle e loops D. Glomerulus

37- Ureter is lined by

- A. Transitional epithelium B. Simple columnar C. Simple squamous D. Cuboidal

38- The ureter is coated by

- A. Smooth muscles B. Skeletal C. Cartilaginous D. Adipose tissue

39- Urinary bladder is formed by

- A. Two layers of muscles B. One layer C. Three layers D. None of all

40- Epithelium of urinary bladder is

- A. Simple columnar B. Simple cuboidal C. Transitional D. Squamous

41- Urethra is lined by

- A. Transitional B. Pseudostratified columnar C. Simple columnar D. Collagen fibers

42- The papilla of kidney is containing the end of

- A. Collecting ducts B. Henle loop C. Blood vessels D. Fat

43- The expanded end of ureter is lined by

- A. Pyramidal cell B. Squamous cells C. Columnar cell D. Transitional

44- The thin segment of Henle loop is lined by

- A. Simple squamous B. Columnar cells C. Cuboidal D. Pyramidal

45- Macrophages of glomerulus is called

- A. Dust cell B. Mesangial cell C. Kupffer cell D. Glial cell

46- Each nerve cell have

- A. Two centrioles B. One centriole C. No centriole D. Four centrioles

47- The neurons are

- A. Sensory B. Motor C. Motor and sensory D. None of all



48- The sensory nerve is located in the

- A. Retina B. Skeletal muscle C. Bones D. Hyaline cartilage

49- Ependymal cells is present in the

- A. Brain medulla B. Brain ventricles C. Meninges D. Nerve bundle

50- Protoplasmic astrocyte responsible for

- A. Phagocytosis B. Repair brain C. Myelination D. Blood brain barrier

51- Basal ganglia is aggregation of

- A. Glial cells B. Neurons C. Nerve bundles D. Blood vessels

52- Afferent nerves to the brain are

- A. Motor B. Sensory C. Mixed D. None of all

53- The brain meninges are

- A. Three layers B. Two layers C. One layer D. Four layers

54- Polymorphic layer of neurons are present in the

- A. Brain medulla B. Cortex C. Cerebellum D. Skin

55- Oligodendrocyte is responsible for

- A. Brain repair B. Blood brain barrier C. Myelination D. Phagocytosis

56- Glial cells of brain are called also

- A. Lymphatic B. Endocrine C. Supporting cells D. Nutritional

57- The brain tissue has no

- A. Blood vessels B. Lymph C. Nerve bundles D. Glial cells

58- The cerebellum have

- A. Monocytes B. Lymphocytes C. Mast cells D. Purkinje cells

59- Medulla oblongata connected to the

- A. Spinal cord B. With muscles C. With joints D. With cartilages

60- The spinal cord have

- A. Only white matter B. Only grey matter C. Mixed grey and white D. none of all

Embryology Section:

61- Gametes are derived from

- A. Sperms B. Oocytes C. Both D. None

62- The sexual cycle controlled by

- A. Adinohypophysis B. Hypothalamus C. Pituitary gland D. None

63- _____ cells adjacent to cytotrophoblast are called amnioblasts.

- A. Epiblast B. Hypoblast C. Syncytiotrophoblast D. None

64- The most characteristic event occurring during the third week of gestation is

- A. Ovulation B. Gastrulation C. Implantation D. None



65- In preparation for fertilization, germ cells undergo

- A. Gametogenesis B. Cytodifferentiation C. Both D. None

66- The high concentration of _____ increases collagenase activity, resulting in digestion of collagen fibers surrounding the follicle.

- A. FSH B. LH C. Both D. None

67- At the _____, the trophoblast shows considerable progress in development, particularly at the embryonic pole, where vacuoles appear in the syncytium.

- A. 8th day B. 9th day C. 10th day D. 12th day.

68- _____, through the process of gastrulation, is the source of all of the germ layers.

- A. Epiblast B. Hypoblast C. Syncytiotrophoblast D. None.

69- Genes on the same chromosome tend to be inherited together and so are known as

- A. homologous pairs B. the autosomes C. linked genes D. sex chromosomes

70- If fertilization does not occur, _____ reaches maximum development approximately 9 days after ovulation.

- A. The corpus luteum B. The corpus albicans C. The corpus atreticum D. None

71- Cells of the _____ penetrate deeper into the stroma and erode the endothelial lining of the maternal capillaries.

