



Continuity of Life

Gametogenesis: Spermatogenesis & Oogenesis

-Structure of Sperm and Egg

Fertilization - Definition, Mechanism

Early development in Frog - Cleavage, Blastula, Gastrula, Derivatives of Germ layers



- Human reproduction
- Brief Account of Fertilization: Implantation, Placenta, Role of Gonadotropins and sex hormones , Menstrual cycle.
- Fertility Control: Family Planning Methods-
- Infertility Control: Meaning, Causes,Treatment
- STD: AIDS, Syphilis and Gonorrhea

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1.Primary Oocyte is

- a)** Haploid (n)
- b)** Diploid ($2n$)
- c)** Polyploid
- d)** None of the above



2. Secondary Oocyte is

- a) Haploid (n)
- b) Diploid ($2n$)
- c) Polyploid
- d) None of the above



3. Centrioles of sperm control

- a) Movement of tail
- b) Haploid number of chromosomes
- c) Help in fertilization
- d) None of the above.



4. The Fertilization membrane is secreted because
- a) It checks the entry of more sperms after fertilization
 - b) it checks the entry of antigens in ovum
 - c) it represents the left out tail of the sperm
 - d) it represents the plasma membrane of the sperm



5. Meiosis I occurs in

- a) Primary spermatocytes
- b) Secondary spermatocytes
- c) Both a and b
- d) Spermatogonia



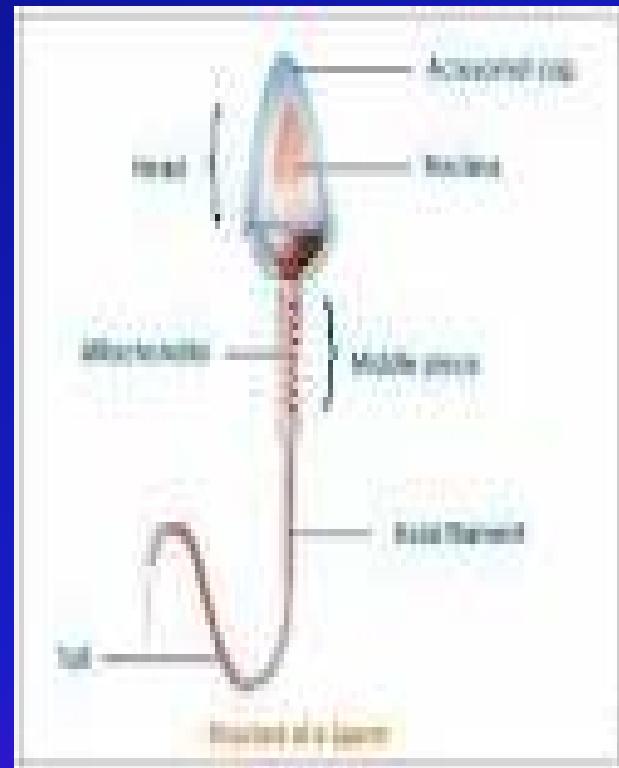
6. Meiosis II occurs in

- a) Secondary oocyte
- b) Primary oocyte
- c) Spermatogonia
- d) Oogonia



7. Axial filament of sperm is formed by

- a) Distal centriole
- b) Proximal centriole
- c) Mitochondria
- d) DNA

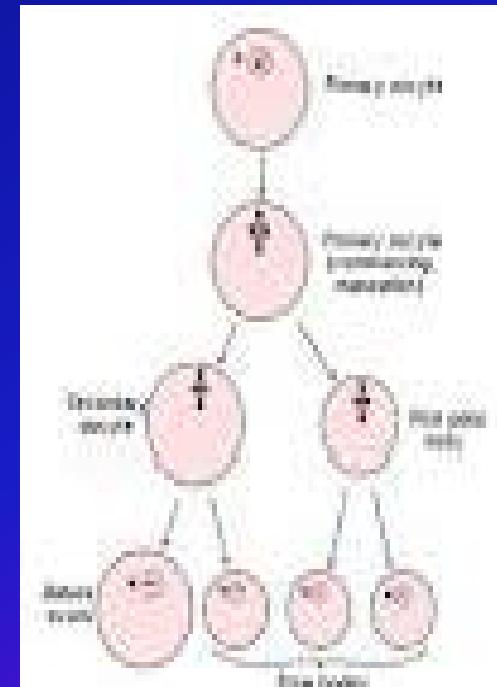


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8. Polar bodies are formed during

- a) oogenesis
- b) Spermatogenesis
- c) Both a and b
- d) None



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9. Spermiogenesis refers to

- a) Growth phase of spermatogenesis**
- b) Phase of multiplication**
- c) Metamorphosis of spermatids into sperms**
- d) All the above**



