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COURSE:EMBRYOLOGY
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DEPARTMENT:MBBS

1. Discuss ovulation
   This is the release of an oocyte from a mature follicle and corpus luteum formation . During each cycle FSH(follicle stimulating hormone) promotes growth of several primordial follicles into 5 to 12 primary follicles ;however, only one primary follicle usually develops into a mature follicle and ruptures through the surface of the ovary, expelling its oocyte .

2. Differentiate between meiosis 1 and meiosis 2

Stages	Meiosis 1	Meiosis 2
At prophase	-presence of synapsis -presence of crossing over	-absence of synapsis -absence of crossing over

	-presence of chiasmatic formation	-absence of chiasmatic formation
At metaphase	-Alignment of 46 homologous duplicated chromosomes	-Alignment of 23 homologous duplicated chromosomes
At anaphase	-separates and moves towards the poles and the centromeres will not spilt	-separates and moves towards the poles and the centromeres will spilt
At telophase	-At the end of meiosis 1, two daughter cells are formed.	- At the end of meiosis 2, four daughter cells are formed.

3.Discuss the stages involved in fertilization

The stages include :

1. PASSAGE OF THE SPERM THROUGH THE CORONA RADIATA: The cell must be capacitances i.e removal of glycoproteins and cellular plasma pellucida

2. PENETRATION OF THE ZONA PELLUCIDA: Removal of the coat (covering)by the a rosins binds the receptor to produce acrosin and then binds with the zona pellucida; the acrosin passed through the zona pellucida
3. FUSION OF THE PLASMA MEMBRANE OF THE SPERM AND OOCYTE : The plasma or cell membranes of the oocyte and the sperm fuse and break down in the area of fusion.
4. COMPLETION OF THE SECOND MEOTIC DIVISION AND THE FORMATION OF THE FEMALE PRONUCLEUS: penetration of the oocyte by a sperm activates the oocyte into completing the second meiosis division and forming a mature oocyte and a second polar body
5. FORMATION OF THE MALE PRONUCLEUS: The male pronucleus and the female pronucleus will undergo fusion and give rise to what is called the OOTID which then gives rise to the zygote.
6. FORMATION OF THE ZYGOTE: The zygote is then formed from the fusion of the male pronucleus and the female pronucleus

4. Differentiate between monozygotic and dizygotic twins.

Monozygotic	Dizygotic
1. Formed from a single zygote	Formed from two zygote
2. Incidence is more common	Incidence is not common
3. They have the same sex(I.e two boys , two girls)	They have different sex (I.e a boy , a girl) etc
4. They are also called identical twins	They are also called fraternal twins