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## Human Reproduction

### (4) **Luteal Phase:**

- (i) Includes cycle days 15 to 28.
- (ii) Corpus luteum secretes progesterone.
- (iii) Endometrium thickens.
- (iv) Uterine glands become secretory.

### **Hormonal Control of MC**

- (i) FSH stimulates the ovarian follicles to produce oestrogens.
- (ii) LH stimulates corpus luteum to secrete progesterone.
- (iii) Menstrual phase is caused by the increased production of oestrogens.
- (iv) LH causes ovulation
- (v) Proliferative phase is caused by the increased production of oestrogens.
- (vi) Secretory phase is caused by increased production of progesterone.

### **Fertilisation and Implantation**

The process of fusion of sperm with ovum is called fertilisation.

- During coitus (copulation) semen is released into vagina. The motile sperms swim rapidly to reach the junction of isthmus and ampulla of fallopian tube. The ovum also reaches there and fusion of gametes takes place in at ampullary-isthmic junction.

- In this acrosome of sperm undergoes acrosomal reaction and releases certain sperm lysins which dissolve the egg envelopes locally and make the path for the penetration of sperm.
- These sperm lysins contain a lysing enzyme hyaluronidase which dissolves the hyaluronic acid polymers in the intercellular spaces which holds the granulosa cells of corona radiata together; corona penetrating enzyme (that dissolves the corona radiata) and acrosin (which dissolves the zona pellucida). Then it dissolves the zona pellucida.