10. Acrosome is made up of

- a) Golgi bodies
- b) Mitochondria
- c) Centrioles
- d) Ribosomes



11. In spermatogenesis the phase of maturation involves

- a) the formation of spermatogonia
- b) the growth of spermatogonia
- c) formation oogonia
- d) formation of spermatids from primary spermatocytes through meiosis



12. Synthesis of testosterone by Leydig cells is stimulated by

- a) ICSH
- b) FSH
- c) TSH
- d) LH

K E A

13. Sertoli cells nourishing the cells
in testis, also secrete which
hormone



- a) Relaxin
- b) Inhibin
- c) Gonadotropin
- d) Testosterone



14.a germ cell in a female gonad and a germ cell in male gonad begin undergoing meiosis simultaneously, what will be the ratio of ova and sperms produced?

- a) 1 : 1
- b) 1 : 2
- c) 1 : 4
- d) 2 : 1



15.Which of the following groups of cells in the male gonad represents haploid Cells?

- a) Spermatogonial cells
- b) Germinal epithelial cells
- c) Secondary spermatocyte
- d) Primary spermatocyte



16.Which of the following is wrong about Oogenesis

- a) Equal meiotic divisions
- b) Unequal meiotic divisions
- c) Growth phase
- d) Formation of polar bodies



17.Which is not associated with gametogenesis

- a) Formation of ova
- b) Formation of sperms
- c) Release of ova
- d) Spermiation



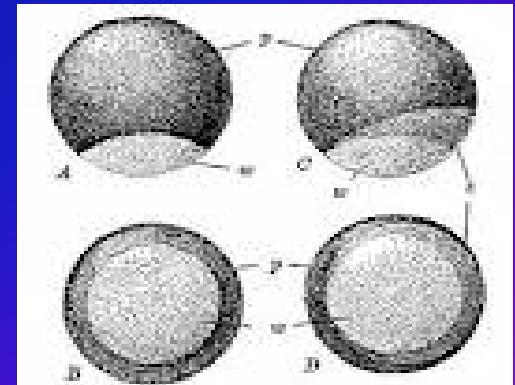
18. Grey crescent is an area

- a) At the point of entry of the sperm into ovum
- b) Just opposite to the site of entry of sperm into ovum
- c) At the animal pole
- d) At the vegetal pole



19. Grey crescent is present in

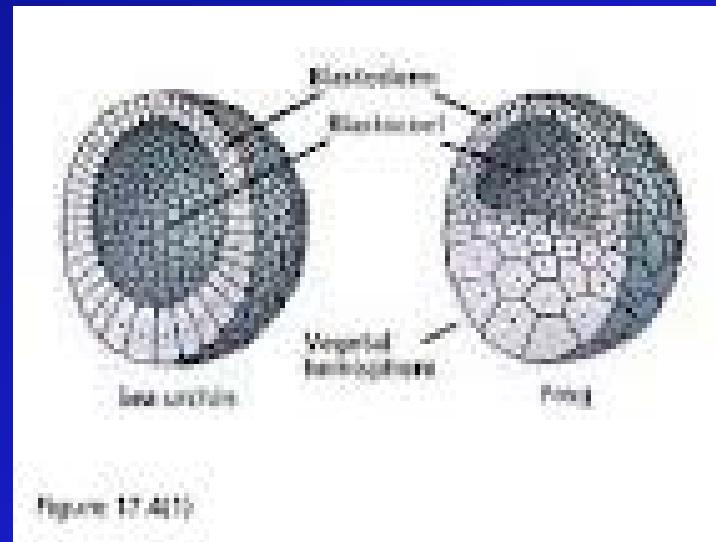
- a) Brain of frog
- b) Fertilized egg of Frog
- c) Unfertilized egg
- d) All the above





20. A cell formed from cleavage are called

- a) Blastomeres
- b) Blastopore
- c) Blastula
- d) Morula





21. The morphogenetic movements of gastrulation includes

- a) Invagination
- b) Epiboly
- c) Involution
- d) All the above





22. Cleavage in the fertilized egg of humans

- a) Starts In uterus
- b) In meroblastic
- c) Starts when egg is in fallopian tube
- d) Is discoidal



23. If the size of a fertilized egg of Frog is compared with size of its blastula & gastrula stages which of the following observation is correct?

