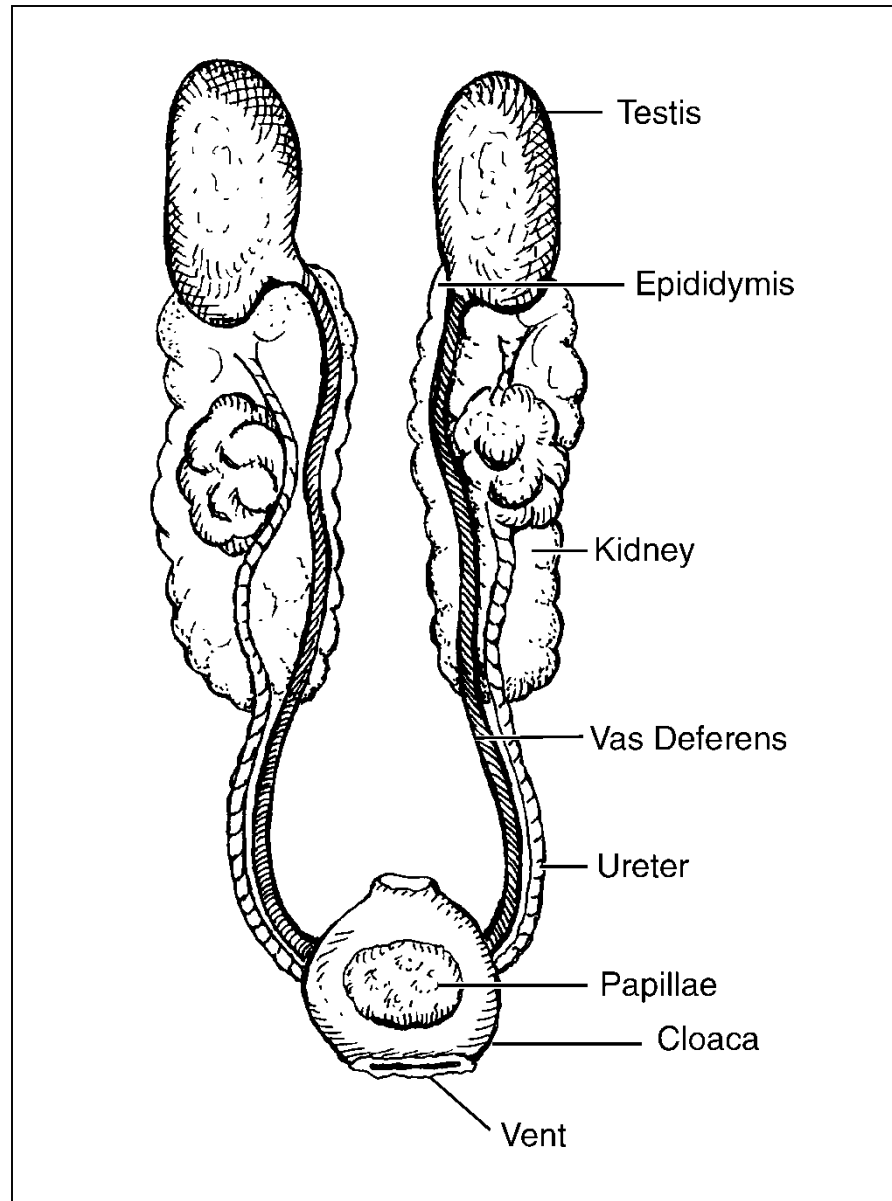


Avian Reproduction

- Differences from mammals
 - Development of left ovary & oviduct
 - Occurrence of daily ovulation
 - Development of pregnancy outside the body
 - Absence of true penis & accessory glands
 - Retain fertilizability of sperms for weeks