- A. Epiblast B. Hypoblast C. Cytotrophoblast D. None

72- As the _____ is replaced by endoderm cells moving in at the streak, cells of the notochordal plate proliferate and detach from the endoderm.

- A. Epiblast B. Hypoblast C. Syncytiotrophoblast D. None.

73- _____, critical events in meiosis I, are the interchange of chromatid segments between paired homologous chromosomes.

- A. Crossovers B. Synapsis. C. Chiasma D. None.

74- Capacitation is a period of conditioning in the female reproductive tract that in the human lasts approximately.

- A. 10 hours B. 7 days C. 7 hours D. 10 days

75- Growth of the bilaminar disc is relatively slow compared with that of the

- A. Epiblast B. Hypoblast C. Both D. None

76- Prenotochordal cells invaginating in the primitive node move forward cranially in the midline until they reach

- A. The prechordal plate B. The definitive notochord C. The primitive node D. None

77- A _____, together with its surrounding flat epithelial cells, is known as a primordial follicle.

- A. Oogonia B. Primary oocyte C. Secondary oocyte D. None

78- _____ is a glycoprotein shell surrounding the egg that facilitates and maintains sperm binding and induces the acrosome reaction.

- A. The acrosome B. The corona radiata C. The zona pellucida D. The Cumulus oophorus



- 79- A new population of cells appears between the inner surface of ----- and the outer surface of the exocoelomic cavity.
 A. The cytotrophoblast B. The uteroplacental circulation C. The syncytial lacunae D. None
- 80- All _____ would be ventralized if the activity of BMP4 were not blocked by other genes expressed in the node.
 A. Endoderm B. mesoderm C. Ectoderm D. All
- 81- _____ rest on a basement membrane separating them from surrounding ovarian connective tissue.
 A. The Cumulus oophorus B. The corona radiata C. The zona pellucida D. Granulosa cells
- 82- The initial adhesion of sperm to _____ is mediated in part by the interaction of integrins on it and their ligands, disintegrins, on sperm.
 A. Oocyte B. Primary oocyte C. Secondary oocyte D. None.
- 83- The extraembryonic mesoderm lining _____ and amnion is called the extraembryonic somatic mesoderm.
 A. Hypoblast B. Syncytiotrophoblast C. Cytotrophoblast D. Epiblast
- 84- Expansion of the embryonic disc occurs mainly in
 A. Primitive streak B. Primitive node C. caudal region D. cephalic region
- 85- Once PGCs have arrived in the gonad of a genetic female, they differentiate in to
 A. Primary oocyte B. Oogonia C. Primary follicle D. None
- 86- The contact between the head of sperm and zona pellucida results in release of lysosomal enzymes from _____ lining the plasma membrane of the oocyte.
 A. Zona reaction B. Acrocin C. Cortical granules D. None
- 87- By the 11th to the 12th day of development, _____ is completely embedded in the endometrial stroma.
 A. the blastocyst B. Epiblast C. Hypoblast D. Uterine epithelium
- 88- Cells that ingress through _____ of the node become prechordal plate and notochord .
 A. The lateral edges B. The cranial region C. midstreak region D. More caudal part
- 89- The mature vesicular stage encompasses approximately 37 hours prior to
 A. Gestation B. Capacitation C. Fertilization D. Ovulation
- 90- Poly spermy is: penetration of more than one spermatozoon into
 A. Oocyte B. Primary oocyte C. Secondary oocyte D. None
- 91- Cells of the _____ proliferate locally and penetrate into the syncytiotrophoblast, forming cellular columns.
 A. Hypoblast B. Epiblast C. Cytotrophoblast D. None
- 92- Cells migrating through the midstreak region become
 A. Paraxial mesoderm B. Lateral plate mesoderm C. Intermediate mesoderm D. None
- 93- After the third cleavage, _____ maximize their contact with each other, forming a compact ball of cells held together by tight junctions.
 A. Blastomeres B. Blastomeres C. Embryo proper D. Placenta
- 94- Cellular columns with the syncytial covering are known as
 A. Chorionic cavity B. Exocoelomic cysts C. Secondary yolk sac D. None