- a) Zygote will be smaller, while blastula and gastrula will be larger
- b) Gastrula will be larger, while zygote and blastula will be of same size
- c) There is progressive increase in size from zygote to blastula & gastrula
- d) All three will be of same size

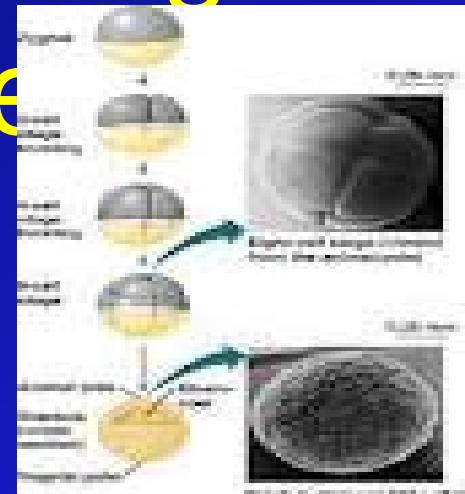


24. During cleavage nucleocytoplasmic ratio is
- a) Maintained
 - b) Decreased
 - c) Increases
 - d) Variable



25.Which of the following are true about I- cleavage

- a) Holoblastic, unequal
- b) Holoblastic, equal
- c) Holoblastic, equal and longitudinal
- d) None





26. III cleavage is

- a) Latitudinal, unequal,
- b) Longitudinal, Unequal
- c) Holoblastic, equal
- d) All the above





27. Which of the following are true about II cleavage is

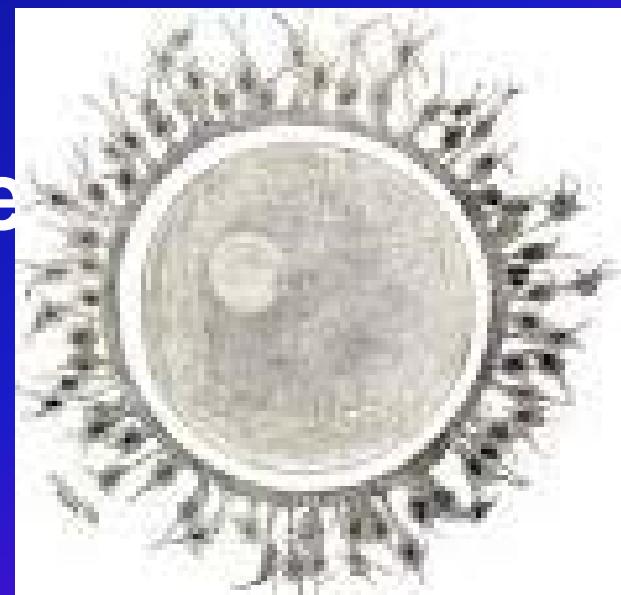
- a) Meridional, Holoblastic & equal
- b) Latitudinal, unequal
- c) Both a & b
- d) None





28. Noncellular layer in human egg is?

- a) Theca interna
- b) Membrana granulosa
- c) Corona radiata
- d) Zona pellucida





29. Morphogenetic movements occur in

- a) Cleavage stage
- b) Morula
- c) Blastulation
- d) Gastrulation



30. Gastrulation in Frog forms a new cavity called

- a) Blastocoel
- b) Archenteron
- c) Coelenteron
- d) Pseudocoel





31. Archenteron of Frog gastrula develops into-

- a) Neurocoel
- b) Blatocoel
- c) Endoderm
- d) Lumen of digestive tract



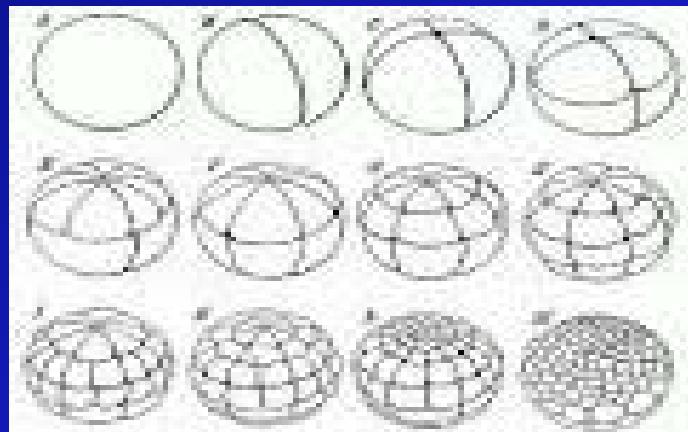
32. Cleavage differs from mitosis because

- a) In cleavage there is no growth**
- b) In cleavage consumption of O₂ increases**
- c) Nucleocytoplasmic ratio increases**
- d) All the above**



33. How many cleavages are required in Frog to form 32 celled stage

- a) 4
- b) 5
- c) 6
- d) 3





34. Gastrulation involves the differentiation of-

- a) Ectoderm and Endoderm**
- b) Ectoderm , Endoderm and Mesoderm**
- c) Ectoderm and Mesoderm**
- d) Mesoderm and Endoderm**