Male Poultry Reproductive Tract

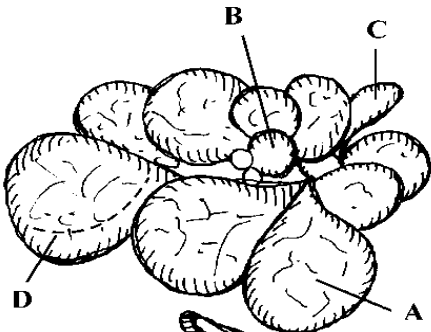


Male Reproductive System

- Paired testis, vas deferens, copulatory apparatus
- **Testis**
 - No scrotum , ST branched , Leydig cells among ST
 - ST leads to vas deferens
 - Function – spermatogenesis, androgenesis

- **Vas deferens**
 - Convoluted
 - Function- spermatozoa storage
- **Copulatory apparatus**
 - 2 erectile papillae, rudimentary penis in cloaca
 - Function – copulation and sperm deposition
- System is capable of releasing sperm after 20 wks.

Female Poultry Reproductive Tract



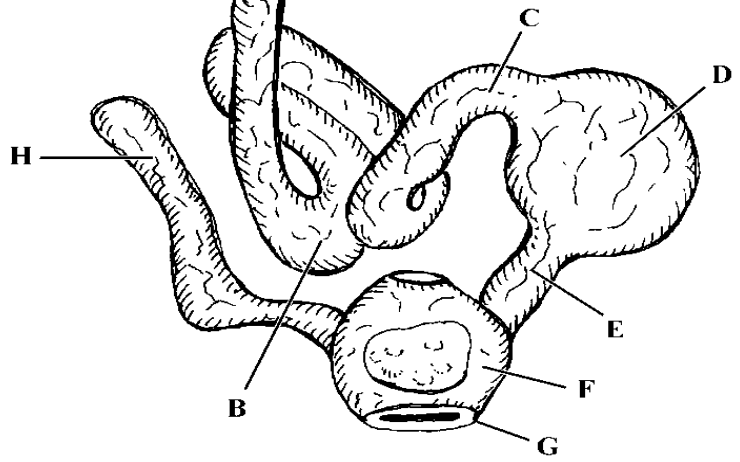
Ovary

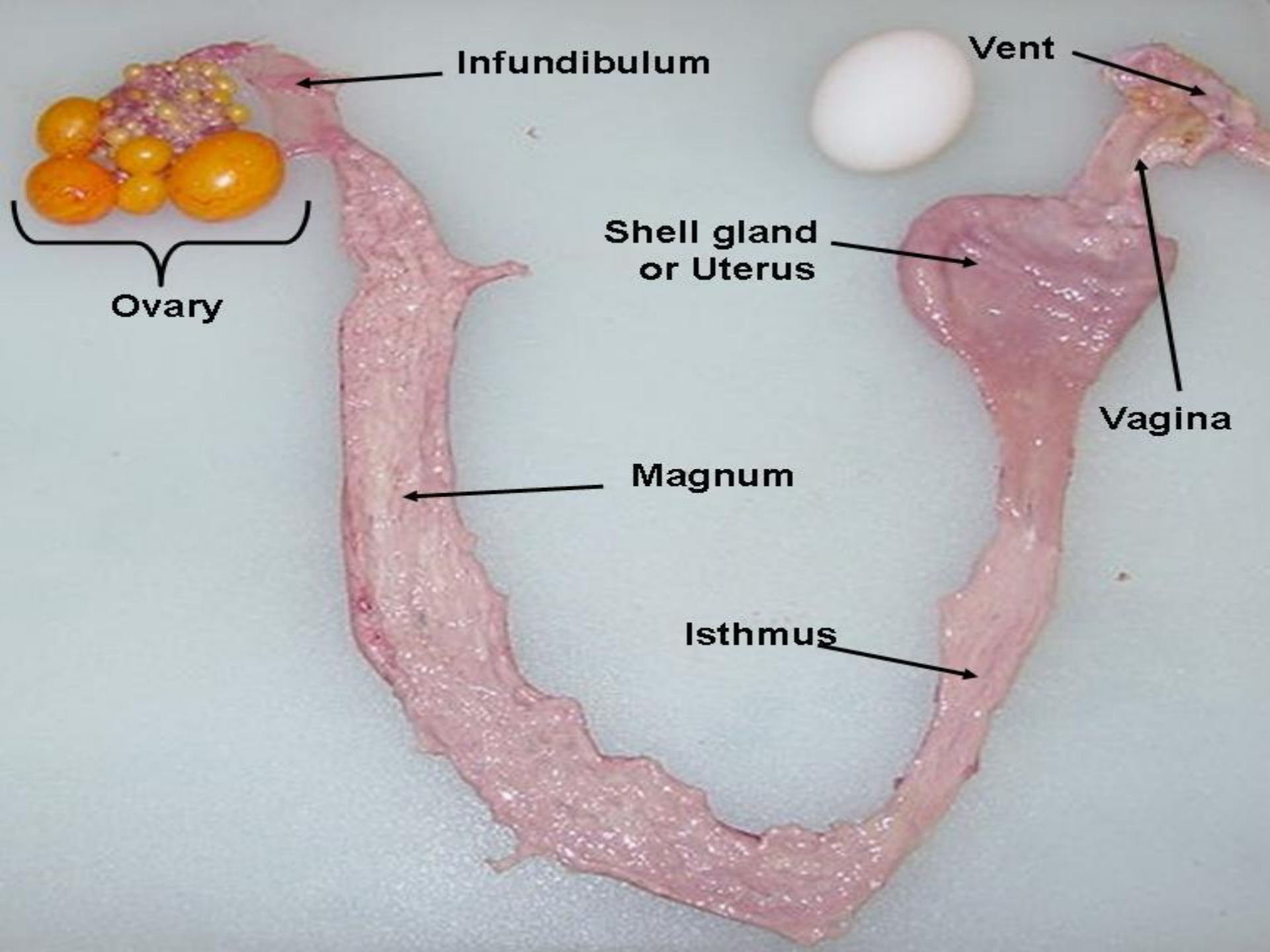
- A. Mature yolk within yolk sac or follicle
- B. Immature yolk
- C. Empty follicle
- D. Stigma or suture line (*represented by broken line*)