- 95- The anteroposterior axis is signaled by cells at _____ of the embryonic disc.
 A- The cranial margin B- The caudal margin C- The lateral margin D- None
- 96- The secondary oocyte, receives most of the cytoplasm; the other, _____ body, receives practically none.
 A. The primary oocyte B. The first polar body C. The second polar body D. None
- 97- Inner cells of _____ constitute the inner cell mass, and surrounding cells compose the outer cell mass.
 A. The gastrula B. The blastula C. The morula D. None
- 98- The _____ expands and forms a large cavity called chorionic cavity.
 A. Extraembryonic mesoderm B. Extraembryonic coelom C. Chorionic plate D. None
- 99- In the caudal part, germ layers begin their differentiation by
 A- The middle of the 3rd week B- The middle of the 4th week
 C- The end of the 3rd week D- The end of the 4th week
- 100- When the secondary follicle is mature, a surge in ----- induces the preovulatory growth phase.
 A. FSH B. GnRH C. LH D. progesterone
- 101- The series of changes resulting in the transformation of spermatids into spermatozoa is
 A. spermatogenesis B. spermiogenesis C. acrosome D. spermatids
- 102- Integrin receptors for _____ promote attachment.
 A. Laminin B. Fibronectin C. L selectin D. None
- 103- Maternal capillaries in the endometrium , which are congested and dilated, are known as
 A. Lacunae B. Trophoblast C. Sinusoids D. None
- 104- By _____, mesodermal cells in the core of the villus begin to differentiate into blood cells and small blood vessels.
 A- The end of the 3rd week B- The end of the 4th week
 C- The middle of the 3rd week D- The middle of the 4th week
- 105- When fully formed, spermatozoa enter the lumen of _____ tubules.
 A. Sertoli B. Seminiferous C. Spermatids D. Acrosome
- 106- 106- If fertilization does not occur, shedding of _____ marks the beginning of the menstrual phase.
 A. The perimetrium B. The endometrium C. The myometrium D. None
- 107- The large, tortuous glands secrete abundant
 A. Glycogen B. Mucus C. Both D. None
- 108- _____ cells in the villi penetrate progressively into the overlying syncytium until they reach the maternal endometrium.
 A. Cytotrophoblastic B. Syncytiotrophoblast C. Chorionic plate D. None
- 109- _____ are tumors of disputed origin that often contain a variety of tissue like bone.
 A. Trisomy B. Monosomy C. Nondisjunction D. Teratomas
- 110- When _____ phase begins, blood escapes from superficial arteries, and small pieces of stroma and glands break away.
 A. The menstrual B. The secretory C. The proliferative D. None



- 111- _____ are derived from the inner cell mass of the embryo.
 A. Therapeutic cloning B. Reproductive cloning C. Both D. None
- 112- At the time of _____, the mucosa of the uterus is in the secretory phase.
 A. Fertilization B. Implantation C. Gestation D. None
- 113- Cells of the endometrium, become polyhedral and loaded with glycogen and lipids; intercellular spaces are filled with extravasate, and the tissue is edematous, these changes, known as
 A. The decidua reaction B. Chorionic cavity C. The uteroplacental circulation D. None
- 114- Ectopic pregnancy occur in _____ of all pregnancies .
 A. 9% B. 7% C. 2% D. None
- 115- Even in some fertile woman under optimal conditions for pregnancy, _____ of oocytes are not fertilized.
 A. 10% B. 15% C. 20% D. None
- 116- _____ is a condition in which transposition of the viscera in the thorax and abdomen occurs.
 A. Situs inversus B. Holoprosencephaly C. Sirenomelia D. None
- 117- The connecting stalk later develops into
 A. The Placenta B. The Primitive streak C. The Primitive node D. The umbilical cord
- 118- During the following the menstrual phase _____, the compact and spongy layers are expelled from the uterus, and the basal layer is the only part of the endometrium that is retained.
 A. 5-7 days B. 5-7 hours C. 3-4 days D. 3-4 hours
- 119- In prophase, each chromosome now consists of two parallel subunits, chromatids, that are joined at a narrow region common to both called
 A. The centrosome B. The centromere C. The centriole D. None
- 120- _____ refers to any chromosome number that in not euploid .
 A. Aneuploid B. imeupoid C. tisomy D. monosomy

Anatomy Section:

- 121- Choanae divided by a spine of:
 A. Vomer bone B. Palatine bone C. Soft palate D. Hard palate
- 122- The nostrils are covered by specialized skin and are also called
 A. Perineum B. Par anum C. Pal anum D. Not the above is correct
- 123- The Lung of Ruminants has:
 A. Three lobes in the left lung and four lobes in the right lung
 B. Two lobes in the left and four lobes in the right lung
 C. One lobe in the left and five lobes in the right lung
 D. Not of all
- 124- The Lung of the horse has:
 A. Two lobes in the left and three lobes in the right lung
 B. Two lobes in the left and four lobes in the right lung
 C. Three lobes in the left and two lobes in the right lung
 D. Not of all



125- The lungs are covered by:

- A. Visceral pleura B. Parietal pleura C. Mediastinum D. Peritonum

126- The type of epithelium in the vomeronasal organ is:

- A. Respiratory epithelium B. Simple columnar epithelium
C. Olfactory epithelium D. Respiratory and olfactory epithelium

127- The trachea in the neck is related to the esophagus:

- A. Cranially B. Caudally C. Ventrally D. Dorsally

128- The caudal part of the nasal cavity contains:

- A. Dorsal concha B. Ventral concha C. Ethmoid concha D. Accessory concha

129- The Larynx short cartilaginous tube composed of:

- A. Three cartilages B. Four cartilage C. Five cartilage D. Seven cartilage

130- The type of cartilage in the trachea is:

- A- Elastic cartilage B- Hyaline cartilage C- Elastic and hyaline cartilage D- Fibrous cartilage

131- The kidneys have

- A. Endocrine function B. Exocrine function C. Endo and exocrine function D- Not of all

132- The right kidney Located

- A. Caudal the left kidney B. Cranial the left kidney C. Equal the left kidney D. Not of all

133- The shape of right kidney in horse

- A. Bean shape B. Oval shape C. Heart shape D. Not of all

134- The shape of kidneys in cow

- A. Oval shape B. Bean shape C. Heart shape D. Lobulated shape

135- The kidneys composed of

- A. Cortex and medulla B. Medulla only C. Cortex only D. Not of all

136- The blood supply of kidney by

- A. Pulmonary artery B. branch of abdominal aorta C. Brachiocephalic artery D. Common carotid artery

137- The kidneys of cow

- A. Contain renal pelvis B. Contain renal pelvis and renal crest C. Absent renal pelvis D- Hart shape

138- The ureter inserting the bladder in

- A. Ventro-lateral surface B. Dorso-medial surface C. Ventro- medial surface D. Dorso-lateral surface

139- The nerve supply of bladder by

- A. Sympathetic and parasympathetic B. Sympathetic nerve only
C. parasympathetic nerve only D. Trigeminal nerve

140- The left kidney

- A. The same right and left kidney B. More mobile than the right kidney
C. More fixed than the right kidney D. Not of all



141- The central nervous system composed of

- A. Brain only B. Spinal cord only C. Brain and spinal cord D. Cranial nerve only

142- The number of cranial nerves

- A. 24 pair nerves B. 10 pair nerves C. 12 single nerves D. 12 pair nerves

143- The pia matter in cerebrum found in

- A. Contact with brain B. Contact with bone of skull C. Contact with brain and skull D. Not of all

144- The gray matter of spinal cord found in

- A. Outer surface (cortex) B. Inner surface (medulla) C. lateral surface D. medial surface

145- The sixth (VI) cranial nerve called

- A. Olfactory nerve B. Facial nerve C. Abducent nerve D. Trigeminal nerve

146- The ninth (IX) cranial nerve called

- A. Optic nerve B. Vagus nerve C. Hypoglossal nerve D. Glossopharyngeal nerve

147- The ventricular system of the brain consist of

- A. Two lateral ventricle B. One lateral ventricle C. Three lateral ventricle D. One central ventricle

148- The blood vessels of brain in the horse and dog supply comes from

- A. External carotid artery B- Internal carotid artery C- Cerebral artery D- Not of all

149- The sensory cranial nerves

- A. I,II, III B. II,III, IV C. I,II,VIII D. V, VI, VII

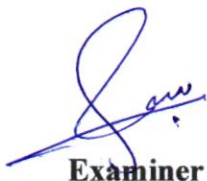
150- The motor cranial nerves

- A. I, II, III B. IX,X,IIX C. IV, V, VI D. III, IV, VI

Good Luck



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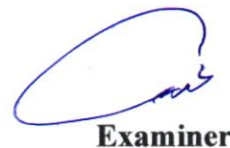
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