35. The correct sequence in development of Frog is-

- a) Fertilization , cleavage, gastrula, morula, and blastula
- b) cleavage, zygote, blastula, morula, and gastrula
- c) Fertilization, zygote, cleavage, morula, blastula and gastrula
- d) Zygote, morula, gastrula, blastula and differentiation



36. Cells become variable in morphology and functions in different regions of the embryo. The process is
- a) Differentiation
 - b) Metamorphosis
 - c) Organization
 - d) Rearrangement



37. Ectoderm gives raise to

- a) Nervous system
- b) Endocrine glands
- c) Digestive system
- d) None



38. Gonads develops from

- a) Ectoderm
- b) Endoderm
- c) Mesoderm
- d) All the above



39.Which one develops from endoderm?

- a) Nervous system, urinary bladder, and eye**
- b) Liver, connective tissue, and heart**
- c) Thymus, Spinal cord, and Brain**
- d) Liver, Pancreas and Thymus**



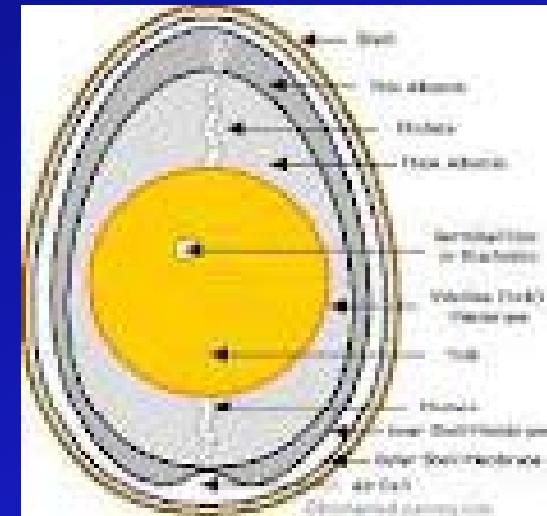
40. Skeleton and muscles develops from

- a) Ectoderm
- b) Endoderm
- c) Mesoderm
- d) None



41. Egg are generally large in size due to presence of

- a) Yolk
- b) Shell
- c) Vitelline membrane
- d) plasma membrane





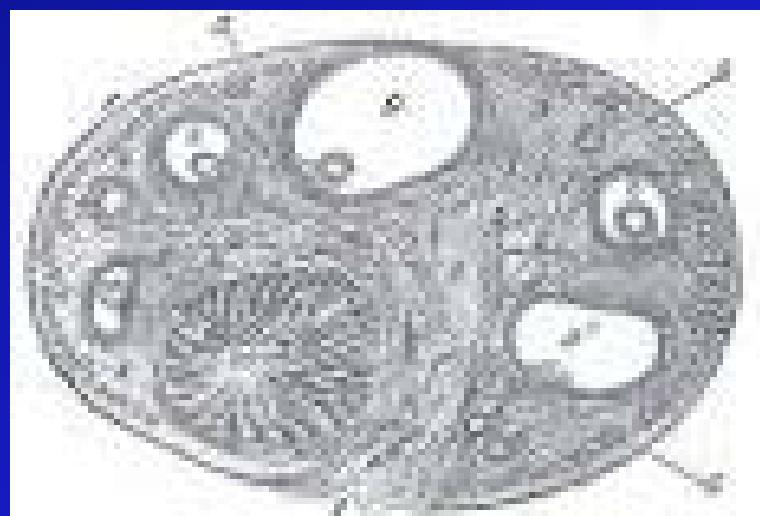
42. Time of period of fertilization to birth is called

- a) Gestation
- b) labor
- c) Both
- c) None



43. After ovulation Graafian follicle becomes

- a) Corpus luteum
- b) Digested
- c) Develops egg
- d) All the above





44. Egg in mammals is fertilized

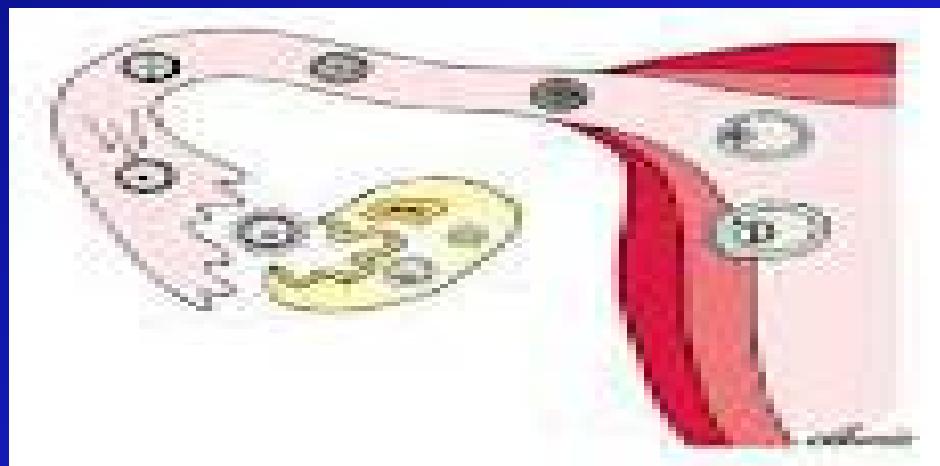
- a) Ovary
- b) Oviduct
- c) Uterus
- d) Vagina