Oviduct

- A. Infundibulum
- B. Magnum
- C. Isthmus
- D. Uterus
- E. Vagina
- F. Cloaca
- G. Vent
- H. Rudimentary Oviduct





Infundibulum

Vent

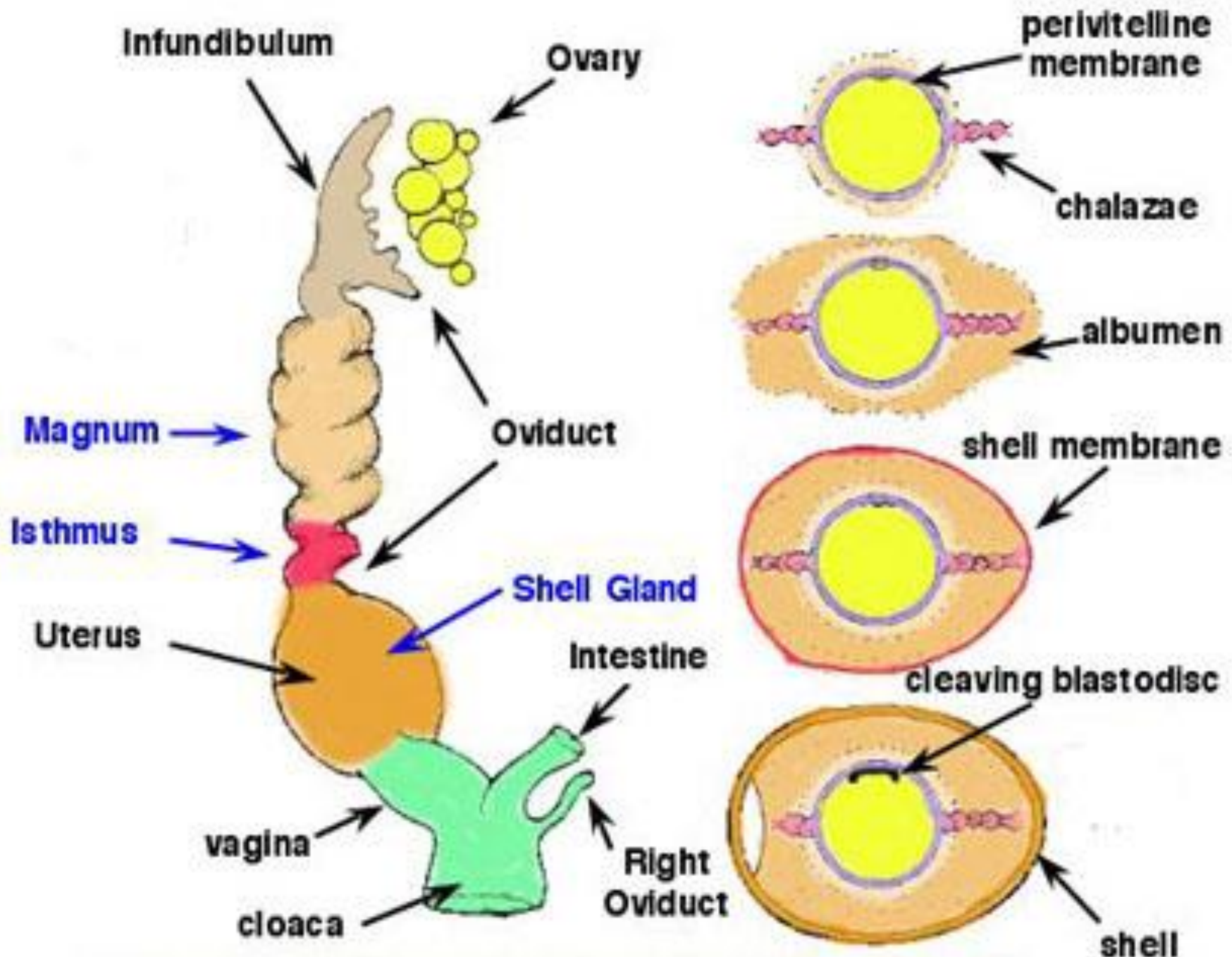
Ovary

Shell gland
or Uterus

Vagina

Magnum

Isthmus



Female Reproductive System

- Ovary , oviduct, Uterus, vagina, cloaca
- **Ovary**
 - Only left ovary functioning
 - Consists of cortex & medulla.
 - Cortex - Oogonia, follicles
 - Medulla - blood vessels, nerves

- Consists of 1000-3000 follicles at different stage of development
- Each follicle contains oocyte & yolk
- Functions - oogenesis, ovulation, hormone production

- **Oviduct**

- 60 - 80 cm long, Convoluted tube, peristaltic action
- 5 main parts - infundibulum, magnum, isthmus, shell gland/ uterus, vagina

- **Infundibulum**

- 7.5 cm long, funnel shaped, columnar ciliated epithelium

- Functions

- Engulfing of yolk
 - Site of fertilization
 - Egg stays 15-30 min.
 - Thin albumin secretion

- **Magnum**

- Longest region, 40-60 cm long, dull white colour, glandular
- Egg spend 2-3 hrs.
- Function
 - Thick white albumin secretion

- **Isthmus**

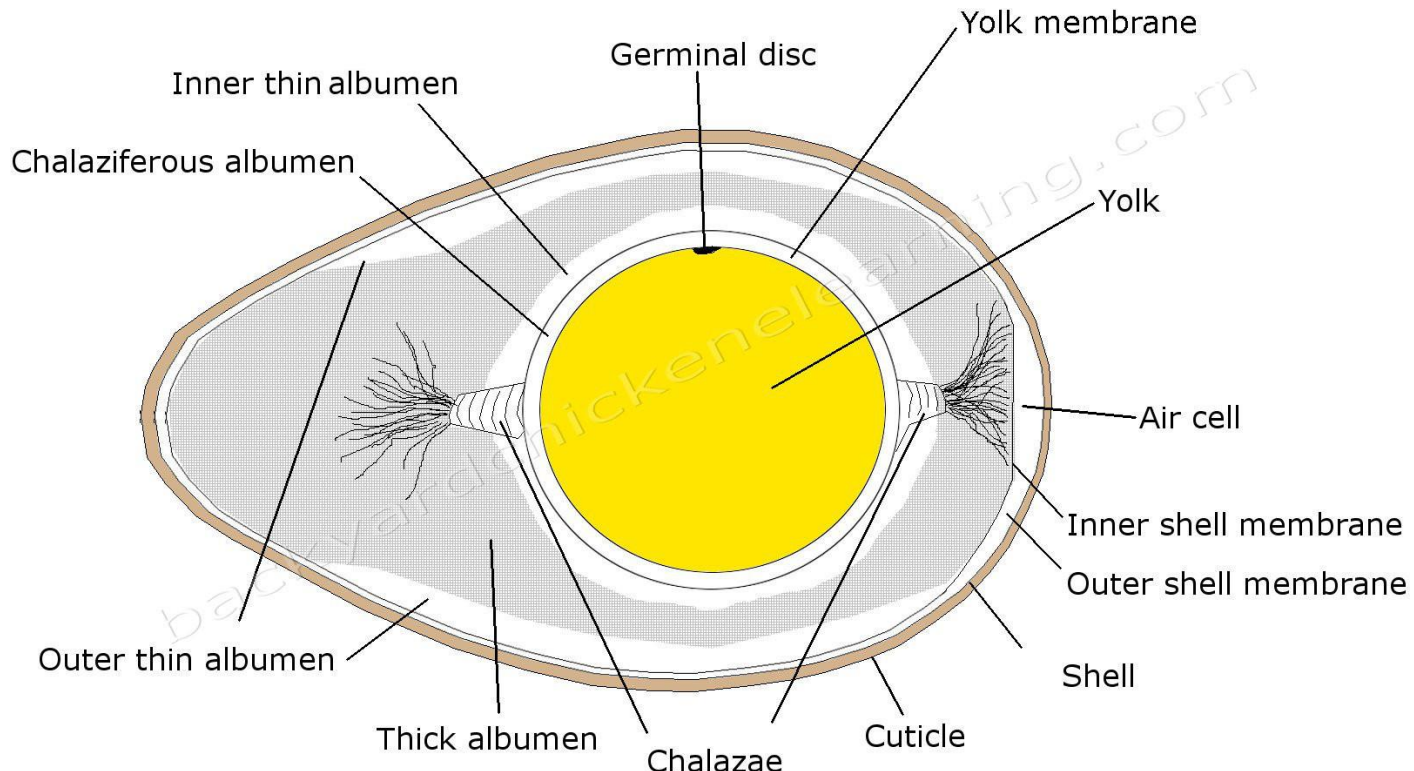
- 9 cm long, short glandular region, pinkish colour
- Egg remains 75-90 min
- Function
 - Secrete inner & outer shell membranes

- **Shell gland / uterus**
 - Pouch like expansion of the oviduct
 - Egg remains about 18-20 hrs.
 - Function
 - Secrete CaCO_3 (egg shell)

- **Vagina**
 - Short connective tube b/w uterus & vent
 - Egg Spends only a few seconds
 - Functions
 - Egg turning
 - Secrete pigments & thin mucous layer
 - Storage sperms 10-20 days
 - Main pigments are biliverdin-IX (blue shelled eggs), and protoporphyrin-IX (brown-shelled eggs)

- **Cloaca**

- Provide passage for completed egg at ovipositioning
- Blunt edge of the egg – comes 1st up to vagina
- At laying, pointed end come 1st



Ovulation

- Occurs 30 min. after oviposition rarely after 2 p.m.
- Influenced by LH and feed intake

Egg cycle /clutch

- The no. of eggs laid by a hen on consecutive days.
- Length of cycle - 2- 5 day varied
- An average, hen lays 2-3 eggs/cycle

Broodiness

- Is the expression of internal instinct in fowls in which they derive to the rest , hatch & rear chick
- Inherited character induced by prolactin
- Nest sitting, ruffled feathers, clucking

Molting

- Shedding of old plumage
- Coincide with warm climate
- Good layers
 - Molting period - shorter
 - Recovery period - faster