45. Egg is liberated from ovary in

- a) Secondary oocyte stage
- b) Primary oocyte stage
- c) Oogonial stage
- d) mature egg stage





46. Antrum is the cavity of

- a) Blastula
- b) Graafian follicle
- c) Ovary
- d) Gastrula



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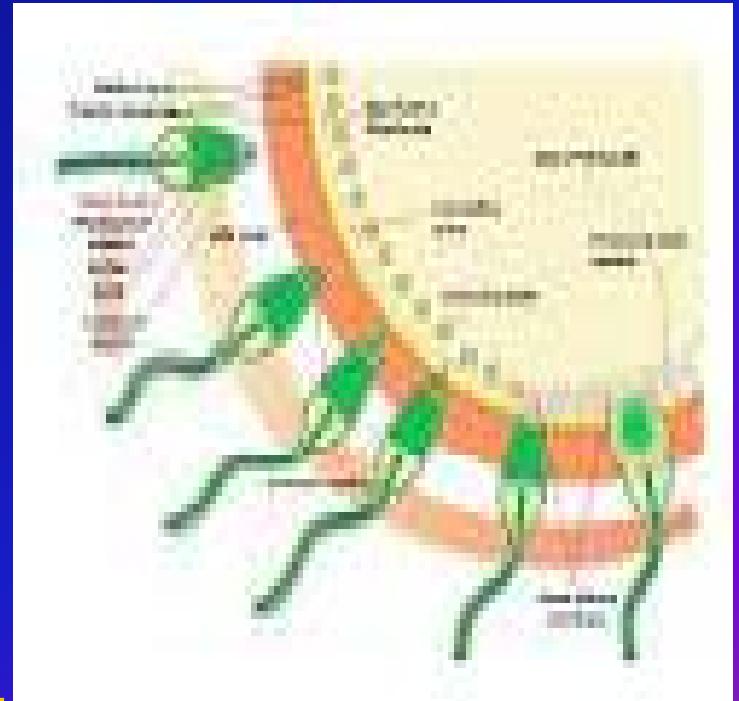
47. In higher animal blastopore generally form

- a) Anus
- b) Mouth
- c) Liver
- d) Gut



48.Which part of sperm plays important role in penetrating the egg membrane

- a) Allosome
- b) Acrosome
- c) Tail
- d) Head





49. Fertilizin is secreted by

- a) Egg
- b) Sperm
- c) a + b
- d) None



50. Antifertilizin is produced by

- a) Egg
- b) Sperm
- c) a + b
- d) None



51. The attraction between male gamete and female gamete

- a) Physical
- b) Chemical
- c) Thermal
- d) All the above



52. Sperms of an animal 'A' cannot fertilize the ovum of the other species 'B' because
- a) Antifertilizin of A and B are not compatible
 - b) Antifertilizin of A and fertilizin of B are not compatible
 - c) Fertilzin of A and B are not compatible
 - d) None



53. Sertoli cells are called

- a) Nurse cells
- b) Secretary cells
- c) Respiratory cells
- d) Excretory cells



54. Capacitation is

- a) Early cleavage for determining different parts
- b) Developing, ability of sperm to penetrate egg
- c) Developing ability of egg to receive sperm
- d) All the above



55. The function of mitochondria in sperm is

- a) To control the movement of sperm
- b) To Provide energy for movement of sperm
- c) To provide energy to nucleus
- d) None of the above.

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56. The function of hyaluronidase

- a) **is** to form cone of reception in egg
- b) To Puncture the vitelline membrane of egg
- c) It is not produced in human sperm
- d) None of the above.



57. Role of placenta is to

- a) Provide nutrition to developing embryo
- b) Protection of embryo
- c) Act as storage organ
- d) None



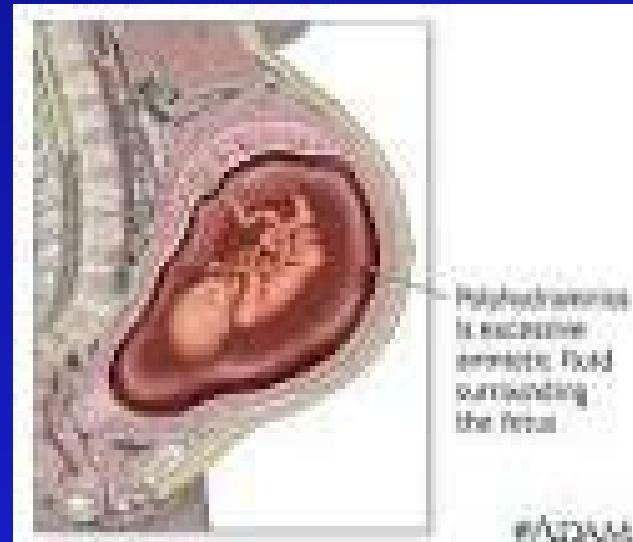
58. Human Placenta is

- a) Haemochorionic
- b) Syndesmochorionic
- c) Yolk sack
- d) Haemoendochorionic



59. Amniotic fluid protect the fetus from

- a) Shocks
- b) Encystment
- c) Degeneration
- d) Disease





60. Ovulation mainly because of

- a) ACTH
- b) FSH
- c) LH
- d) None



61. The function of the progesterone is

- a) To prepare uterus for pregnancy
- b) To maintain pregnancy
- c) Implantation
- d) All the above



62. Fertilization in mammals takes place in

- a) Fallopian tube
- b) Ovary
- c) Uterus
- d) All the above



63. The bag containing a liquid in which the foetus is enclosed

- a) Amnion
- b) Chorion
- c) Pouch
- d) Capsule



64. **Sex / ovarian hormones are**

- a) Steroids
- b) Glycoproteins
- c) Proteins
- d) Vitamins



65. Mammary glands are stimulated by

- a) LH
- b) ADH
- c) FSH
- d) LTH



66. Corpus luteum is mass of cells found in

- a) Brain
- b) Ovary
- c) Testis
- d) Ovum



67. Corpus luteum is responsible for secretion of

- a) Progesterone
- b) FSH
- c) Lactogenic hormone
- d) All the above



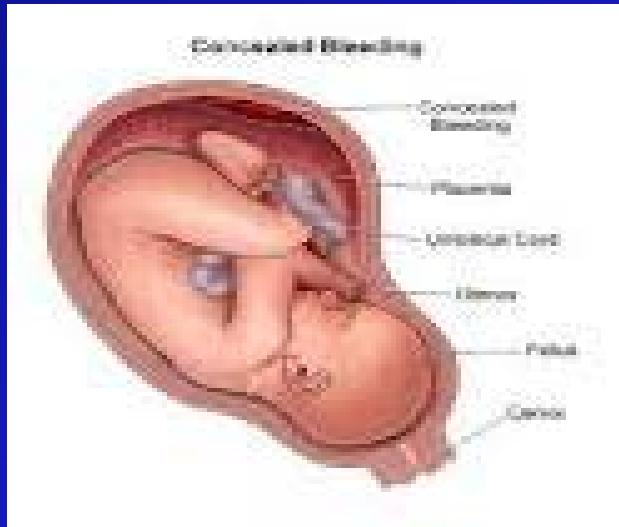
68. Androgens are secreted by

- a) Adrenal cortex
- b) Ovary
- c) Testis
- d) None



69. Which of the following are acts as a respiratory organ in mammalian embryo

- a) Amnion
- b) Placenta
- c) Lung
- d) Pharyngeal gills



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70. During a women's lifetime she produces about:

- a) 40 Eggs
- b) 400 Eggs
- c) 4000 Eggs
- d) 365 Eggs



71. Nebenkern is a part of

- a) Human sperm
- b) Human ovum
- c) Graafian follicle
- d) Foetus

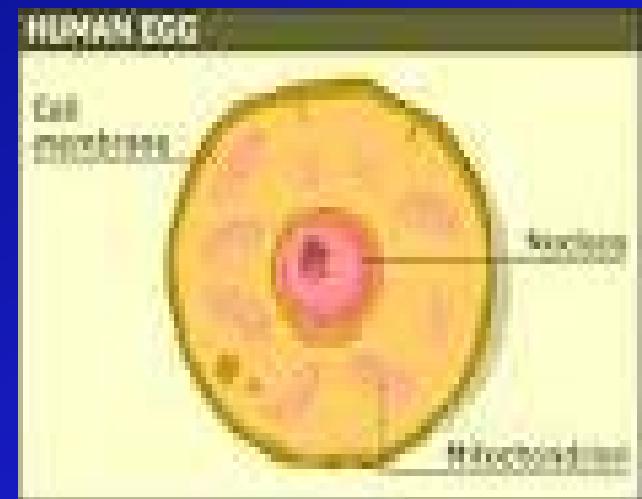


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72. Human eggs are

- a) Alecithal
- b) Microlecithal
- c) Mesolecithal
- d) Macrolecithal





73. AIDS is due to

- a) Reduction in number of helper -T cells**
- b) Reduction in number of killer T cells**
- c) Autoimmunity**
- d) Nonproduction of interferon**



74.What is correct about test tube baby?

- a) Fertilization inside the female genital tract and growth in test tube
- b) Rearing of premature born baby in incubator
- c) Fertilization in the test tube and gestation inside the womb of mother
- d) Both fertilization and development outside the body



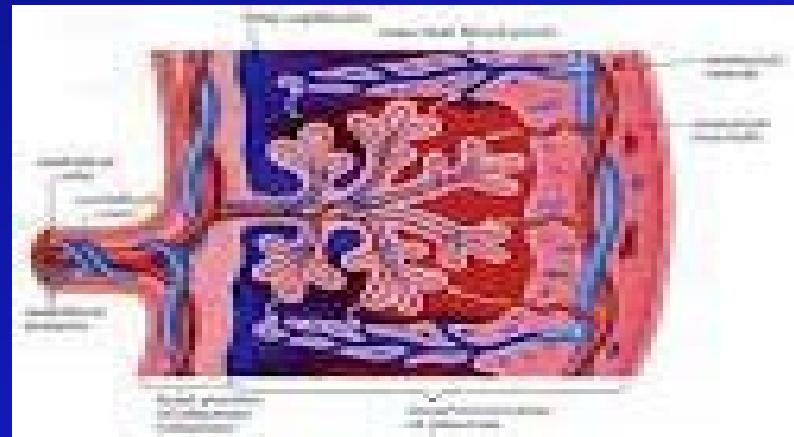
75. In 28 day human ovarian cycle ovulation occurs on

- a) day 1
- b) Day 5
- c) Day 14
- d) Day 28



76. Villi of human placenta arise from

- a) Allantois
- b) Yolk sack
- c) Chorion
- d) Both chorion and allantois





77. Match the columns and find correct combination

I

a. FSH

b. LH

c. Progesterone.

d. Estrogens.

II

p. preparation of endometrium for implantation

q. female secondary sexual characters

r. Contraction of uterine muscles

s. Development of corpus luteum

t. maturation of Graafian follicle



- a) a - t, b - s, c - p, d - q.

- b) a - r, b - t, c - s, d - q.

- c) a - t, b - p, c - s, d - q.

- d) a - q, b - s, c - p, d - r.

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78. Family planning (birth control) is achieved by

- a) IUDs
- b) Vasectomy
- c) Tubectomy
- d) All these



79. Contraceptive oral pills help in birth control by

- a) Killing ova
- b) Preventing ovulation
- c) Killing the sperms
- d) Forming barrier between sperms and ova.



80. Match the column and find the correct combination

I

- a. AIDS
- b. Syphilis
- c. Viral jaundice
- d. Gonorrhoea

II

- p. *Yersinia pestis*
- q. HBV
- r. *Treponema pallidum*
- s. *Neisseria gonorrhoeae*
- t. HIV



- a) a – t, b – q, c – p, d – s.
- b) a – t, b – p, c – q, d – s.
-
- c) a – t, b – r, c – q, d – s.
-
- d) a – t, b – q, c – r, d – s.



81. Most important component of oral pills is

- a) Thyroxine
- b) LH
- c) Progesterone
- d) GH



82.Human females reaches menopause at the age of about

- a) 25 Years
- b) 35 Years
- c) 50 Years
- d) 70 Years



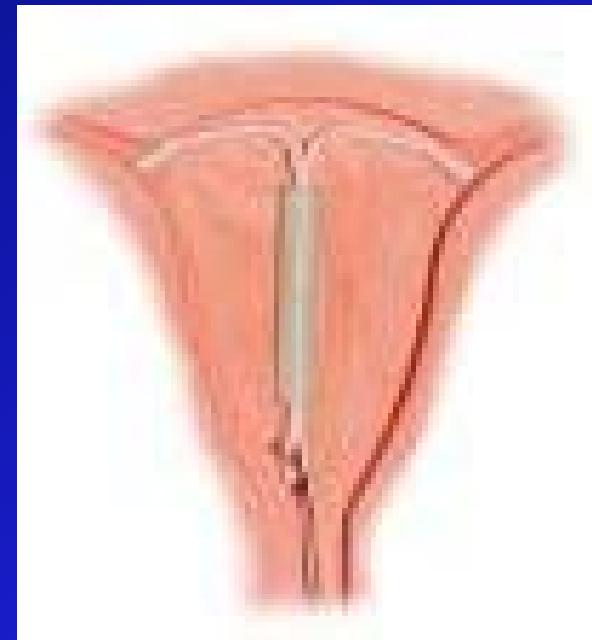
83. Progesterone present in contraceptive pill is meant for

- a) Checking ovulation
- b) Preventing fertilization
- c) Preventing implantation
- d) Preventing cleavage



84. Copper T / loops prevents

- a) Implantation
- b) Fertilization
- c) Zygote formation
- d) Cleavage





85. Ovulation or release of ovum occurs on the day of menstrual cycle

- a) 8 -10
- b) 12-14
- c) 14 -16
- d) Last two days of menstrual cycle



86. Oocyte is liberated from ovary under the influence of LH, after completing

- a) Meiosis and before liberating polar bodies
- b) Meiosis I and before liberating polar bodies
- c) Meiosis I before completion of meiosis II
- d) Meiosis I after release of polar bodies



87. AIDS spreads through

- a) Blood transfusion
- b) Placental transmission
- c) Sexual intercourse
- d) All the above



88.Which one is method of birth control

- a) IVF -ET**
- b) GIFT**
- c) IUDs**
- d) All the above**



89.Which of the following is the methods of infertility control

- a) IVF - ET
- b) GIFT
- c) ZIFT
- d) All the above



90. Hormone responsible for ovulation and development of corpus luteum is

- a) FSH
- b) LH
- c) LTH
- d) ICSH



91. Surgical/ terminal method of controlling birth by cutting and tying fallopian tube is

- a) Hysterectomy
- b) Tubectomy
- c) Vasectomy
- d) None





92. Terminal / sterilization method of controlling birth in males is

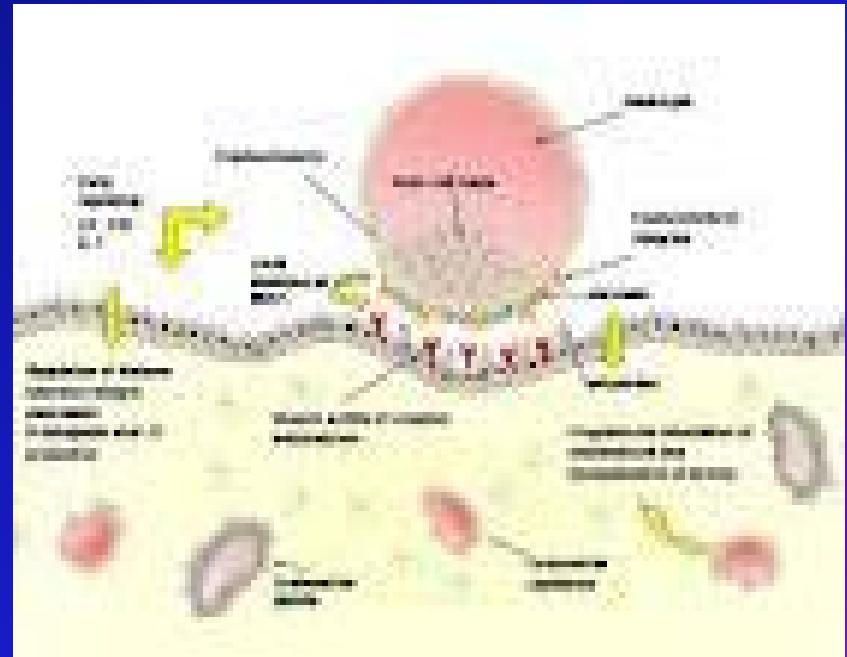
- a) Vasectomy
- b) Tubectomy
- c) Use of Condom
- d) All the above





93. At which stage implantation occurs in human females?

- a) Morula
- b) Zygote
- c) Blastocyst
- d) Gastrula



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94. The role of Leydig cells is

- a) Nourishing sperms
- b) Provide motility
- c) To bring about maturation of sperms
- d) Synthesis of testosterone hormone



95. Corpus luteum is formed by

- a) Germinal epithelium**
- b) Graafian follicle**
- c) Ruptured Graafian follicle**
- d) None**



**96. Stage before entry of sperm
into egg is called**

- a) Insemination
- b) Maturation
- c) Capacitation
- d) Fertilization



97.Which one represents a condition of low sperm count?

- a) Azoospermia
- b) Polyspermy
- c) Oligospermia
- d) Asthenospermia



98.Which one is the safest method of birth control?

- a) Termination of unwanted pregnancy**
- b) Sterilization techniques**
- c) The rhythm method**
- d) Use of physical barriers**



99. In a test tube baby a surrogate mother fulfills

- a) Genetic relationship
- b) Matrimonial relationship
- c) Implantation of embryo
- d) Adoption



Wish U Best of luck

Thank U

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